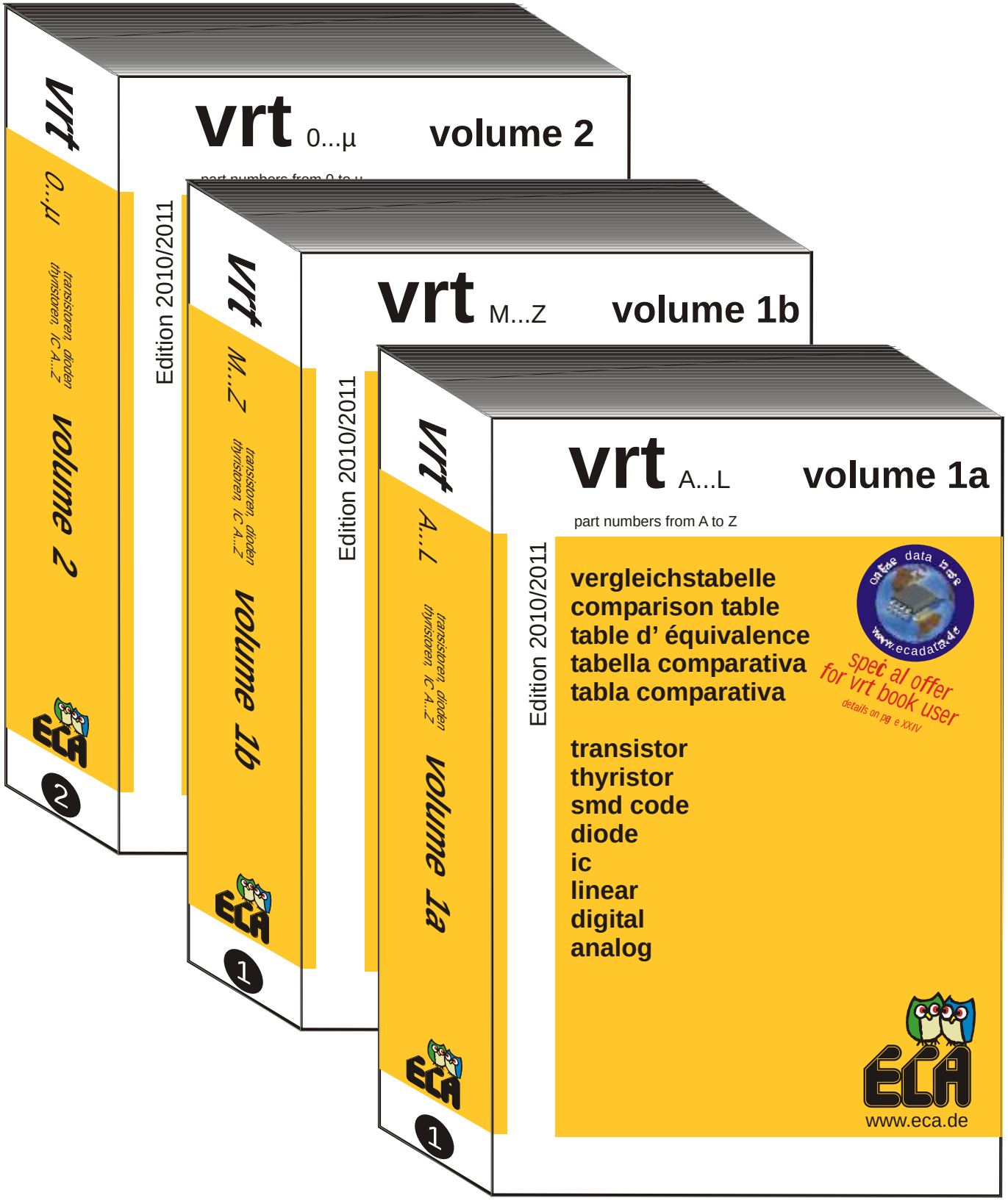


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vrt A-Z volume 1a

edition 2010/2011

vergleichstabelle
comparison table
table d' équivalence
tabella comparativa
tabla comparativa

transistor
thyristor
smd code
diode
ic
linear
digital
analog



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M. Bergler, Fodermayrstr.24,
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Tel. ++49 (089) 13 40 04,
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Rincón 686/8
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Praça Marcelino Machado, 96
Vila Maria Alta
São Paulo - SP - Zip Code: 02134-030
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vrt volume 1a

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Important Notes on Use

In the following table section the most important semiconductor components – irrelevant as to whether it is dealing with transistors, diodes, thyristors integrated circuits etc. – are listed in strict alphabetical order. The individual types are provided with the most important relevant short data, and – as far as possible and as far as purposeful – suitable comparative types are named. This table is supplemented and extended with every new edition. Old types are **never** cancelled. Old tables should therefore always be removed (there is absolutely no risk of information loss) thus preventing valuable time being spent on searching through stacks of tables.

Column 1 ("Type")

The type designations correspond to those of the respective manufacturer documentations. They are sometimes stamped on the components themselves in a deviating or abbreviated form.

With several identical type designations of one kind or component (e. g. "BF 232") the abbreviation of the manufacturer is added in square brackets "[...]" to the type designation.

Selection identifications through added on letters or figures are only then considered if this is important in practice and with type comparison.

Column 2 ("Device")

Short definition of the semiconductor component.

Used abbreviations:

A/D-IC	Analog-to-digital converter
BiMOS-IC	Integrated circuit (Bipolar, + MOS technology)
CCD-IC	Charge-coupled device
CMOS-Logic	Digital-logic circuit (CMOS technology)
C-Di	Capacitance diode (Varactor, varicap)
Diac	3-layer-trigger diode, symmetrical
DIG-IC	Digital integrated circuit
DOC	Dual channel photocoupler
DPI	Dual channel photo interrupter
dRAM-IC	Read-write memory, dynamic
D/A-IC	Digital-to-analog converter
EAROM-IC	Memory, nonvolatile, alterable
ECL-Logic	Emitter-coupled logic
EEPROM-IC	Memory, nonvolatile, electrically erasable
EPROM-IC	Memory, nonvolatile, UV-erasable
ER	Emitter/detector
FIB IR LD	Infrared laser diode for fibre optics
FIB IR LD+MA	Infrared laser diode with monitor output for fibre optics
FIB IR LD+MD	Infrared laser diode with monitor diode for Fibre optics
FIB IR LD+MO	Infrared laser diode with modulator for fibre optics
FIB IR LD+NT	Infrared laser diode with NTC Resistor for fibre optics
FPLA	= PAL, field programmable
F-Thy	Fast thyristor
GaAs	Gallium arsenide
Ge-Di	Germanium diode
Ge-N	Germanium NPN transistor
Ge-P	Germanium PNP transistor
GTO-Thy	Gate turn off thyristor
Hybrid-IC	Integrated circuit (hybrid technology)
IC	Integrated circuit
IR LD	Infrared laser diode
IR LD+MA	Infrared laser diode with monitor output
IR LD+MD	Infrared laser diode with monitor diode
IRED	Infrared light emitting diode
IRED+MD	Light emitting diode
I/O-IC	Input/output IC for microcomputer
KOP-IC	Comparator (operational amplifier)
LIN-IC	Linear integrated circuit
LD	Laser diode
LDR	Photo Resistor
LED	Light emitting diode
LED/IRED	Light emitting diode and infrared light-emitting diode
MOS-...*	With integrated gate protection diode
MOS-FET-d	Metal oxide FET, depletion type
MOS-FET-e	Metal oxide FET, enhancement type
MOS-IC	Integrated circuit (MOS technology)
MOS-N/P-IGBT	Iso-gate bipolar transistor
MP	Matched emitter/detector
NMOS-IC	N-channel MOS-IC
N-FET	N-channel field-effect transistor
OC	Photocoupler
Opto	Optoelectronic component
OP-IC	Operational amplifier
PAL-IC	Programmable logic array
PC	Photo Element
PD	Photo Diode (for OPICs with Integrated Linear Amplifier)
PD ARRAY	Photo Diode Array
PI	Photo Interrupter
PIN-Di	PIN diode
PIN PD	PIN Photodiode (for OPICs with Integrated Linear Amplifier)
PMOS-IC	P-channel MOS-IC
PROM-IC	Electrically programmable ROM
PS	Photo reflective sensor
PT	Photo Transistor
PTR	Photo Triac
PUT	Programmable Unijunction transistor (UJT)
P-FET	P-channel field-effect transistor
PYRODET	Pyrodetector (Infrared Sensor)
QOC	Quad channel photocoupler
RCLED	Resonant cavity LED
RED LD	Red laser diode
RED LD+MD	Red laser diode with monitoring diode
Ref-Di	Reference diode (highly stable Z-diode)
ROM-IC	Read-only memory
SAS	Silicon asymmetrical switch
SBS	Silicon bilateral switch
Se-Di	Selenium diode
Si-Br	Silicon bridge rectifier
Si-Di	Silicon diode
Si-N	Silicon NPN transistor
Si-N-Darl	Silicon NPN Darlington transistor
Si-P	Silicon PNP transistor
Si-P-Darl	Silicon PNP Darlington transistor
Si-St	Silicon-stabi-diode (operation in forward direction)
sRAM-IC	Read-write memory, static
SUS	Silicon unilateral switch
Tetrode	P- + N-gate thyristor
Thermistor	Temperature depending resistor
Thy	Thyristor
Thy-Br	Thyristor bridge configuration
TOC	Triple channel photocoupler
Triac	Full-wave thyristor
Trigger-Di	4-layer trigger diode, asymmetrical
TTL-IC	Linear integrated circuit (TTL technology)
TTL-Logic	Digital logic circuit (transistor - transistor logic)
UJT	Unijunction transistor
Varistor	Voltage depending resistor (VDR)
Z-DI	Z-diode (operation in reverse direction)
Z-IC	Voltage regulator, voltage stabilizer
...+Di	With integrated damper diode
...+R	With integrated resistors
50Hz-Thy	Thyristor for mains operation
µC-IC	Single-chip microcomputer (MOS)
µP-IC	Microprocessor, CPU (MOS)

Column 3 ("Short description")
Short data or description of function of each type.

Used abbreviations:

A	Antenna and wideband amplifiers (CATV)
AFC	Automatic frequency control
AFT	Automatic fine tuning
AGC	Automatic gain control
ALC	Automatic level control
AM	RF application (AM range)
APC	Automatic phase control
ARI	Traffic information system (Germany)
Array	Arrangement of numerous elements in a single case
asym	Asymmetrical
AV	Audio/Video
A/W-Verst	Record/playback amplifier
B	DC forward current gain
Backward	Backward diode
Band-S	RF band switching
bidirektional	Bidirectional diode
Br	Bridge rectifier
Btx	Interactive video text
Camera	Video camera
CATV	Broad band cable amplifier
CB	CB-radio
CD	CD-player
Chopper	Chopper
contr. av.	Controlled avalanche
CPU	Central processing unit
CRT	Cathode ray tube
CTV	Color TV
Dem	Demodulator
Diskr	Discriminator
DMA	Direct memory access controller
Dual	Dual transistors for differential amplifiers or dual diode
E	Output stages
Equal	Equalizer
ESD	Electrostatic discharge
FB	Remote control
FED	Field effect diode
FIFO-IC	First-in First-out memory
FLT	Fluorescent tubes
FM	RF application (FM range)
FREDFET	V-MOS-FET with fast parasitic diode
F/V-Converter	Converter frequency to voltage
gep	Matched types
GI	Rectifier (general)
Gunn-Di	Gunn diode
HA	TV horizontal deflection stages
HF	RF application (general)
hi-beta	High current gain
hi-current	For high output current
hi-def	High definition
hi-power	High output power
hi-prec	High precision
hi-rel	High reliability
hi-res	High resolution
hi-speed	High speed
hi-volt	For high voltages
Horiz.	Horizontal
h-ohm	For high impedance demodulator circuits
Ib	Break-over current
Igt	Gate trigger current
Ih	Holding current
Impatt-Di	Impatt diode
Indic.	Indicator
IR	Infra-red
Ip	Peak point current
IPD	Intelligent power device
Is	Switching current
Iso	Insulated
Itsm	Surge current
Iv	Valley point current
kV-GI	High voltage rectifier
L	Power stages
LCD	Liquid crystal display
LED	Light-emitting diode
LIFO-IC	Last-in first-out memory
Limiter	Limiter
lo-drive	Low drive power required
lo-drop	Low voltage drop
LogL	Logic Level ($U_{th} \approx 0,8...2V$)
lo-power	Low power consumption
lo-sat	Low collector - emitter saturation voltage
lo-volt	For low voltages
M	Mixer stages
Min	Miniaturized
MMU	Memory management unit
Multipl	Frequency multiplier
NF	AF applications
Nix	Nixie driver (digital display tubes)
Noise suppr.	Noise suppression
n-ohm	For low impedance demodulator circuits
O	Oscillator stages
OFW/SAW-Filter	Surface acoustic wave filter
OP-Amp.	Operational amplifier
OSD	On-screen display
par	Parallel
PEP	Peak envelope power
PIP	Picture-in-picture
PLL	Phase-locked loop
PQ	RF-output power (transmitter transistor)
progr	Programmable
PS	Power supply
PWM	Pulse-width modulation
ra	Low noise
RadH	Designed for space aviation use (radiation hardened)
re	AGC stages
Recorder	Tape and cassette recorder
Reg	Regulator
S	Switching stages
Schottky	Schottky diode
ser	Serial
SHF	RF applications (>5 GHz)
SMD	Surface mounted device
SMPS, SN	Switch-mode power supplies
SS	Fast switching stages
SSB	Single sideband operation
stack	Rectifier stacks
sym	Symmetrical types
TAZ	Suppressor diode
tgq	Reset-time
Thy-Br	Thyristor bridge configuration
Thy-Modul	Arrangement of numerous thyristors in a single case
Ton	TV sound channel
Tr	Driver stages
Trigger-Di	4-layer trigger diode, asymmetrical
Tuning	RF tuning diode
Tunnel-Di	Tunnel diode
TV	Television applications
UART	Universal asynchronous receiver/transmitter
Ub	Break over voltage
Ucc, Us	Supply voltage
UHF	RF applications (>250 MHz)
Uni	General purpose types
US	Ultrasonics
USART	Universal synchronous/ asynchronous receiver/transmitter
V	Pre/input stages
VA	TV vertical deflection types
VC	Video recorder
Vertik.	Vertical
VHF	RF applications (approx. 100...250MHz)
Vid	Video output stages

VIR	NTSC color correction
Vtx	Video text, teletext
V/F-Converter	Converter voltage to frequency
X-Ray-prot.	X-ray protection
ZF	IF stages
ZV	Integrated trigger amplification (Darlistor)
ß	Short-circuit current gain at 1 kHz
(eff)	r.m.s. value
(ss)	Peak value
(Ta = ...°)	Ambient temperature if not 25°C
(Tc =...°)	Case reference temperature if not 25°C (power types)
= [Typ]:	Identical with [type], however: [data, case, Pin-Code, etc.]
→	See under
-/...V	Only U_{CE0} known; otherwise always U_{CB0} or U_{CB0}/U_{CE0} (transistors)
...ns	Reverse recovery time (diodes)
.../-ns	Turn-on time (transistors)
.../...ns	Turn-on/turn-off time (transistors)
...µs	Circuit commutated turn-off time tq (thyristor)
... + Diac	With integrated diac
µComp	Microcomputer
≈ [Typ]	Similar to the named type (description see there)

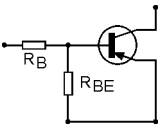
Column 4 ("Fig.")
Related drawing number (figure) and pin assignment (appended letter) with discrete semiconductors. In the pin assignment table, the associated column ("Transistor", "FET", "Thyristor", "Diode", "Z-IC") must be observed. With ICs just a schematic drawing is provided without pin assignment. All drawings are situated at the end of the table. The degrees mark (°) means: case with additional heat sirik.

Column 5 ("Manufacturer")
The names of the manufacturers are abbreviated to save space. The complete name of each manufacturer is listed alphabetically on page XXII. We cannot vouch for completeness and availability.
If a number of manufacturers are named for a single type, data is given of only one, due to the data of a single type differing from one manufacturer to another slightly under unlike measurement conditions.

Column 6 ("Comparison types")
With the details on the alternate types, just a selection of the types "closely related" to the original type is given. They are preferably types which are not too difficult to obtain.
In practice there are usually many more alternate types applicable than there is room for in this table. The characterizing mark "+ +" after the last alternate type is to attract particular attention.
The **"parametric search"** in the online data base for semiconductor at **www.ecadata.de,** offering various abilities to find replacement types too. Furthermore you will be able to compare directly the parameters of the different types. Please read **page XXIV** for the **special offer for vrt book** users.
The "Selector tables" in the ECA data bases under **http:// www.ecadata.de**, on DVD or as books conceal unsuspected furthering possibilities. These ECA data sources on DVD or at www.ecadata.de should by all means be consulted for an exact type comparison in critical cases.
If not otherwise mentioned in footnotes, the given alternate types have the same or better electrical data and can be applied without mechanical problems.
The same pin assignment has only been given attention to in the case of power types and ICs, as with small components the connections can be easily exchanged to fit. A check on any differing assignments is very much advised, and with this table is easy to carry out.
When a comparison type is followed by a maker's name (abbreviated) in square brackets, this means the data stems from this manufacturer and has not been verified by the author. In order not to exceed the capacity of this table, the detailed ECA data bases online or on DVD have partly had to be referred to. The incredible variety of the components and comparison possibilities cannot be fully shown in this scope with digital logic circuits, voltage stabilizers, Z-diodes, thyristors and operational amplifiers.

Footnote list on the comparison type
with comparison types in brackets ( ):

1 with integrated damper diode
2 damper diode between emitter and collector necessary externally
3 not insulated case
4 different case - possibly mechanical adaption necessary
5 the differing pin assignment possibly requires different assembly
6 alternate type is a little larger or with a different pin-spacing
7 alternate type with lower maximum ratings
8 lower transition frequency (f_T)
9 also with other gate trigger current
10 alternate IC is not pin-compatible or with a different pin-spacing
11 also with other gate trigger current and the alternate type is with different case
13 lower forward current gain (B, h_{FE}, ß, h_{fe})
15 No. 1 + 5
16 equivalent type with limited temperature range
17 higher saturation voltage (U_{CESat})
18 suitable resistor required externally



+ + Many further comparison possibilities

Column 7 ("ECA Infos")
Further informations about this type like particularized data (data), original data sheets (pdf) or pinout (pinout) you will find in the ECA online data base for semiconductors at **http://www.ecadata.de.**
Please visit also our main page site **http://www.eca.de** for additional informations about our online data base.
In all critical application cases the relevant parameters of the comparison types are to be compared with those of the original in order to prevent any "surprises"!
Despite very careful research, errors excepted. There is no liability for failure in practice.

Indications importantes pour l'utilisation

Le tableau suivant énumère par ordre alphabétique les principaux composants de semi-conducteurs, qu'il s'agisse de transistors, de diodes, de thyristors, de circuits intégrés, etc. Chaque composant est suivi des principales caractéristiques abrégées le concernant, et, dans la mesure du possible et lorsque cela présente un intérêt, de ses équivalents appropriés. Ce tableau est complété et remodelé à chaque nouvelle édition. Les composants vieillis ne sont **jamais** effacés. Les tableaux plus anciens peuvent ainsi être mis hors d'usage (puisque les pertes d'informations sont exclues), ce qui évite de rerdre un temps précieux en effectuant des recherches dans plusieurs tableaux.

Colonne 1 («Type»)
Les références des composants sont identiques à celles se trouvant dans la documentation du fabricant. Elles sont parfois indiquées différemment ou en abrégé sur les composants mêmes.
Lorsque plusieurs composants du même type ont la même référence («BF 232» par exemple), la désignation abrégée du fabricant entre crochets «[...]» suit. Les repéres de sélection indiqués par les lettres ou les chiffres n'ont été mentionnés que lorsque cela s'est avéré important dans la pratique ou pour les équivalents.

Colonne 2 («Genre»)
Courte définition du composant de semi-conducteur.

Abréviations utilisées:

A/D-IC	convertisseur analogique-numérique
BiMOS-IC	circuit intégré (bipolaire, + technologie MOS)
CCD-IC	circuit intégré à accouplement de charge
CMOS-Logic	circuit logique numérique (technologie CMOS)
C-Di	diode à capacité variable
Diac	diode de déclenchement à 3 couches, symétrique
DIG-IC	circuit intégré numérique
DOC	double optocoupleur
DPI	double interrupteur optique
dRAM-IC	mémoire à lecture-écriture, dynamique
D/A-IC	convertisseur numérique-analogique
EAROM-IC	mémoire, non volatile, altérable
ECL-Logic	circuit de logique couplé à l'émetteur
EEPROM-IC	mémoire, non volatile, effaçable par électricité
EPROM-IC	mémoire, non volatile effaçable par U.V.
ER	émetteurs récepteurs
FPLA-IC	PAL, réseau logique programmable par l'utilisateur
FIB IR LD	Infrared laser diode for fibre optics
FIB IR LD+MA	Infrared laser diode with monitor output for fibre optics
FIB IR LD+MD	Infrared laser diode with monitor diode for Fibre optics
FIB IR LD+MO	Infrared laser diode with modulator for fibre optics
FIB IR LD+NT	Infrared laser diode with NTC Resistor for fibre optics
F-Thy	thyristor de fréquence
GaAs	arséniure de gallium
Ge-Di	diode au germanium
Ge-N	transistor NPN au germanium
Ge-P	transistor PNP au germanium
GTO-Thy	thyristor débranchable (gate turn off)
Hybrid-IC	circuit intégré (technologie hybride)
IC	circuit intégré
IR LD	Infrared laser diode
IR LD+MA	Infrared laser diode with monitor output
IR LD+MD	Infrared laser diode with monitor diode
IRED	Infrared light emitting diode
IRED+MD	Light emitting diode
I/O-IC	circuit intégré entrée-sortie pour micro-ordinateur
KOP-IC	comparateur (amplificateur opérationnel)
LD	Laser diode
LDR	Photo Resistor
LED	Light emitting diode
LED/IRED	Light emitting diode and infrared light-emitting diode
LIN-IC	circuit intégré linéaire
MOS-...*	avec diode de protection grille intégrée
MOS-FET-d	FET à oxyde métallique, type de déplétion
MOS-FET-e	FET à oxyde métallique, type d'enrichissement
MOS-IC	circuit intégré (technologie MOS)
MOS-N/P-IGBT	transistor bipolaire iso-grille
MP	paire d'émetteurs récepteurs
NMOS-IC	circuit intégré MOS à canal N
N-FET	canal N transistor à effet de champ
OC	optocoupleur
Opto	composants opto-électroniques
OP-IC	amplificateurs d'opération
PAL-IC	CI PAL réseau logique programmable
PC	Photo Element
PD	Photo Diode (for OPICs with Integrated Linear Amplifier)
PD ARRAY	Photo Diode array
PI	interrupteur optique
PIN-Di	diode PIN
PIN PD	PIN Photodiode (for OPICs with Integrated Linear Amplifier)
PMOS-IC	circuit intégré MOS à canal P
PROM-IC	ROM programmable à l'électricité
PUT	transistor uni-jonction (UJT) programmable
PS	photocapteur d'réflexion
PT	Photo Transistor
PTR	Photo Triac
PYRODET	Pyrodetector (Infrared Sensor)
P-FET	canal P transistor à effet de champ
QOC	quadruple optocoupleur
RCLED	Resonant cavity LED
RED LD	Red laser diode
RED LD+MD	Red laser diode with monitoring diode
Ref-Di	diode de tension de référence (diode de Zener haute constance)
ROM-IC	mémoire des constantes
SAS	interrupteur asymétrique au silicium
SBS	interrupteur bilatéral au silicium
Se-Di	diode au sélénium
Si-Br	silicium redresseur à pont
Si-Di	diode au silicium
Si-N	transistor silicium NPN
Si-N-Darl	transistor Darlington de silicium NPN
Si-P	transistor silicium PNP
Si-P-Darl	transistor Darlington de silicium PNP
Si-St	diode rég. de tension au silicium (fonct. en sens direct)
sRAM-IC	mémoire à lecture - écriture, statique
SUS	interrupteur unilatéral au silicium
Tetrode	P- + N-gate-thyristor
Thermistor	résistance dépendant de température
Thy	thyristor
Thy-Br	thyristor à pont
TOC	triple optocoupleur
Triac	thyristor bi-directionnel
Trigger-Di	diode de déclenchement à 4 couches, asymétrique
TTL-IC	circuit intégré linéaire (technologie TTL)
TTL-Logic	circuit logique numérique (transistor - logique de trans.)
UJT	transistor unijonction
Varistor	résistance dépendant de tension (VDR)

Z-DI	diode de Zener (fonctionnement en sens d'état bloqué)
Z-IC	régulateur de tension, stabilisateur de tension
...+Di	avec diode d'amortissement intégrée
...+R	avec résistances intégrée
50Hz-Thy	thyristor pour application secteur
µC-IC	micro-ordinateur sur une pastille (MOS)
µP-IC	microprocesseur, CPU (MOS)

Colonne 3 («Description succ.»)
Caractéristiques abrégées et descriptif des fonctions des composants.

Abréviations utilisées:

A	amplificateurs d'antenne et à large bande
AFC	correction automatique de fréquence
AFT	accord précis automatique
AGC	réglage automatique de gain
ALC	modulation automatique
AM	application HF (gamme AM)
APC	déphasage automatique
ARI	système d'information autoradio (RFA)
Array	disposition de plusieurs éléments dans un boîtier
asym	asymétrique
AV	Audio/Vidéo
A/W-Verst	amplificateur de lecture/enregistrement
B	amplification de courant continu
Backward	diode unitunnel
Band-S	diode de commutation HF
bidirektional	tête bèche
Br	redresseur à pont
Btx	vidéotex
Camera	caméra vidéo
CATV	amplificateur-câble à large bande
CB	radio CB
CD	lecteur de disques compacts
Chopper	chopper de mesure
contr. av.	avalanche contrôlée
CPU	unité centrale de traitement
CRT	terminal de visualisation à écran cathodique
CTV	application télévision en couleurs
Dem	démodulateur
Diskr	discriminateur
DMA	contrôleur mémoire accès direct
Dual	trans. doubles pour amplific. de différence ou duo-diode
E	étages finaux
Equal	correcteur
ESD	décharge électrostatique
FB	commande à distance
FED	diode à effet de champ
FIFO-IC	CI mémoire FIFO (premier entré, premier sorti)
FLT	tubes afficheurs
FM	application HF (gamme OUC)
FREDFET	V-MOS-FET avec diode inverse rapide
F/V-Converter	convertisseur fréquence - tension
gep	types appariés
GI	redresseur (en général)
Gunn-Di	diode Gunn
HA	étages à déflection horizontale télévision
HF	application HF (en général)
hi-beta	amplification de courant élevée
hi-current	pour courant de sortie élevée
hi-def	haute définition
hi-power	puissance de sortie élevée
hi-prec	haute précision
hi-rel	fiabilité accrue
hi-res	haute résolution
hi-speed	rapide
hi-volt	pour tensions élevées
Horiz.	horizontal
h-ohm	démodulateur à haute impédance
Ib	courant de rupture
Igt	courant d'amorçage
Ih	courant de maintien
Impatt-Di	diode Impatt
Indic.	indication
Ip	courant de pointe
IPD	device de puissance intelligent
IR	infrarouge
Is	courant de commande
Iso	isolé
Itsm	courant de choc
Iv	courant de bas niveau
kV-GI	redresseur très haute tension
L	étages de puissance
LCD	indication à cristaux liquides
LED	voyant lumineux à diode
LIFO-IC	CI mémoire LIFO (dernier entré, premier sorti)
Limiter	limiteur
lo-drive	pour faibles drive de puissance
lo-drop	faible perte de tension
LogL	Logic Level ($U_{th} \approx 0,8...2V$)
lo-power	faible consommation de puissance
lo-sat	basse tension de saturation collecteur - émetteur
lo-volt	pour faibles tensions
M	étages mélangeurs
Min	modéles type miniature
MMU	unité de gestion mémorie
Multipl	multiplicateur de fréquence
NF	application AF
Nix	driver type nixie (tubes afficheurs)
Noise suppr.	suppression de parasites
n-ohm	démodulateur de basse impédance
O	étages d'oscillateur
OFW/SAW-Filter	filtre de surface onde acoustic
OP-Amp.	amplificateur opérationnel
OSD	affichage de film écran
par	parallèle
PEP	puissance de sortie de pointe
PIP	image dans image
PLL	boucle à verrouillage de phase
PQ	puissance de sortie HF (transistors émetteurs)
prog	programmable
PS	alimentation électrique
PWM	modulation de largeur d'impulsion
ra	à faible bruit
RadH	étudié pour les applications aérospatiales
re	étages de réglage (réglage automatique de gain/AGC)
Recorder	magnétophones et appareils à cassettes
Reg	régulateur
S	étages de commutation
Schottky	diode Schottky
ser	sériel
SHF	applications HF (>5 GHz)
SMD	pour montage en surface
SMPS, SN	alimentation à découpage
SS	étages de commutation rapide
SSB	opération à bande latérale unique
stack	montages à diodes
sym	types symétriques
TAZ	diode Zener fortes surcharges
tgq	temps d'effacement
Thy-Br	thyristor à pont
Thy-Modul	module thyristor (plusieurs éléments dans un boîtier)
Ton	canal son TV
Tr	étages driver
Trigger-Di	diode de déclenchement à 4 couches, asymétrique
Tuning	diode de réglage HF

Tunnel-Di	diode à effet de tunnel
TV	applications de télévision
UART	emetteur/récepteur universel asynchrone
Ub	tension de retournement
Ucc, Us	tension d'alimentation
UHF	application HF (>250 MHz)
Uni	types universels
US	ultra-son
USART	emetteur/récepteur universel synchrone/asynchrone
V	étages d'entrée
VA	étages de déflection verticale TV
VC	enregistreur vidéo
Vertik.	vertical
VHF	application HF (env. 100...250 MHz)
Vid	étages finaux vidéo
VIR	correction des couleurs NTSC
Vtx	vidéotexte, télétexte
V/F-Converter	convertisseur tension - fréquence
X-Ray-prot.	protection contre les rayons X
ZF	étages FI
ZV	avec renforcement d'amorçage (darlistor)
ß	amplification de courant (transistor) pour 1 kHz
(eff)	valeur effective (= RMS)
(ss)	valeur de créte
(Ta = ...°)	température ambiante, lorsqu'elle diffère de 25°C(composants en saillie)
(Tc =...°)	température de référence du boîtier, lorsqu'elle diffère de 25°C (composants de puissance)
= [Typ]:	identique à [type], toutefois: [caract., fig., Pin-Code, etc.]
→	renvoi (regarder sous ...)
-/...V	seul U_{CE0} est connu; sinon, toujours U_{CB0} ou U_{CB0}/U_{CE0} (transistors)
...ns	temps de recouvrement inverse (diode)
.../-ns	temps d'etablissement (transistors)
.../...ns	temps d'etablissement/de coupure (transistors)
,..µs	temps de recouvrement (thyristor)
...+Diac	avec diac intégrée
µComp	micro-ordinateur
≈ [Typ]	analogueau composant cité (description, voir composant cité)

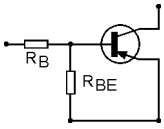
Colonne 4 («Fig.»)
Indication du numéro de la figure (chiffre) et de la connexion (lettre). Veuillez consulter la colonne correspondante («transistor», «FET», «thyristor», «diode», «Z-IC») dans le tableau des connexions. Pour les circuits intégrés (IC), seul un croquis de principe sans indication de la connexion est prévu. Tous les croquis se trouvent en bas du tableau.
Le signe degré (°) signifie: boîtier avec dissipateur de chaleur supplémentaire.

Colonne 5 («Fabricants»)
Par faute de place, les désignations fournisseur seront indiqués sous une form raccourcie. La liste des noms complets apparaîtront, par ordre alphabétique, sur la page XXII. Sous réserve de garantie concernant l'intégralité et possibilité de fourniture. Dans le cas où plusieurs fournisseurs seront nommés pour un type déterminé, la publication ne concerne qu'un seul étant donné que les données d'un type diffèrent selon le fournisseur et les conditions de mesure différentes.

Colonne 6 («Types d'equivalence»)
Les indications concernant les composants de rechange constituent un choix d'éléments analogues au composant original. Il s'agit en règle générale de composants relativement faciles à obtenir.
En pratique, les composants de rechange pouvant être utilisés sont souvent beaucoup plus nombreux que ceux qui ont pu trouver place dans ce tableau. Le double astérisque « + + » noté après le dernier composant de rechange a pour but d'attirer l'attention sur ce dernier point.
Les tables «Selector» se trouvant dans les brochures de caractéristiques et les DVD ECA et **http://www.ecadata.de** contiennent un grand nombre de possibilités autres que celles contenues dans ce tableau. En outre, ces brochures de caractéristiques ECA sont à conseiller pour une comparaison exacte des composants en cas de doute.
Les composants de rechange indiqués sans note renvoient à des éléments présentant des caractéristiques électriques semblables ou meilleures et pouvant être insérés sans problèmes mécaniques.
Nous n'avons accordé d'importance à une connexion, identique que pour les composants de puissance et les circuits intégrés (IC), les sorties des petits composants pouvant être aisément échangées.
Il est fortement recommandé de vérifier si l'agencement est identique, vérification qui peut être facilement effectuée à l'aide de ce tableau. Dans le cas où un type d'équivalence est suivi d'un nom de fabricant (en abrégé) entre crochets, cette indication provient du fabricant et n'a pas été vérifiée par l'auteur!
Pour ne pas dépasser le cadre de ce tableau, il s'est parfois avéré nécessaire de renvoyer aux brochures de caractéristiques détaillées ECA. Les circuits logiques numériques, régulateurs de tension, diodes de Zener, thyristors et amplificateurs opérationnels présentent une telle diversité de formes et d'éléments équivalents qu'il était impossible de les présenter de manière exhaustive dans le cadre de ce tableau.

Liste des notes affectées aux composants de rechange
pour les composants de rechange entre parenthèses ( ):

1 avec diode d'amortissement intégrée
2 diode d'amortissement externe entre émetteur et collecteur nécessaire
3 boîtier non isolé
4 boîtier différent. Adaptation mécanique éventuellement requise
5 connexion différente, nécessite éventuellement un montage différent
6 le composant de rechange est un peu plus grand ou a une dimension de trame différente
7 composant de rechange dont les valeurs limites sont plus faibles
8 fréquence limite plus basse (f_T)
9 ce type peut être également obtenu avec d'autres caractéristiques d'allumage
10 le circuit intégré (IC) de rechange n'est pas compatible avec la broche ou a une dimension de trame différente.
11 ce type peut être également obtenu avec d'autres caractéristiques d'allumage et le type équivalent a un autre boîtier.
13 amplification de courant plus basse (B, h_{FE}, ß, h_{fe})
15 No. 1 + 5
16 type d'équivalence avec gamme de température limitée.
17 tension de saturation plus haute (U_{CESat})
18 résistance externe correspondante nécessaire



+ + nombreux composants équivalents

Colonne 7 («ECA-info»)
Nom du volume ECA dans lequel les caractéristiques exactes du composant recherché ainsi que d'autres composants équivalents sont répertoriés. Afin d'éviter les «surprises», il est recommandé de comparer les principaux paramètres des composants équivalents à ceux de l'original en cas de doute quant à l'utilisation. **http://www.ecadata.de**
Les soins apportés dans les recherches ne peuvent exclure entièrement les erreurs. Nous ne pouvons être tenus responsables des dommages consécutifs occasionnés dans la pratique.

Avvertenze importanti per l'uso

Nella seguente parte di tabelle vengono riportati i più importanti elementi di costruzione di semiconduttori, indipendentemente se si tratta di transistori, diodi, tiristori, circuiti integrati ecc. I singoli tipi sono provvisti dei brevi dati più rilevanti e in quanto possibile e conveniente vengono indicati anche i tipi comparativi appropriati. Questa tabella viene integrata ed ampliata con ogni nuova edizione. I tipi vecchi non vengono **mai** cancellati. Tabelle vecchie pertanto dovranno essere sempre messe da parte (una conseguente perdita di informazioni è impossibile!), per evitare la perdita di tempo prezioso nel dover cercare tra numerose tabelle.

Colonna 1 («Tipo»)

Le denominazioni di tipo corrispondono a quelle delle rispettive documentazioni dei produttori. Sono a volte applicate a timbro in modo variato o abbreviato sugli elementi di costruzione stessi. In caso di più denominazioni di tipi identici di una specie di elementi costruttivi (ad esempio «BF 232») la denominazione in breve del produttore è aggiunta tra parentesi angolare «[...]» alla denominazione del tipo. Contrassegni selettivi per mezzo di lettere o cifre introdotte saranno tenuti in considerazione solo se ciò sia importante nella pratica e al paragone dei tipi.

Colonna 2 («Specie»)

Definizione in breve dell'elemento costruttivo a semiconduttore.
Abbreviazioni usate:

A/D-IC	Convertitore analogo-digitale
BiMOS-IC	Circuito integrato (bipolare, + tecnologia MOS)
CCD-IC	Dispositivo per accoppiamento di carica
CMOS-Logic	Circuito digitale logico (tecnologia CMOS)
C-Di	Diodo di capacità
Diac	Diodo Trigger a 3 strati, simmetrico
DIG-IC	Circuito integrato digitale
DOC	doppio canale photocoupler
DPI	doppio canale foto interruttore
dRAM-IC	Memoria di scrittura-lettura, dinamica
D/A-IC	Convertitore digitale-analogo
EAROM-IC	Memoria, non transitoria, variabile
ECL-Logic	Logica con accoppiamento in emettitore
EEPROM-IC	Memoria, non transitoria, cancellabile elettricamente
EPROM-IC	Memoria, non transitoria, cancellabile a UV
ER	Emettitore / rivelatore
F-Thy	Tiristore di frequenza
FIB IR LD	Diodo laser infrarossi per fibre ottiche
FIB IR LD+MA	Diodo laser a infrarossi con monitor per la produzione di fibre ottiche
FIB IR LD+MD	Diodo laser a infrarossi con monitor diodo per fibra ottica
FIB IR LD+MO	Diodo laser a infrarossi con modulatore per fibre ottiche
FIB IR LD+NT	Diodo laser a infrarossi con NTC Resistenza di fibre ottiche
FPLA-IC	PAL, programmabile a campo
GaAs	Arsenide di gallio
Ge-Di	Diodo a germanio
Ge-N	Transistore a germanio NPN
Ge-P	Transistore a germanio PNP
GTO-Thy	Tiristore disinseribile (gate turn off)
Hybrid-IC	Circuito integrato (tecnologia ibrida)
IC	Circuito integrato
IR LD	Diodo laser infrarossi
IR LD+MA	Diodo laser a infrarossi con uscita monitor
IR LD+MD	Diodo laser a infrarossi con monitor diodo
IRED	Diodi emettitori di luce a infrarossi
IRED+MD	Diodo luminescente con monitor diodo
I/O-IC	Input/output-IC per microcomputer
KOP-IC	Comparatore (amplificatore operazionale)
LD	Diodo laser
LDR	Foto Resistenza
LED	Diodo luminescente
LED/IRED	Diodo luminescente e Diodi emettitori di luce a infrarossi
LIN-IC	Circuito integrato lineare
MOS-...*	Con diodo di protezione integrato Gate
MOS-FET-d	FET-ossido metallico, tipo esaurimento (depletion)
MOS-FET-e	FET-ossido metallico, tipo arricchimento (enhancement)
MOS-IC	Circuito integrato (tecnologia MOS)
MOS-N/P-IGBT	Transistore bipolare Iso-Gate
MP	Trovato emettitore / rivelatore
NMOS-IC	Canale N-MOS-IC
N-FET	Canale N transistore ad effetto di campo
OC	Photocoupler
Opto	Componenti opto-elettronici
OP-IC	Amplificatori operazionali
PAL-IC	Array logica, programmabile
PC	Foto Elemento
PD	Diodo della foto (per OPICs con l'amplificatore lineare integrato)
PD ARRAY	Diodo della foto array
PI	Interruttore della foto
PIN-Di	Diodo PIN
PIN PD	Fotodiodo di PIN (per OPICs con l'amplificatore lineare integrato)
PMOS-IC	Canale P-MOS-IC
PROM-IC	ROM elettricamente programmabile
PS	Sensore riflettente della foto
PT	Transistore della foto
PTR	Triac della foto
PUT	Transistore monogiunzionale (UJT) programmabile
PYRODET	Pyrodetector (sensore infrarosso)
P-FET	Canale P transistore ad effetto di campo
QOC	Fotoisolatore della scanalatura del quadrato
RCLED	Cavità sonora LED
RED LD	Diodo laser rosso
RED LD+MD	Diodo laser rosso con monitor diodo
Ref-Di	Diodo di riferimento (diodo Z altamente costante)
ROM-IC	Memoria di sola lettura
SAS	Switch assimetrico al silicio
SBS	Switch bilaterale al silicio
Se-Di	Diodo selenio
Si-Br	Silicio raddrizzatore a ponte
Si-Di	Diodo silicio
Si-N	Transistore silicio NPN
Si-N-Darl	Transistore Darlington di silicio NPN
Si-P	Transistore silicio PNP
Si-P-Darl	Transistore Darlington di silicio PNP
Si-St	Diodo stabi (stabilizzatore) (funzionamento in direzione di flusso)
sRAM-IC	Memoria di scrittura-lettura, statica
SUS	Switch unilaterale al silicio
Tetrode	P- + N-Gate-tiristore
Thermistor	Resistenza dipendente di temperatura
Thy	Tiristore
Thy-Br	Collegamento a ponte a tiristore
TOC	Fotoisolatore triplice della scanalatura
Triac	Tiristore a onda intera
Trigger-Di	Diodo eccitatore (trigger) a 4 strati, asimmetrico
TTL-IC	Circuito lineare integrato (tecnologia TTL)
TTL-Logic	Circuito digitale logico (logica transistore - transistore)
UJT	Transistore unijunction (monogiunzionale)
Varistor	Resistenza dipendente di tensione (VDR)
Z-DI	Diodo Z (funzionamento in senso di non-conduzione)

Z-IC	Regolatore di tensione, stabilizzatore di tensione
...+Di	Con diodo damper integrato
...+R	Con resistenze integrate
50Hz-Thy	Tiristore di rete
µC-IC	Microcomputer ad un chip (MOS)
µP-IC	Microprocessore, CPU (MOS)

Colonna 3 («Descrizione somm.»)
Dati in breve ossia descrizione di funzionamento relativo al tipo.
Abbreviazioni usate:

A	Amplificatore di antenna e a banda larga
AFC	Correzione di frequenza automatica
AFT	Sintonizzazione automatica di precisione
AGC	Generazione tensione di regolazione
ALC	Modulazione automatica
AM	Applicazione alta frequenza (campo AM)
APC	Regolazione automatica delle fasi
ARI	Sistema informativo autoradio (RFT)
Array	Disposizione di più elementi in un involucro
asym	Asimmetrico
AV	Audio/Video
A/W-Verst	Amplificatore di registrazione/ trasmissione
B	Amplificazione a corrente continua
Backward	Diodo backward
Band-S	Commutazione bande ad alta frequenza
bidirektional	Diodo a graffa
Br	Raddrizzatore a ponte
Btx	Videotesto
Camera	Videocamera
CATV	Amplificatore a cavo multigamma
CB	Radio banda J
CD	Giradischi CD
Chopper	Interruttore rotante
contr. av.	Resistente alla tensione impulsiva (controlled avalanche)
CPU	Unità centrale computer
CRT	Schermo
CTV	Applicazione TV a colori
Dem	Demodulatore
Diskr	Discriminatore
DMA	Controller accesso diretto memoria
Dual	Transistori doppi amplificatori differenziali o diodo doppio
E	Stadi finali
Equal	Equalizzatore
ESD	Scarica elettrostatica
FB	Telecomando
FED	Diodo ad effetto di campo
FIFO-IC	Memoria silo (first-in first-out)
FLT	Tubi indicatori cifre
FM	Applicazione alta frequenza (campo onde ultracorte)
FREDFET	V-MOS-FET con diodo d'inversione rapido
F/V-Converter	Convertitore frequenza/tensione
gep	Tipi appaiati
GI	Raddrizzatori, in genere
Gunn-Di	Diodo Gunn
HA	Stadi di deflessione orizzontale TV
HF	Applicazione alta frequenza (generale)
hi-beta	Alta amplificazione di corrente
hi-current	Per alta corrente d'uscita
hi-def	Alta definizione
hi-power	Alta potenza d'uscita
hi-prec	Alta precisione
hi-rel	Affidabilità elevata
hi-res	Alta risoluzione
hi-speed	Rapido
hi-volt	Per alte tensioni
Horiz.	Orizzontale
h-ohm	Per circuiti di demodulazione ad alta impedenza
Ib	Corrente di rottura
Igt	Corrente d'innesco superiore
Ih	Corrente di mantenimento
Impatt-Di	Diodo Impatt
Indic.	Indicazione
Ip	Corrente di punto di picco
IPD	Attrezzo di potenza intelligente
IR	Infrarosso
Itsm	Max. corrente d'urto ammissibile
Is	Corrente di commutazione
Iso	Isolato
Iv	Corrente di punto di valle
kV-GI	Raddrizzatore d'alta tensione
L	Stadi di potenza
LCD	Indicatore a cristalli liquidi
LED	Indicatore a diodi luminosi
LIFO-IC	Memoria cantina (last-in first-out)
Limiter	Limitatore
lo-drive	Per basse potenza di volante
lo-drop	Modesta perdita di tensione
LogL	Logic Level (U_{th} » 0,8...2V)
lo-power	Modesto consumo di potenza
lo-sat	Bassa tensione di saturazione collettore - emitter
lo-volt	Per basse tensioni
M	Stadi di messaggio
Min	Esecuzione in miniatura
MMU	Unità d'amministrazione memoria
Multipl	Moltiplicatore di frequenza
NF	Applicazioni bassa frequenza
Nix	Eccitatore-Nixie (tubi indicatori cifre)
Noise suppr.	Soppressione disturbi
n-ohm	Per circuiti di demodulazione a bassa impedenza
O	Stadi di oscillatore
OFW/SAW-Filter	Filtro di superficie onda
OP-Amp.	Amplificatore operazionale
OSD	Avviso di schermo
par	Parallelo
PEP	Potenza massima di uscita
PIP	Figura in figura
progr	Programmabile
PLL	Inserimento in fase rigida
PQ	Potenza di uscita HF (transistori trasmettitori)
PS	Alimentazione di corrente
PWM	Modulazione larghezza dell'impulso
ra	Silenzioso
RadH	Resistente alla radiazione, concepito per usi spaziali
re	Stadi regolatori (AGC)
Recorder	Registratore a nastro e a cassette
Reg	Regolatore
S	Stadi di rottura
Schottky	Diodo Schottky
ser	Seriale
SHF	Applicazioni HF (>5 GHz)
SMD	Per montaggio sulla superficie
SMPS, SN	Parti del circuito combinatorio a cadenza
SS	Stadi di rottura rapidi
SSB	Azionamento a banda unilate rale
stack	Raddrizzatore a più strati, serie raddrizzatori
sym	Tipi simmetrici
TAZ	Soppressori di sovratensioni
tgq	Tempo d'interdizione
Thy-Br	Ponte di tiristori
Thy-Modul	Modulo a tiristore (più elementi in un involucro)
Ton	Canale del suono TV
Tr	Stadi di eccitazione
Trigger-Di	Diodo eccitatore (trigger) a 4 strati, asimmetrico

Tuning	Diodo sintonizzatore ad alta frequenza
Tunnel-Di	Diodo Tunnel
TV	Applicazione TV
UART	Trasmettitore/ricevitore universale asincrono
Ub	Tensione diretta di rottura
Ucc US	Tensione di alimentazione
UHF	Applicazioni a frequenza ultraelevata (>250 MHz)
Uni	Tipi universali
US	Ultrasuono
USART	Trasmettitore/ricevitore universale sincrono/asincrono
V	Prestadi e stadi entrata
VA	Stadi di deflessione verticale (TV)
VC	Registrazione video
Vertik.	Verticale
VHF	Applicazioni frequenza altissima (ca. 100...250 MHz)
Vid	Stadi finali video
VIR	Correzioni colori NTSC
Vtx	Videotesto, teletesto
V/F-Converter	Convertitore tensione/frequenza
X-Ray-prot.	Protezione contro i raggi X
ZF	Stadi di frequenza intermedia
ZV	Con intensificazione dell'accensione (darlistor)
ß	Amplificazione corrente fino a 1 kHz
(eff)	Valore effettivo (= RMS)
(ss)	Valore di punta
(Ta = ...°)	Temperatura ambientale qualora non 25°C (tipi cantilever)
(Tc = ...°)	Temperatura di riferimento carcassa, qualora non 25°C (tipi di potenza)
= [Typ]:	Identico con [Tipo], tuttavia: [dati, Fig., codice pin, ecc.]
®	Rimando (vedasi sotto ...)
-/...V	Noto solo U_{CE0}; altrimenti sempre U_{CB0} oppure U_{CB0}/U_{CE0} (transistori)
...ns	Tempo di ricupero di ritorno (diodi)
.../-ns	Tempo inserzione (transistori)
.../...ns	Tempo inserzione/interruzione (transistori)
...µs	Tempo di disinnesco (tiristore)
... + Diac	Con diac integrato
µComp	Microcomputer
» [Typ]	Simile al tipo indicato (vedasi relativa descrizione)

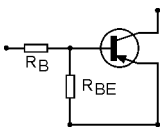
Colonna 4 («Fig.»)
Indicazione del numero della figura (cifra) e dell'occupazione pin (lettera inserita) a semiconduttori discreti. Nella tabella di occupazione pin dev'essere osservata la competente colonna («transistore», «FET», «tiristore», «diodo», «Z-IC»). Presso ICs è previsto solo un disegno di principio senza occupazione pin. Tutti i disegni si trovano in calce alla tabella. Il segno di grado (°) significa: carcassa con supplementare lamiera di raffreddamento o corpo di raffreddamento.

Colonna 5 («Produttori»)
I nomi dei produttori sono stati abbreviati per ragione di spazio. Nomi completi si trovano raggruppati in ordine alfabetico a pagina XXII. Non può essere assunto alcuna garanzia per completezza e disponibilità.
Ove vengono indicati più fabbricanti per uno stesso tipo allora soltanti i dati di uno solo sono stati utilizzati, giacchè in caso di condizioni di misurazione differenti i dati un tipo variano leggermente da fabbricante a fabbricante.

Colonna 6 («Tipi corrispondenti»)
Nell'indicazione dei tipi di ricambio viene indicata solo una scelta di «parenti stretti» del tipo originale. Si tratta in prevalenza di tipi non difficilmente reperibili.
In pratica spesso è impiegabile un numero assai maggiore di tipi di ricambio di quanto si potevano piazzare nella tabella. Il contrassegno « + + » dopo l'ultimo tipo di ricambio dovrà sottolineare in particolar modo questo fatto.
Il **"search parametrico"** nella base di dati in linea per il semiconduttore a **www.ecadata.de**, capacità varie d'offerta di trovare i tipi del rimontaggio anche. Ancora potrete confrontare direttamente i parametri dei tipi differenti. Legga prego la **pagina XXIV per l'offerta speciale** per gli utenti del libro del vrt.
Le tavole «Selector» nei registri dei dati ECA contengono non immaginate ulteriori possibilità. Di questi registri di dati ECA ci si dovrà servire in ogni modo per un esatto paragone dei tipi in casi critici.
Se non contrassegnati da note in calce, i tipi di ricambio indicati presentano dati elettrici identici o migliori e sono impiegabili senza problemi meccanici.
Di un'identica occupazione pin si è tenuto conto solo presso tipi di potenza e ICs poiche presso piccole forme di costruzione gli attacchi possono essere scambiati in modo facilmente adattato. Un ulteriore controllo in merito ad una differente occupazione è urgentemente consigliabile e facilmente da realizzare per mezzo di questa tabella.
Se un tipo di confronto è seguito da un nome di fabbricante (abbreviato) tra parentesi quadre, l'indicazione proviene da questo fabbricante e non è stata verificata dall'autore (!).
Per non superare l'ambito di questa tabella si doveva in parte far riferimento ai dettagliati registri di dati ECA. L'immensa foltità delle forme costruttive e delle possibilità di paragone non può venir rappresentata in modo esauriente per circuiti logici, digitali, regolatori di tensione, diodi Z, tiristori ed amplificatori operazionali.

Elenco delle note in calce **presso tipi corrispondenti tra parentesi ( ):**

1 Con diodo damper integrato
2 Diodo damper tra emettitore e collettore esternamente necessario
3 Carcassa non isolata
4 Altra carcassa - eventualmente necessario un adattamento meccanico
5 L'occupazione pin inuguale richiede eventualmente un altro montaggio
6 Il tipo di ricambio è alquanto più grosso o con altra misura modulare.
7 Tipo di ricambio con dati limiti più deboli
8 Frequenza limite più bassa (f_T)
9 Il tipo è ottenibile anche con altri dati di accensione
10 IC di ricambio non è compatibile con pin o con altra misura modulare
11 Il tipo è ottenibile anche con altri dati di accensione e il tipo di ricambio possiede un'altra carcassa.
13 Amplificazione di corrente meno forte (B, h_{FE}, ß, h_{fe})
15 No. 1 + 5
16 Tipo di sostituzione con gamma di temperatura limitata.
17 Tensione di saturazione più alta (U_{CESat})
18 È necessaria esternamente una resistenza adeguata



+ + Numerose altre possibilità di paragone

Colonna 7 (« ECA-Info»)
Nome del volume ECA nel quale si possono trovare dati esatti e ulteriori paragoni per il tipo ricercato. In tutti i casi d'impiego critici si dovranno paragonare i parametri rilevanti dei tipi di paragone con quelli dell'originale per prevenire alle «sorprese»!
http://www.ecadata.de/
Malgrado le scrupolose ricerche, rimangono comunque riservati eventuali errori. Non si possono rispondere di danni verificatisi in pratica.

Notas importantes para el uso

En las tablas de la sección siguiente se indican los componentes electrónicos más importantes en orden estrictamente alfabético, independientemente de que se trate de transistores, diodos, tiristores o de circuitos integrados, etc. Junto a los diferentes componentes se indican brevemente los datos característicos más relevantes y, de ser posible y de interés, los modelos de repuesto adecuados. La presente tabla se actualiza y amplia en cada nueva edición. De ella **jamás** se borran los modelos antiguos. (De este modo queda descartada cualquier pérdida de información). Por ello deberían retirarse de la circulación las tablas antiguas, a fin de no perder un tiempo valioso consultando varias tablas.

Columna 1 («Tipo»)
Los códigos de los diferentes modelos de componentes corresponden a los de las documentaciones de los respectivos fabricantes. El código impreso sobre el componente puede diferir o estar abreviado en algunos casos. Cuando varios componentes del mismo tipo tienen el mismo código (por ejemplo «BF 232») se añadido la abreviatura del fabricante encerrada en corchetes «[...]».
La caracterización de componentes seleccionados mediante letras o cifras pospuestas al código sólo se ha tenido en cuenta cuando reviste importancia en la práctica o al comparar diversos modelos o variantes.

Columna 2 («Tipo-categoria»)
Definición breve del tipo de componente semiconductor.

Abreviaturas empleadas:

A/D-IC	Convertidor analógico-digital
BiMOS-IC	Circuito integrado (bipolar, + tecnología MOS)
CCD-IC	Dispositivo por acoplamiento de carga
CMOS-Logic	Circuito lógico digital (tecnología CMOS)
C-Di	Varicap (diodo capacitivo)
Diac	Diac (diodo trigger simétrico de 3 capas)
DIG-IC	Circuito integrado digital
DOC	Photocoupler en doble canal
DPI	Interruptor en doble canal de la foto
dRAM-IC	Memoria de lectura y escritura (RAM) dinámica
D/A-IC	Convertidor digital-analógico
EAROM-IC	Memoria no volátil de contenido variable
ECL-Logic	Lógica de emisor acoplado
EEPROM-IC	Memoria no volátil de borrado eléctrico
EPROM-IC	Memoria no volátil de borrado por ultravioleta
ER	Emisor/detector
FIB IR LD	Diodo láser infrarrojo para la fibra óptica
FIB IR LD+MA	Diodo láser infrarrojo con el monitor hizo salir para la fibra óptica
FIB IR LD+MD	Diodo láser infrarrojo con el diodo del monitor para la fibra óptica
FIB IR LD+MO	Diodo láser infrarrojo con el modulador para la fibra óptica
FIB IR LD+NT	Diodo láser infrarrojo con el resistor de NTC para la fibra óptica
FPLA-IC	PAL, programable por zonas
F-Thy	Tiristor de frecuencia
GaAs	Arseniuro de galio
Ge-Di	Diodo de germanio
Ge-N	Transistor NPN de germanio
Ge-P	Transistor PNP de germanio
GTO-Thy	Tiristor desconectable (gate turn off)
Hybrid-IC	Circuito integrado de tecnología híbrida
IC	Circuito integrado
IR LD	Diodo láser infrarrojo
IR LD+MA	Diodo láser infrarrojo con salida del monitor
IR LD+MD	Diodo láser infrarrojo con el diodo del monitor
IRED	Diodo electroluminoso infrarrojo
IRED+MD	Diodo electroluminoso con el diodo del monitor
I/O-IC	Circuito integrado de entrada/salida para microordenador
KOP-IC	Comparador (amplificador operacional)
LD	Diodo láser
LDR	Foto resistencia
LED	Diodo electroluminoso
LED/IRED	Diodo electroluminoso e diodo electroluminoso infrarrojo
LIN-IC	Circuito integrado lineal
MOS-...*	Con diodo protector de compuerta
MOS-FET-d	FET de metal-óxido-semicond. de vaciamiento (depletion)
MOS-FET-e	FET de metal-óxido-semiconductor de enriquecimiento (enhancement)
MOS-IC	Circuito integrado (en tecnología MOS)
MOS-N/P-IGBT	Transistor bipolar isocompuerta
MP	Emisor/detector emparejados
NMOS-IC	Circuito integrado MOS de canal N
N-FET	Transistor de efecto de campo de canal N
OC	Photocoupler
Opto	Componentes optoelectrónicos
OP-IC	Amplificador operacional
PAL-IC	Matriz lógica programable
PC	Elemento de la foto
PD	Diodo de la foto (para OPICs con el amplificador linear integrado)
PD ARRAY	Diodo de la foto array
PI	Interruptor de la foto
PIN-Di	Diodo PIN
PIN PD	Fotodiodo del PIN (para OPICs con el amplificador linear integrado)
PMOS-IC	Circuito integrado MOS de canal P
PROM-IC	Memoria ROM programable eléctricamente
PS	Sensor reflexivo de la foto
PT	Transistor de la foto
PTR	Triac de la foto
PUT	Transistor uniunión (UJT) programable
PYRODET	Pyrodetector (sensor infrarrojo)
P-FET	Transistor de efecto de campo de canal P
QOC	Cuádruple canal photocoupler
RCLED	LED de cavidad resonante
RED LD	Diodo láser rojo
RED LD+MD	Diodo láser rojo con el diodo de la supervisión
Ref-Di	Diodo de referencia (diodo Zener de gran constancia)
ROM-IC	Memoria de lectura solamente
SAS	Interruptor asimétrico de silicio
SBS	Interruptor bilateral de silicio
Se-Di	Diodo de selenio
Si-Br	Puente rectificador de silicio
Si-Di	Diodo de silicio
Si-N	Transistor de silicio NPN
Si-N-Darl	Transistor Darlington de silicio NPN
Si-P	Transistor de silicio PNP
Si-P-Darl	Transistor Darlington de silicio PNP
Si-St	Diodo estabilizador de silicio (funcionamiento con polarización directa)
sRAM-IC	Memoria de lectura y escritura estática
SUS	Interruptor de silicio unilateral
Tetrode	Tiristor de puertas P y N
Thermistor	Resistencia dependiente de temperatura
Thy	Tiristor
Thy-Br	Puente de tiristores
TOC	Triple canal photocoupler
Triac	Triac
Trigger-Di	Diodo trigger de 4 capas, asimétrico
TTL-IC	Circuito integrado lineal (tecnología TTL)
TTL-Logic	Circuito digital (de lógica transistor-transistor)
UJT	Transistor uniunión
Varistor	Resistencia dependiente de tensión (VDR)

Z-DI	Diodo Zener (funcionamiento con polarización inversa)
Z-IC	Regulador o estabilizador de tensión
...+Di	Con diodo supresor integrado
...+R	Con resistencias integradas
50Hz-Thy	Tiristor de red
µC-IC	Microordenador de un solo chip (MOS)
µP-IC	Microprocesador, CPU (MOS)

Columna 3 («Descripción breve»)
Breve descripción de la función o los datos del modelo correspondiente.

Abreviaturas empleadas:

A	Amplificador de antena y de banda ancha
AFC	Control automático de recuencia
AFT	Ajuste fino automático
AGC	Obtención de la tensión regulada
ALC	Ajuste automático de ganancia
AM	Aplicación en alta frecuencia (gama de AM)
APC	Control automático de fase
ARI	Sistema de información por autoradio (RFA)
Array	Montaje de varios componentes en una sola cápsula
asym	Asimétrico
AV	Audio/Video
A/W-Verst	Amplificador de registro yreproducción
B	Ganancia de corriente continua
Backward	Diodo backward
Band-S	Conmutación de gama en alta frecuencia
bidirektional	Diodo bidireccional
Br	Puente rectificador
Btx	Teletexto
Camera	Cámara de video
CATV	Amplificador para cable de banda ancha
CB	Para radioaficionados (banda ciudad)
CD	Compact disc
Chopper	Inversor de medida
contr. av.	Avalancha controlada (resistente a los picos de tensión)
CPU	Unidad central de proceso
CRT	Pantalla
CTV	Televisión en color
Dem	Demodulador
Diskr	Discriminador
DMA	Controlador de acceso directo a memoria
Dual	Trans. dobles para amplificador diferencial o diodo doble
E	Etapas de salida
Equal	Ecualizador
ESD	Descarga electrostática
FB	Mando a distancia
FED	Diodo de efecto campo
FIFO-IC	Memoria silo (first-in first-out)
FLT	Válvulas display de cifras
FM	Aplicación en alta frecuencia (gama de FM)
FREDFET	V-MOS-FET con diodo inverso rápido
F/V-Converter	Convertidor de frecuencia a tensión
gep	Tipos aparejados
GI	Rectificador, en general
Gunn-Di	Diodo Gunn
HA	Etapas de barrido horizontal en televisión
HF	Aplicación en alta frecuencia (en general)
hi-beta	Amplificación de, corriente elevada
hi-current	Para gran intensidad de salida
hi-def	Definición alta
hi-power	Gran potencia
hi-prec	Gran precisión
hi-rel	Gran fiabilidad
hi-res	Resolución alta
hi-speed	Rápido
hi-volt	Para altas tensiones
Horiz.	Horizontal
h-ohm	Para circ. demoduladores de alta impedancia
Ib	Corriente de encendido
Igt	Corriente superior de encendido
Ih	Corriente superior de corte
Impatt-Di	Diodo impatt
Indic.	Display
Ip	Corriente de pico
IPD	Aparato potencia de inteligente
IR	Infrarrojo
Is	Corriente de encendido
Iso	Aislada
Itsm	Corriente máxima de un pulso de corriente
Iv	Corriente de valle
kV-GI	Rectificador de alta tensión
L	Etapas de potencia
LCD	Display de cristal líquido
LED	Display de diodos luminiscentes
LIFO-IC	Memoria pila (last-in first-out)
Limiter	Limitador
lo-drive	Para baja volante de potencia
lo-drop	Baja caída de tensión
LogL	Logic Level ($U_{th} \approx 0,8...2V$)
lo-power	Bajo consumo de potencia
lo-sat	Tensión baja de saturación colector - emisor
lo-volt	Para bajas tensiones
M	Etapas mezcladoras
Min	Tipo miniatura
MMU	Unidad de gestión de memoria
Multipl	Multiplicador de frecuencia
NF	Aplicación en baja frecuencia
Nix	Excitador Nixie (válvulas-display de cifras)
Noise suppr.	Supresión de ruido
n-ohm	Para circ. demoduladores de baja impedancia
O	Etapas osciladoras
OFW/SAW-Filter	Filtro de superficie onda
OP-Amp.	Amplificador operacional
OSD	Avisar de pantalla
par	Paralelo
PEP	Potencia de punta de salida
PIP	Figura en figura
PLL	Circuito-lazo de enganche en fase
PQ	Potencia de salida de alta frec. trans. para emisión)
progr	Programable
PS	Alimentación de corriente
PWM	Modulación de anchura de pulsos
ra	De bajo ruido
RadH	A prueba de radiaciones (para uso en astronáutica)
re	Etapas reguladas (AGC)
Recorder	Magnetófonos y cassettes
Reg	Regulador
S	Etapas conmutadoras
Schottky	Diodo Schottky
ser	Serie
SHF	Aplicaciones de alta frecuencia (>5 GHz)
SMD	Componente de montaje superficial
SMPS, SN	Fuentes de alimentación conmutadas
SS	Etapas de conmutación rápidas
SSB	Banda lateral única
stack	Columna o grupo de rectificadores
sym	Tipos simétricos
TAZ	Diodo supresor
tgq	Tiempo de apagado
Thy-Br	Puente de tiristores
Thy-Modul	Módulo de tiristores (varios componentes en una cápsula)
Ton	Canal de sonido en TV
Tr	Etapas excitadoras
Trigger-Di	Diodo trigger de 4 capas, asimétrico
Tuning	Diodo de sintonización de aita frecuencia
Tunnel-Di	Diodo tunel
TV	Aplicación en televisión
UART	Emisor/receptor asíncrono universal
Ub	Tensión de encendido

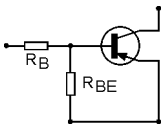
Ucc, US	Tensión de alimentación
UHF	Aplicaciones en alta frecuencia (>250 MHz)
Uni	Componentes universales
US	Ultrasonidos
USART	Emisor/receptor síncrono/asíncrono universal
V	Etapas previas o de entrada
VA	Etapas de barrido vertical en televisión
VC	Aparato de video
Vertik.	Vertical
VHF	Aplicación en alta frecuencia (entre unos 100 y 250 MHz)
Vid	Etapas de salida de video
VIR	Corrección de color (NTSC)
Vtx	Videotexto, teletexto
V/F-Converter	Convertidor de tensión a frecuencia
X-Ray-prot.	Protección contra rayos X
ZF	Etapas de frecuencia intermedia
ZV	Con amplificación de encendido (darlistor)
ß	Ganancia de corriente a 1 kHz
(eff)	Valor efficaz (= RMS)
(ss)	Valor de punta a punta
(Ta = ...°)	Temperatura ambiente, de no ser 25°C (modelos de montaje libre)
(Tc = ...°)	Temperatura de referencia de la cápsula, de no ser 25°C (modelos de potencia)
= [Typ]:	idéntico al [modelo], aunque: [datos, figura, terminales, etc.]
→	Referencia (véase ...)
-/...V	Sólo de conoce U_{CE0} ; normalmente se indican siempre U_{CB0} o bien U_{CB0}/U_{CE0} (transistores)
...ns	Tiempo de recuperación con pol. inversa (diodos)
.../-ns	Tiempo de conexión (transistores)
.../...ns	Tiempo de conexión/de bloqueo (transistores)
...µs	Tiempo de conmutación
...+Diac	Con diac integrado
µComp	Microordenador
≈ [Typ]	Similar al modelo indicado (véase allí la descripción)

Columna 4 («Fig.»)
Indica el número de la figura (cifras) y la distribución de los terminales (letras siguientes) en los semicond-uctores discretos. En la tabla de terminales deberá consultarse la columna correspondiente («transistor», «FET», «tiristor», «diodo», «Z-IC«). Para los circuitos integrados sólo se indica un croquis sin la distribución de terminales. Todos los esquemas se encuentran al final de la tabla. El símbolo (°) significa cápsula con chapa o disipador adicional.

Columna 5 («Fabricante»)
Por motivos de espacio se han abreviado los nombres de los fabricantes; los nombres completos se encuentran listados alfabéticamente en la página XXII. Todos estos datos se indican salvo error u omisión; tampoco puede garantizarse el suministro.
Cuando para un tipo determinado de transistor se indican varios fabricantes sólo se han tomado los datos de uno de ellos, pues los datos de un componente determinado pueden diferir ligeramente de fabricante a fabricante según las condiciones de medida.

Columna 6 («Tipos de repuesto»)
Solamente se indica una selección de los modelos más parecidos al original que desee sustituirse, indicándose sobre todo modelos fáciles de conseguir. En la práctica suelen poderse emplear muchos más modelos de repuesto que los pocos indicados en la tabla por motivos de espacio; esto se destaca mediante el símbolo « + + » después del último modelo de repuesto.
Estos manuales ECA deberían tenerse siempre a mano en casos críticos cuando se trate de efectuar una comparación exacta de diferentes modelos.
De no indicarse lo contrario mediante notas a pie de página, los modelos de repuesto indicados poseen características eléctricas iguales o mejores, y pueden usarse sin problemas mecánicos. Solamente para los componentes de potencia y los circuitos integrados se ha tenido en cuenta que los modelos de repuesto tengan la misma distribución de los terminales que los originales, pues para los modelos pequeños es relativemente fácil intercambiar adecuada-mente los terminales.
De todas maneras se recomienda encarecida-mente comprobar la distribución de los terminales, lo cual es muy sencillo con la presente tabla.
Cuando a un tipo de repuesto le siga el nombre (abreviado) de un fabricante entre corchetes, los datos correspondientes proceden de dicho fabricante y no han sido comprobado por los autores (!).
A veces ha sido preciso referirse a los manuales ECA exhaustivos, a fin de no sobrepasar el marco de la presente tabla. Resulta imposible tratar exhaustivamente en el marco de la presente tabla la enorme diversidad de las cápsulas y de las posibilidades de comparación existente entre los circuitos lógicos digitales, los reguladores de tensión, los diodos Zener, los tiristores y los amplificadores operacionales.
Índice de notas a pie de página para modelos de repuesto indicados entre paréntesis ( ):

1 con diodo supresor integrado
2 precisa un diodo supresor externo entre el emisor y el colector
3 caja no aislada
4 cápsula diferente - puede resultar precisa adaptarla mecánicamente
5 la distribución de terminales es distinta por lo que puede resultar preciso un montaje diferente
6 el modelo de repuesto es algo mayor o tiene los terminales en una trama diferente
7 el modelo de repuesto presenta datos límites menores
8 menor frecuencia de corte (f_T)
9 el tipo existe también con otros datos de encendido
10 el circuito integrado de repuesto presenta una distribución distinta de los terminales o en una trama diferente
11 el tipo existe también con otros datos de encendido y el tipo de recambio tiene una caja diferente.
13 menor ganancia de corriente (B, h_{FE}, ß, h_{fe})
15 No. 1 + 5
16 tipo de sustitución con gama de temperatura limitada.
17 mayor tensión de saturación (U_{CESat})
18 precisa la correspondiente resistencia externa



+ + existen otras muchas posibilidades de comparación

Columna 7 («Tomo ECA»)
Nombre del manual ECA en el que pueden encontrarse los datos exactos y otras comparaciones de repuestos para el modelo buscado. En las aplicaciones y casos críticos deberían compararse siempre los parámetros más relevantes de los modelos de repuesto con los del original, para evitar «sorpresas» desagradables.
http://www.ecadata.de
A pesar de haber recopilado todos los datos con gran cuidado, no podemos excluir la posibilidad de que se haya deslizado algún error, por lo que no podemos responder de posibles daños y perjuicios.

HERSTELLER UND IHRE ABKÜRZUNGEN

Abbreviations of manufacturers - Abréviations des fournisseurs
Abbreviazioni dei fabbricanti - Abreviaciones de los fabricantes

++	More additional producer	
Acc	Accordion Electric Ltd. Co.	
Adv	Advanced Research Association	
Aeg	TEMIC TELEFUNKEN microelectronic	www.temic.de
Aei	AEI Semiconductors, Ltd.	
Akm	Asahi Kasei Microsystems	www.akm.com
Ald	Advanced Linear Devices Inc.	www.aldinc.com
Alp	Alpha Industries, Inc.	www.alphaind.com
Amc	Ampower Semiconductor Corp.	
Amd	Advanced Micro Devices GmbH	www.amd.com
Amd	Advanced Micro Devices Inc.	www.amd.com
Ame	Aksjeselskapet Mikro-Elektronik	
Amf	American Machine & Foundry	
Amp	Amperex Electronic Corp.	
Ams	American Microsystems, Inc.	www.amis.com
Anc	Ancom, Ishikawa Sangyo Ltd. Co.	
And	Analog Devices	www.analog.com
Ans	Analog Systems	
Apt	Advanced Power Technology	www.advancedpower.com
Apx	Apex Microtechnology Corp.	www.apexmicrotech.com
Atm	Atmel	www.atmel.com
Ava	Avantek, Inc.	
B&h	Bell & Howell Columbia Trading Ltd. Co.	
Bbc	BBC Brown Bovery, Ltd.	
Bec	Beckmann Instruments Inc.	
Bel	Bentron Elektronik GmbH	
Ben	Bendix Semiconductor Products	
Bog	Bogue Electric Manufacturing	
Bra	Bradley Semiconductor Corp.	
Bub	Burr-Brown Research Corp.	www.burr-brown.com
Cat	Catalyst Semiconductor	www.catsemi.com
Cbs	CBS electronics	
Cdi	Continental Device India, Ltd.	www.cdil.com
Cen	Central Semiconductor Corp. Devision	www.centralsemi.com
Chy	Cherry Semiconductor Corp.	www.cherry-semi.com
Cla	Clairex Technologies Inc.	www.clairex.com
Clv	Clevite Transistor	
Cml	Computer Labs	
Cod	CODI Corporation	
Com	Comlinear	
Cpc	C.P. Clare Transistor Corporation	www.cpclare.com
Cpd	Control Products Division Devar Inc.	
Crb	CR.BOX	
Cri	Crimson Semiconductor, Inc.	
Csr	CSR Industries, Inc.	
Ctr	Acrian Inc.	
Cys	Cypress Semiconductor Corp.	www.cypress.com
Dal	Dallas Semiconductor	
Dat	Datel Inc.	www.datel.com
Dat	Datel GmbH	www.datel.com
Dci	Dynamic Communications, Inc.	
Del	Delco Electronics	
Dic	Dickson Electronics Corp.	
Die	Diotec GmbH	www.diotec.com
Dio	Dionics, Inc.	
Dmc	Dynamic Measurement Corp.	
Dpm	Dense-Pac Microsystems, Inc.	www.dense-pac.com
Dsi	Discrete Semiconductors Industries	
Dtc	Diode Transistor Co., Inc.	
Ecg	ECG Philips	eu2.semiconductors.com
Edi	Electronic Designs, Inc. (EDI)	www.electronic-designs.com
Edl	EDAL Industries, Inc.	
Eiy	El, Elektronskaja Industrija	
Ela	Élantec Semiconductor Inc.	www.elantec.com
Elc	Elcoma	
Ele	Electromation Co.	
Elx	Electroimpex	
Emi	Emihus Microcomponents Ltd.	
Ems	Enhanced Memory Systems Inc.	www.enhanced.com
Etc	Electronic Transistor Corporation	
EUR		
Exi	EXAR Corp.	www.exar.com
Exl	Exel Microelectronics, Inc. (Rohm Co. Ltd.)	www.rohm.com
Fag	Fagor Electrotecnica, S. Coop.	www.fagor.com
Fan	Fanon Transistor Corporation	
Fch	Fairchild Semiconductor GmbH	www.fairchildsemi.com
Fch	Fairchild Semiconductor	www.fairchildsemi.com
Fcs	Fairchild Semiconductor GmbH	www.fairchildsemi.com
Fcs	Fairchild Semiconductor	www.fairchildsemi.com
Fer	Ferranti GmbH	
Fer	Ferranti (Electronics) Semiconductors Ltd.	
Fjd	Fuji Denki Seizo Company	www.fujielectric.co.jp
Fjd	Fuji Electric GmbH	www.fujielectric.co.jp
Fjd	Fuji Semiconductor Inc.	www.fujisemiconductor.com
Fmi	FMI Inc.	
Fpm	Fine Products Microelectronics Corporation	
Fui	Fujitsu Mikroelektronik GmbH	www.fujitsu-ede.com
Fui	Fujitsu Ltd.	www.fujitsu.co.jp
Fuj	Fujitsu Ltd.	www.fujitsu.co.jp
Fuj	Fujitsu Mikroelektronik GmbH	www.fujitsu-ede.com
Gdc	General Diode Corporation	
Gen	Harris (General Electric) Semiconductor	www.semi.harris.com
Gie	General Instrument	www.gi.com
Gin	General Instrument, Optoelectronic Div.	www.gi.com
Gol	Goldstar (LG Electronics Deutschland)	www.goldstar.de
Gol	Goldstar (LG Electronics Inc.)	www.lg.co.kr
Gpd	Germanium Power Devices Corporation	
Gse	General Semiconductor	www.gensemi.com
Gsi	General Semiconductor	www.gensemi.com
GUS	UdSSR States located producer	
Haf	ASEA HAFO AB	
Hal	Halex Inc.	
Ham	HAMAMATSU PHOTONICS K.K.	www.hpk.co.jp
Ham	Hamamatsu Photonics Deutschland GmbH	www.hamamatsu.de
Har	Harris Semiconductor	www.harris.com
Har	Harris Semiconductor	www.harris.com
Hbc	Hybrid Systems Corp.	
Hei	EG&G Heimann Optoelectronics GmbH	www.heimann-opto.de
Hew	Hewlett Packard	www.hp.com/hp-comp
Hew	Hewlett-Packard GmbH	www.hp.com/hp-comp
Hfo	Halbleiterwerk Frankfurt/Oder	
Hit	Hitachi Europe GmbH	www.halsp.hitachi.com
Hit	Hitachi Europe Ltd.	www.halsp.hitachi.com
Hon	Honeywell AG Optoelectronics	www.honeywell.de
Hon	Honeywell International Inc.	www.honeywell.com
Hpa	Hewlett Packard	www.hp.com/hp-comp
Hsc	Helios Semiconductor	
Hsm	HI-SINCERITY MICROELECTRONICS	www.hsmc.com.tw
Hug	Hughes Aircraft Company	
Hun	Hyundai Electronics Industries Co., Ltd.	www.hei.co.kr
Hun	Hyundai Electronics Deutschland (HED)	www.hea.com
Idc	International Diode Corporation	
Idi	International Devices, Inc.	
Idr	I.P.R.S. Baneasa	
Idt	Integrated Device Technology (IDT)	www.idt.com
Idt	Integrated Device Technology GmbH	www.idt.com
Ilc	ILC Data Device Corp.	
Inf	Infineon Technologies AG (Siemens Semiconductor Group)	www.infineon.com
Inm	INMOS (siehe SGS-Thomson)	www.st.com
Inr	International Rectifier Corporation	www.irf.com
Int	Intel GmbH	www.intel.com
Int	Intel Corporation	www.intel.com
Isi	Harris Semiconductor	www.semi.harris.com
Iso	Isocom Inc. (Components, LTD.)	www.isocom.com
Iss	Integrated Silicon Solution, Inc.	www.issi.com
Ite	Intech/FMI Inc.	
Itl	Intersil Europe	www.intersil.com
Itl	Intersil Corporation Headquarters	www.intersil.com
Itr	Intronics Inc.	
Itt	ITT Intermetall (Micronas Semiconductors)	www.itt-sc.de
Ixy	IXYS Semiconductor GmbH	www.ixys.com
JAP	Unkown or several japanese Producter	
Jno	JENOPTIK Laserdiode GmbH	www.jold.de
Kec	KEC, Korea Electronics Co., Ltd.	www.kec.co.kr
Kem	Kemtron Electron Products	
Ker	Kertron, Inc.	
Khe	KH-Electronics	
Kmc	KMC-Semiconductor	
Kme	Kombinat Mikroelektronik Karl Marx Erfurt	
Ksw	KSW Electronics Corp.	
Lam	Lambda Semiconductors	
Lbd	Lambda Semiconductors	
Lic	Linear Technology Corporation	www.linear-tech.com
Lic	Linear Technology GmbH	www.linear-tech.com
Lif	Littelfuse	www.littelfuse.com
Lit	Taiwan Liton Electronic Co., Ltd.	www.liteon.com
Lrc	Leshan Radio Company Ltd.	www.lrc-china.com
Ltc	Linear Technology Corporation	www.linear-tech.com
Ltc	Linear Technology GmbH	www.linear-tech.com
Lte	Landsdale Transistor & Electronics, Inc.	
Ltt	Lignes Telegraphiques et Telephoniques (SGS-Thomson)	www.st.com
Luc	Lucas Electrical Co., Ltd.	
Mal	Mallory Distributor Products Co.	
Mat	Matsushita Electronics Corp.	www.mei.co.jp
Mat	Matsushita Electronics (Europe) GmbH	www.matsushita-europe.com
Max	Maxim Integrated Products Ltd.	www.maxim-ic.com
Mbl	M.B.L.E. (Philips Semiconductors)	eu2.semiconductors.com
Mcc	Microchip Technology Inc.	www.microchip.com

Mcr	MICREL Semiconductor UK Lim.	www.micrel.com
Mdc	Microwave Diode Corp.	
Med	Meder Electronic AG	www.meder.com
Mhs	TemicTelefunken microelectronic GmbH	www.temic.de
Mic	Micro Electronics, Ltd.	
Min	Micron Technology, Inc.	
Mis	Mistral (SGS-Thomson)	www.st.com
Mit	Mitsubishi Electric Europe GmbH	www.mitsubishichips.com
Mit	Mitsubishi Electric Corporation	www.mitsubishichips.com
Miv	Microwave Associates	
Mmi	AMD (Advanced Micro Devices)	www.amd.com
Mod	Modular Devices Inc.	
Mos	Mostek (SGS-Thomson)	www.st.com
Mot	Motorola GmbH	www.mot-sps.com
Mot	Motorola Semiconductor Products Ltd.	www.mot-sps.com
Mpi	Micropac Industries Inc.	www.micropac.com
Mpi	Micropac Europe	www.micropac.com
Mps	Micro Power Systems	
Msc	Microsemi MicroPower Products	www.microsemi.com
Msp	MOSPEC SEMICONDUCTOR CORP.	www.mospec.com.tw
Msy	Microsystems	
Mts	Mitsumi Electric Co. Ltd.	www.mitsumi.com
Mul	Mullard Ltd. (Philips Semiconductors)	eu2.semiconductors.com
Mwa	Microwave Associates, Inc.	
Mws	Microwave Semiconductor Corporation	
Nac	National Aircraft Corporation	
Nae	NAE, Inc.	
Nas	North American Semiconductor Co., Inc.	
Nec	NEC Electronics (Germany) GmbH	www.nec.de
Nec	NEC Electronics Inc.,	www.ic.nec.co.jp
Neq	Nuclear Equipment Corp.	
New	Newmarket Transistors, Ltd.	
Nih	Nihon Inter Electronics Corporation	www.niec.co.jp
Njr	New Japan Radio Co., Ltd.	www.njr.com
Npp	National Power Products	
Nsc	National Semiconductor GmbH	www.national.com
Nsc	National Semiconductor	www.national.com
Nte	NTE Electronics Inc.	www.nteinc.com
Ntn	Hermann Koehler Elektrik GmbH & Co.	
Nuc	Nucleonic Products Co., Inc.	
Odc	Opto Diode Corporation	www.optodiode.com
Oiz	Oizumi Seisakusho	
Oki	OKI Electric Europe GmbH	www.oki.com
Oki	OKI Electric Industry Co. Ltd.	www.oki.com
old	Old unknown producer	
Omr	OMRON Europe B.V. (OMCE)	www.omron.de
Ons	ON Semiconductor Inc.	www.onsemiconductor.com
Opa	Opamp Labs Inc.	
Opt	Optical Electronics Inc.	
Org	Origin Electric Co., Ltd.	
Pai	Parametric Industries, Inc.	
Pan	Panasonic	www.panasonic.co.jp
Pan	Panasonic Deutschland GmbH	www.panasonic.de
Per	Pericom Semiconductor Corporation	www.pericom.com
Phb	Philco Radio Televisao, Ltda.	
Phc	Philco Corporation	
Phi	Philips Semiconductor	eu2.semiconductors.com
Pih	Piher Semiconductors	
Pls	Plessey Semiconductors, Ltd.	
Ply	Plessey Semiconductors, Ltd.	
Pmi	Precision Monolithics Inc.	
Poi	Power Innovations Ltd.	www.powinv.com
Ppc	PPC Products Corporation	
Ptc	Power Transistor Components/Allen-Bradley	
Pti	Power Tech, Inc.	www.power-tech.com
Pwi	Power Integrations, Inc.	www.powerint.com
Pwx	Powerex Inc.	www.pwrx.com
Qdc	Qualidyne Corporation	
Qse	Quality Semiconductor Inc.	www.qualitysemi.com
Qsi	Quality Semiconductor Inc.	www.qualitysemi.com
Qtc	Quality Technologies Corporation	
Qua	Quality Technologies Corporation	
Ray	Raytheon Halbleiter GmbH	www.raytheon.com
Ray	Raytheon Semiconductor Co.	www.raytheon.com
Rca	RCA Corporation (Harris Semiconductor)	www.semi.harris.com
Rec	Rectron Semiconductor	www.rectron.net
Ren	Renesas Technology Singapore Pte. Ltd.	www.renesas.com
Rfm	RF Micro Devices, Inc.	www.rfmd.com
Rhm	Rohm Co. Ltd.	www.rohm.co.jp
Rhm	Rohm Electronics GmbH	www.rohm.com
Riz	RIZ Radio Industrie Zagreb/Iskra Ljubljana	
Roc	Rochester Electronics Inc.	www.rocelec.com
Roe	Vishay Roederstein GmbH	www.vishay.com
Roh	Rohm Electronics GmbH	www.rohm.com
Roh	Rohm Co. Ltd.	www.rohm.co.jp
Roi	Roitner-Lasertechnik	
Rtc	R.T.C. La Radiotechnique-Compelec	
Sak	Sanken Electric Co., Ltd. (Allegro Micro Systems)	www.sanken-ele.co.jp
Sam	SAMSUNG Semiconductor Europe GmbH	www.samsungsemi.com
Sam	SAMSUNG EUROPE PLC. SEMICONDUCTOR DIVISION	www.samsungsemi.com
Say	Tokyo Sanyo Electric Co., Ltd.	www.semic.sanyo.co.jp
Say	SANYO Semiconductors (Europe) GmbH	www.sanyo.de
Sca	Semicoa	
Scn	Semicon Components Inc.	www.semicon.com
Seb	Semelab	
Sem	Semitronics Corporation	
Sen	Sensitron Semiconductor	
Seq	SEEQ Technology, Inc.	www.seeq.com
Ses	Sescosem (Thomson CSF)	
Sgs	SGS-THOMSON Microelectronics GmbH	www.st.com
Sgs	SGS Semiconductor Ltd	www.st.com
Sha	Sharp Microelectronics	www.sharpmeg.com
Sha	Sharp Electronics (Europe) GmbH	www.sharp-eu.com
Shi	Shindengen Inc.	www.shindengen.com
Sie	Siemens AG	www.infineon.com
Sig	Signetics Corporation	www.signetics.com
Sii	Silonex Inc.	www.silonex.com
Sil	Silicon General Inc. (Linfinity Microelectronics)	www.linfinity.com
Sip	Sipex Corporation	www.sipex.com
Sip	SIPEX GmbH	www.sipex.com
Six	Siliconix GmbH (Temic Telefunken microelectronic GmbH)	www.siliconix.com
Skr	Semikron GmbH & Co. KG	www.semikron.de
Sld	Solid State Industries, Inc.	
Smi	Semitron, Ltd.	
Smo	Semi-Onics	
Smt	Semtech Corporation	www.semtech.com
Sol	Solitron Devices, Inc.	
Son	Sony Europa	www.sel.sony.com/semi/
Son	Sony Semiconductor Europe Limited	www.sel.sony.com/semi/
Sov	UdSSR	
Spc	Solid Power Corporation	
Spe	Space Power Electronic, Inc.	
Spr	Sprague Electric Co.	
Spt	Signal Processing Technologies	www.spt.com
Ssc	SSC, Silec - Semi - Conductors	
Ssi	Solid State Devices, Inc.	
Sss	Solid State Scientific, Inc.	
Sta	Standard Telephones & Cables	
Stc	Silicon Transistor Corp. (STC)	
Stl	Stanley Electric GmbH	www.stanleyelec.com
Stl	Stanley Electric Co.	www.stanleyelec.com
Stm	STMicroelectronics	www.st.com
Stw	Stow Laboratories, Inc.	
Stx	Supertex Inc.	www.supertex.com
Sty	Semiconductor Technology, Inc.	
Stz	ST Semicon, Inc.	
Syl	Sylvania Semiconductors	
Sym	Symbol Semiconductor Inc.	
Tag	TAG Semiconductors	www.temic.de
Tcr	Teccor Electronics Inc.	www.teccor.com
Tcs	Telcom Semiconductor Inc. (Teledyne Components)	www.telcom-semi.com
Tdy	TELEDYNE Components	
Tel	Temic Telefunken Microelectronic GmbH	www.temic.de
Tem	Temic Telefunken Microelectronic GmbH	www.temic.de
Tes	Tesla Electronic Components (Ecimex)	
The	Theta-J Corporation	
Tho	SGS-THOMSON Mikroelektronik GmbH	www.st.com
Thr	Tree-Five System Inc.	
Tic	Transistor International Corporation	
Tix	Texas Instruments Deutschland GmbH	www.ti.com
Tix	Texas Instruments	www.ti.com
Tom	Thomson Bauelemente GmbH	www.tcs.thomson-csf.com
Tos	Toshiba Electronics Europe GmbH	www.toshiba.com
Tos	Toshiba Electronics U.K. Ltd.	www.toshiba.com
Toy	Toyo Denki Seizo Electronics Industry Corp.	
Tra	Transitron Electronic Corp.	
Trw	TRW Vertriebs GmbH	www.trw.com
Trw	TRW LSI Products Inc. (Semiconductors)	www.trw.com
Tsc	Teledyne Semiconductor	
Tsm	Tungsram GmbH	
Tun	Tung-Sol Electric	
Twa	Tokyo Wireless Apparatures	
Ucp	Unitra-Cemi (Polen)	
Unc	HI-Tech Co., Ltd (Unitra-Cemi)	www.hitech.com.pl
Ung	Ungarn	
Uni	Unitrode Corporation	www.unitrode.com
Uni	Unitrode Electronics GmbH	www.unitrode.com
Unz	Unizon	
Upi	UPI Semiconductor	

USA	USA located producer		Wes	Western Electric Co.	
Usr	V/O Elektronzagranpostavka		Wfb	Werk für Fernsehelektronik Berlin	
UTC	Unisonic Technologies Co., LTD.	www.unisonic.com.tw	Whs	Westinghouse Electric Corporation	
Vac	EG&G Vactec		Zel	Zeltex Inc.	
Val	Valvo (Philips Semiconductor)	eu2.semiconductors.com	Zex	Zetex Inc.	www.zetex.com
Vis	Vishay Intertechnology, Inc.	www.vishay.com	Zex	Zetex GmbH	www.zetex.com
Vtc	VTC Inc.	www.vtc.com	Zil	Zilog, Inc.	www.zilog.com
Wab	Walbern Devices, Inc.		Ztx	Zetex GmbH	www.zetex.com
Wea	West Ace				



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Typ Type · Tipo	**Art** Device Genre · Tipo Specie	**Kurzbeschreibung** Short description · Description succ. Descrizione somm. · Descripción breve	**Bild** Fig.	**Herst.** Manu. Fabr. Prod.	**Vergleichstypen** Comparisontypes · Types d'equivalence Tipi correspondenti · Tipos de repuesto	**ECA-Info** more at **www.ecadata.de**
BB 439	C-Di	=BB 419:	71a(1,7mm)	Sie	MA 361, MA 364	data pdf
BB 501	C-Di	VHF/UHF-AFC	7c	Sie	BA 121, BB 117, BB 417, 1SV89	data pdf
BB 502	C-Di	VHF-AFC	7c	Sie	BA 125, BB 119, 1SV114, 1SV125	data
BB 503	C-Di	=BB 501: SMD	35e	Sie,Tho	-	data pdf
BB 503 DK	C-Di	=BB 501: SMD, Dual	35l	Tho	-	data
BB 504	C-Di	=BB 502: SMD	35e	Sie,Tho	-	data
BB 505 B	C-Di	UHF-Tuning	31a	Aeg,Sie	BB 105A,B, BB 205A,B, BB 405A,B, ++	data
BB 505 G	C-Di	VHF-Tuning	31a	Aeg,Sie	BB 105G, BB 205G, BB 405G, ++	data
BB 509	C-Di	AM-Tuning, 4,43MHz-AFC	7c	Itt	-	data
BB 510	C-Di	SMD, Dual, AM-Tuning	35m1	Itt	-	data
BB 512	C-Di	SMD, AM-Tuning	71a(2,7mm)	Sie	-	data pdf
BB 515 B,G	C-Di	SMD, VHF/UHF-Tuning	71a(2,7mm)	Phi,Sie	BB 721	data
BB 521	C-Di	=BB 221: verbess./improved Linear.	31a	Itt	→BB 221	data
BB 523	C-Di	VHF/UHF-Tuning	31a	Itt	BB 105A,B, BB 205A,B, BB 405A,B, BB 505B	data
BB 525	C-Di	SMD, Tuning	71a(2,7mm)	Sie	-	data
BB 529	C-Di	=BB 329: verbess./improved Linear.	31a	Itt	→BB 329	data
BB 531	C-Di	VHF-Tuning	31a	Itt	BB 105G, BB 205G, BB 405G, BB 505G, ++	data pdf
BB 535	C-Di	=BB 515:	71a(1,7mm)	Sie	MA 360, MA 372, 1SV214, 1SV223	data pdf
BB 545	C-Di	=BB 525:	71a(1,7mm)	Sie	-	data pdf
BB 555	C-Di	=BB 535:	71a(1,3mm)	Sie	-	data pdf
BB 565	C-Di	=BB 545:	71a(1,3mm)	Sie	-	data pdf
BB 601	C-Di	SMD, Satelliten-TV-Tuning	71a(2,7mm)	Itt	-	data
BB 609 A,B	C-Di	VHF-Tuning, OIRT, CATV	31a	Aeg,Sie	BB 106, BB 209, BB 229, BB 409, ++	data
BB 610	C-Di	VHF-Tuning	31a	Sie	BB 105G, BB 205G, BB 405G, BB 505G, ++	data
BB 619(A,B)	C-Di	SMD, VHF-TV/VC-Tuning, Extend. Band	71a(2,7mm)	Phi,Sie	BB 515B,G, BB 723, BB 729...731	data
BB 620	C-Di	SMD, VHF-TV/VC-Tuning, Hyperband	71a(2,7mm)	Phi,Sie	-	data pdf
BB 621	C-Di	=BB 221: SMD	72a(3,4mm)	Aeg,Itt	BB 215, BB 623	data pdf
BB 622	C-Di	=BB 222: SMD	72a(3,4mm)	Aeg,Itt	BB 215, BB 623	data pdf
BB 623	C-Di	SMD, VHF/UHF-Tuning	72a(3,4mm)	Itt	BB 215, BB 621..622	data
BB 629	C-Di	=BB 329: SMD	72a(3,4mm)	Aeg,Itt	BB 219, BB 631	data pdf
BB 631	C-Di	SMD, VHF-Tuning	72a(3,4mm)	Itt	BB 219, BB 629	data
BB 639(C)	C-Di	=BB 619:	71a(1,7mm)	Sie	MA 365, MA 374, 1SV231	data pdf
BB 640	C-Di	=BB 620:	71a(1,7mm)	Sie	-	data pdf
BB 644	C-Di	SMD, VHF-Tuning, 35V, 2,6/42pF(28/1V)	71a(1,7mm)	Sie	BB 439, MA 361, MA 364	data pdf
BB 659(C)	C-Di	=BB 619:	71a(1,3mm)	Sie	-	data pdf
BB 664	C-Di	=BB 644:	71a(1,3mm)	Sie	-	data pdf
BB 669	C-Di	SMD, VHF-Tuning, Hyperband, 35V 2,7/56pF(28/1V)	71a(1,7mm)	Sie	-	data pdf pdf
BB 689	C-Di	=BB 669:	71a(1,3mm)	Sie	-	data pdf
BB 709 A,B	C-Di	VHF-Tuning	71a(4mm)	Sie,Tho	BB 106, BB 209, BB 229, BB 409, ++	data
BB 721	C-Di	SMD, UHF-Tuning, 35V, 2,1..2,39(25V) 14...16,3pF(2V), <0,8Ω(470MHz)	71a(2,7mm)	Itt, Gsi	BB 723	data pdf pdf
BB 721 S	C-Di	=BB 721:	71a(1,7mm)	Gsi	-	data pdf
BB 723	C-Di	SMD, VHF/UHF-Tuning	71a(2,7mm)	Itt	BB 721	data
BB 729	C-Di	SMD,VHF-Tuning, 32V, 2,38..2,93pF(28V) 30...33pF(28V), <0,8Ω(470MHz)	71a(2,7mm)	Itt, Gsi	BB 723, BB 730...731	data pdf pdf
BB 729 S	C-Di	=BB 729:	71a(1,7mm)	Gsi	-	data pdf
BB 730	C-Di	SMD, VHF Tuning, 28V, 3,15...3,55(28V)	71a(2,7mm)	Itt	BB 723, BB 729, BB 731	data
BB 731	C-Di	SMD, VHF-Tuning(Hyperband), 32V 3,15...3,55/50pF(28/1V), <1Ω(300MHz)	71a(2,7mm)	Itt, Gsi	BB 723, BB 729...730	data pdf pdf
BB 731 S	C-Di	=BB 731:	71a(1,7mm)	Gsi	-	data pdf
BB 801	C-Di	SMD, Satelliten-TV-Tuning	35a	Sie	-	data
BB 804(-0...-4)	C-Di	SMD, Dual, FM-Tuning	35l	Aeg,Phi,Sie	BB 404, BB 814	data
BB 809	C-Di	VHF-Tuning, OIRT, CATV	31a	Phi,Tho	BB 106, BB 209, BB 229, BB 409, ++	data pdf
BB 811	C-Di	SMD, Satelliten-TV-Tuning, ...2GHz	71a(2,7mm)	Phi,Sie	-	data pdf
BB 813	C-Di	SMD, Satelliten-TV-Tuning, ...2,5GHz	71a(2,7mm)	Sie	-	data
BB 814(-1,-2)	C-Di	SMD, Dual, FM-Tuning	35l	Aeg,Sie	BB 404, BB 804	data
BB 824	C-Di	SMD, Dual, Tuning	35l	Aeg	-	data pdf
BB 831	C-Di	=BB 811:	71a(1,7mm)	Sie	1SV245	data pdf
BB 833	C-Di	=BB 813:	71a(1,7mm)	Sie	1SV245	data pdf
BB 835	C-Di	SMD, Satelliten-TV-Tuning, ...2,8GHz	71a(1,7mm)	Sie	1SV245	data pdf
BB 857	C-Di	SMD, Satelliten-TV-Tuning, 35V	71a(1,3mm)	Sie	-	data pdf
BB 901	C-Di	SMD, Sat-TV-Tuning, <1,055pF(28V)	35e	Phi	-	data pdf
BB 909 A,B	C-Di	VHF-Tuning, CATV	31a	Phi,Tho	BB 106, BB 209, BB 229, BB 409, ++	data
BB 910	C-Di	VHF-Tuning, Band B, ...460MHz 2,4...2,7/>38pF(28/0,5V)	31a	Phi	-	data pdf pdf
BB 911(A)	C-Di	SMD, VHF-Tuning, Band A, ...160MHz	31a	Phi	-	data

Typ Type · Tipo	**Art** Device Genre · Tipo Specie	**Kurzbeschreibung** Short description · Description succ. Descrizione somm. · Descripción breve	**Bild** Fig.	**Herst.** Manu. Fabr. Prod.	**Vergleichstypen** Comparisontypes · Types d'equivalence Tipi correspondenti · Tipos de repuesto	**ECA-Info** more at **www.ecadata.de**
BSS 229	MOS-N-FET-d	=BSS 139: 0,07A	7c	Sie	-	data pdf
BSS 284	MOS-P-FET-e	SMD, V-MOS, LogL, 50V, 0,13A, 19/30ns	35a	Sie	BSS 84, 2SJ185	data pdf
BSS 295	MOS-N-FET-e	V-MOS, LogL, 50V, 1,4A, 1W, <0,3Ω	7c	Sie	2SK1272, 2SK1274, 2SK1733, 2SK1736, ++	data pdf
BSS 296	MOS-N-FET-e	V-MOS, LogL, 100V, 0,8A, 1W, <0,8Ω	7c	Sie	2SK941, 2SK1484, 2SK1729	data pdf
BSS 297	MOS-N-FET-e	V-MOS, LogL, 200V, 0,48A, 1W, <2Ω	7c	Sie	-	data pdf
BSS 395	MOS-N-FET-e	V-MOS, LogL, 50V, 4,4A, 10W, <0,3Ω	13c	Sie	-	data
BSS 396	MOS-N-FET-e	V-MOS, LogL, 100V, 2A, 10W, <0,8Ω	13c	Sie	-	data
BSS 397	MOS-N-FET-e	V-MOS, LogL, 200V, 1,5A, 10W, <2Ω	13c	Sie	-	data
BSS 7728	MOS-N-FET-e	SMD, V-MOS, 60V, 0,15A, 11/27ns	35a	Sie	BSS 123, 2SK1590	data pdf
BST						
BST 15	Si-P	SMD, NF/S/Vid, 200V, 1A, >15MHz	39b	Phi, Ztx	-	data pdf
BST 16	Si-P	=BST 15: 350V	39b	Phi, Ztx	-	data pdf
BST 39	Si-N	SMD, NF/S/Vid, 450V, 1A, >70MHz	39b	Phi, Ztx	-	data pdf
BST 40	Si-N	=BST 39: 300V	39b	Phi, Ztx	-	data pdf
BST 50	Si-N-Darl+Di	SMD, 60V, 0,5/1,5A, 350MHz, B>2000	39b	Phi	2SD1470, 2SD1472, 2SD1511	data pdf
BST 51	Si-N-Darl	=BST 50: 80V	39b	Phi, Ztx	2SD1472	data pdf
BST 52	Si-N-Darl	=BST 50: 100V	39b	Phi, Ztx	2SD1472	data pdf
BST 60	Si-P-Darl+Di	SMD, 60V, 0,5/1,5A, 350MHz, B>2000	39b	Phi	2SB1048	data pdf
BST 61	Si-P-Darl	=BST 60: 80V	39b	Phi, Ztx	-	data pdf
BST 62	Si-P-Darl	=BST 60: 100V	39b	Phi	-	data pdf
BST 62-20	Si-P-Darl	=BST 60: 85V	39b	Ztx	-	data
BST 70	MOS-N-FET-e	V-MOS, 80V, 0,5A, 1W, <3Ω, <10/15ns	7c	Phi	BSS 296, 2SK423, 2SK940...41	data pdf
BST 70 A	MOS-N-FET-e	=BST 70:	7a		→BST 70	data pdf
BST 72	MOS-N-FET-e	V-MOS, 80V, 0,3A, 0,83W,<10Ω, <10/10ns	7c	Phi	BSS 88...89, BSS 91, 2SK1337	data
BST 72 A	MOS-N-FET-e	=BST 72:	7a		→BST 72	data pdf
BST 74	MOS-N-FET-e	V-MOS, 200V, 0,25A, 1W, <12Ω, <10/25ns	7c	Phi	BSS 88...89, BSS 91, BSN 205	data
BST 74 A	MOS-N-FET-e	=BST 74:	7a		→BST 74	data pdf
BST 76	MOS-N-FET-e	V-MOS, 180V, 0,3A, 1W, <10Ω, <10/15ns	7c	Phi	BSS 89, BSS 91, BSS 297	data pdf
BST 76 A	MOS-N-FET-e	=BST 76:	7a		→BST 76	data pdf
BST 78	MOS-N-FET-e	V-MOS,450V, 0,75A, 15W,<14Ω, <10/100ns	14b§	Phi	-	data
BST 80	MOS-N-FET-e	=BST 70: SMD	39b	Phi	2SK601, 2SK1078...1079	data pdf
BST 82	MOS-N-FET-e	=BST 72: SMD	35a	Phi	-	data pdf
BST 84	MOS-N-FET-e	=BST 74: SMD	39b	Phi	BSS 87	data pdf
BST 86	MOS-N-FET-e	=BST 76: SMD	39b	Phi	BSS 87	data pdf
BST 90	MOS-N-FET-e	=BST 70: 2,5W	2a§	Phi	-	data
BST 95	MOS-N-FET-e	V-MOS, S, 200V, 2A, <2Ω, <35/50ns	2a§	Phi	-	data
BST 97	MOS-N-FET-e	=BST 76: 0,4W	2a	Phi	-	data
BST 100	MOS-P-FET-e	V-MOS, 60V, 0,3A, 1W, <6Ω, 4/20ns	7a	Phi	2SJ198, 2SJ228, 2SJ231	data pdf
BST 110	MOS-P-FET-e	V-MOS, 60V, 0,25A, 0,83W, <10Ω, 4/10ns	7a	Phi	BSP 204, 2SJ198, 2SJ228, 2SJ231	data
BST 120	MOS-P-FET-e	=BST 100: SMD	39b	Phi	2SJ199, 2SJ212..213	data pdf
BST 122	MOS-P-FET-e	=BST 110: SMD	39b	Phi	2SJ199, 2SJ212..213	data pdf
BST 124	MOS-N-FET-d	V-MOS, 250V, 0,45A, <12Ω, <10/30ns	14b	Phi	-	data
BSt A30 26	50Hz-Thy	400V, 0,6A(Ta=45°C), Igt/Ih<10/<40mA	27b	Sie	CS0,8-04, BStA3026M, CS1,2-04[9]	data
BSt A30 26 M	50Hz-Thy	400V, 0,8A(Ta=45°C), Igt/Ih<10/<40mA	27b	Sie	CS08-04,CS1,2-04,(TAG612-400,TAG606-400)[11]	data
BSt A30 33	50Hz-Thy	=BStA3026: 500V	27b		CS0,8-05, BStA3033M, CS1,2-05[9]	data
BSt A30 33 M	50Hz-Thy	=BStA3026M: 500V	27b		CS08-05,CS1,2-05,(TAG612-600,TAG606-600)[11]	data
BSt A30 40	50Hz-Thy	=BStA3026: 600V	27b		CS0,8-06, BStA3040M, CS1,2-06[9]	data
BSt A30 40 M	50Hz-Thy	=BStA3026M: 600V	27b		CS08-06,CS1,2-06,(TAG612-600,TAG606-600)[11]	data
BSt A30 46	50Hz-Thy	=BStA3026: 700V	27b		CS0,8-07, BStA3046M, CS1,2-07[9]	data
BSt A30 46 M	50Hz-Thy	=BStA3026M: 700V	27b		CS08-07,CS1,2-07,(TAG612-700,TAG606-700)[11]	data
BSt A30 53	50Hz-Thy	=BStA3026: 800V	27b		BStA3053M, (TAG613-800, TAG606-800)[11]	data
BSt A30 53 M	50Hz-Thy	=BStA3026M: 800V	27b		(TAG612-800, TAG606-800)[11]	data
BSt B01 06	50Hz-Thy	100V, 0,8A(Ta=45°C), Igt/Ih<10/<60mA	27b	Sie	CS0,8-02, BStA3026M, CS1,2-02[9]	data
BSt B01 13	50Hz-Thy	=BStB0106: 200V	27b		CS0,8-02, CS1,2-02, BStA3026M[9]	data
BSt B01 26	50Hz-Thy	=BStB0106: 400V	27b		CS0,8-04, BStA3026M, CS1,2-04[9]	data
BSt B01 33	50Hz-Thy	=BStB0106: 500V	27b		CS0,8-05, BStA3033M, CS1,2-05[9]	data
BSt B01 40	50Hz-Thy	=BStB0106: 600V	27b		CS0,8-06, BStA3040M, CS1,2-06[9]	data
BSt B01 46	50Hz-Thy	=BStB0106: 700V	27b		CS0,8-07, BStA3046M, CS1,2-07[9]	data
BSt B02 06	50Hz-Thy	100V, 3A(Tc=64°C), Igt/Ih<10/<60mA	28a	Sie	(TAG621-100, TAG626/100, T3,5N400,++)[11]	data
BSt B02 13	50Hz-Thy	=BStB0206: 200V	28a		(TAG621-200, TAG626-200, T3,5N400,++)[11]	data
BSt B02 26	50Hz-Thy	=BStB0206: 400V	28a		(TAG621-400, TAG626-400, T3,5N400,++)[11]	data
BSt B02 33	50Hz-Thy	=BStB0206: 500V	28a		(TAG621-500, TAG626-500, T3,5N600,++)[11]	data
BSt B02 40	50Hz-Thy	=BStB0206: 600V	28a		(TAG621-600, TAG626-600, T3,5N600,++)[11]	data
BSt B02 46	50Hz-Thy	=BStB0206: 700V	28a		(TAG621-700, TAG626-700, T3,5N800,++)[11]	data
BSt C01 06	50Hz-Thy	100V, 5A(Tc=82°C), Igt/Ih<35/<90mA	21b§	Sie	BStC0313, BStD0313, CS5-02, CS8-02[9]	data
BSt C01 13	50Hz-Thy	=BStC0106: 200V	21b§		BStC0313, BStD0313, CS5-02, CS8-02[9]	data
BSt C01 26	50Hz-Thy	=BStC0106: 400V	21b§		BStC0326, BStD0326, CS5-04, CS8-04[9]	data
BSt C01 33	50Hz-Thy	=BStC0106: 500V	21b§		BStC0340, BStD0340, CS5-06, CS8-06[9]	data
BSt C01 40	50Hz-Thy	=BStC0106: 600V	21b§		BStC0340, BStD0340, CS5-06, CS8-06[9]	data
BSt C01 46	50Hz-Thy	=BStC0106: 700V	21b§		BStC0353, BStD0353, CS5-08, CS8-08[9]	data
BSt C02 06	50Hz-Thy	100V, 3,5A(Tc=67°C), Igt/Ih<20/<60mA	28a	Sie	(TAG620-100, BStC1026, TAG625-100,++)[11]	data
BSt C02 13	50Hz-Thy	=BStC0206: 200V	28a		(TAG620-200, BStC1026, TAG625-200,++)[11]	data
BSt C02 26	50Hz-Thy	=BStC0206: 400V	28a		(TAG620-400, BStC1026, TAG625-400,++)[11]	data
BSt C02 33	50Hz-Thy	=BStC0206: 500V	28a		(TAG620-500, BStC1033, TAG625-500,++)[11]	data
BSt C02 40	50Hz-Thy	=BStC0206: 600V	28a		(TAG620-600, BStC1040, TAG625-600,++)[11]	data
BSt C02 46	50Hz-Thy	=BStC0206: 700V	28a		(TAG620-700, BStC1046, TAG625-700,++)[11]	data

Typ Type · Tipo	**Art** Device Genre · Tipo Specie	**Kurzbeschreibung** Short description · Description succ. Descrizione somm. · Descripción breve	**Bild** Fig.	**Herst.** Manu. Fabr. Prod.	**Vergleichstypen** Comparisontypes · Types d'equivalence Tipi correspondenti · Tipos de repuesto	**ECA-Info** more at **www.ecadata.de**
BSt C03 13	50Hz-Thy	200V, 11,4A(Tc=85°C), Igt/Ih<40/<30mA	21b§	Sie	BStD0313, CS5-02, CS8-02[9]	data
BSt C03 26	50Hz-Thy	=BStC0313: 400V	21b§		BStD0326, CS5-04, CS8-04[9]	data
BSt C03 40	50Hz-Thy	=BStC0313: 600V	21b§		BStD0340, CS5-06, CS8-06[9]	data
BSt C03 53	50Hz-Thy	=BStC0313: 800V	21b§		BStD0353, CS5-08, CS8-08[9]	data
BSt C03 66	50Hz-Thy	=BStC0313: 1000V	21b§		BStD0366, CS5-10, CS8-10[9]	data
BSt C03 80	50Hz-Thy	=BStC0313: 1200V	21b§		BStD0380, CS5-12, CS8-12[9]	data
BSt C05 06	50Hz-Thy	100V, 5A(Tc=76°C), Igt/Ih<20/<60mA	22a§	Sie	TAG671-100, TAG676-100[9]	data
BSt C05 13	50Hz-Thy	=BStC0506: 200V	22a§		TAG671-200, TAG676-200[9]	data
BSt C05 26	50Hz-Thy	=BStC0506: 400V	22a§		TAG671-400, TAG676-400[9]	data
BSt C05 33	50Hz-Thy	=BStC0506: 500V	22a§		TAG671-500, TAG676-500[9]	data
BSt C05 40	50Hz-Thy	=BStC0506: 600V	22a§		TAG671-600, TAG676-600[9]	data
BSt C05 46	50Hz-Thy	=BStC0506: 700V	22a§		TAG671-700, TAG676-700[9]	data
BSt C06 06	F-Thy	100V, 3,2A(Tc=65°C), Igt/Ih<50/<100mA	22a§	Sie	S3700B, T3S400, TAG670S-100, TAG675S-100[9]	data
BSt C06 13	F-Thy	=BStC0606: 200V	22a§		S3700B, T3S400, TAG670S-200, TAG675S-200[9]	data
BSt C06 26	F-Thy	=BStC0606: 400V	22a§		S3700D, T3S400, TAG670S-400, TAG675S-400[9]	data
BSt C06 33	F-Thy	=BStC0606: 500V	22a§		S3700M, T3S500, TAG670S-500, TAG675S-500[9]	data
BSt C06 40	F-Thy	=BStC0606: 600V	22a§		S3700M, T3S600, TAG670S-600, TAG675S-600[9]	data
BSt C06 43	F-Thy	=BStC0606: 650V	22a§		T3S700, TAG670S-700, TAG675S-700[9]	data
BSt C06 46	F-Thy	=BStC0606: 700V	22a§		T3S700, TAG670S-700, TAG675S-700[9]	data
BSt C06 50	F-Thy	=BStC0606: 750V	22a§		TAG670S-800, TAG675S-800[9]	data
BSt C06 53	F-Thy	=BStC0606: 800V	22a§		TAG670S-800, TAG675S-800[9]	data
BSt C07 06	50Hz-Thy	100V, 0,9A(Tc=45°C), Igt/Ih<20/<60mA	27b	Sie	BStC3026, (TAG2,5-100, TAG611-100,++)[11]	data
BSt C07 13	50Hz-Thy	=BStC0706: 200V	27b		BStC3026, (TAG2,5-200, TAG611-200,++)[11]	data
BSt C07 26	50Hz-Thy	=BStC0706: 400V	27b		BStC3026, (TAG2,5-400, TAG611-400,++)[11]	data
BSt C07 33	50Hz-Thy	=BStC0706: 500V	27b		BStC3033, (TAG2,5-500, TAG611-500,++)[11]	data
BSt C07 40	50Hz-Thy	=BStC0706: 600V	27b		BStC3040, (TAG2,5-600, TAG611-600,++)[11]	data
BSt C07 46	50Hz-Thy	=BStC0706: 700V	27b		BStC3046, (TAG2,5-700, TAG611-700,++)[11]	data
BSt C09 26T92	F-Thy	400V, Igt<50mA	22a§	Sie	-	data
BSt C09 30T92	F-Thy	450V, Igt<50mA	22a§		-	data
BSt C10 26	50Hz-Thy	400V, 4A(Tc=85°C), Igt/Ih<25/<80mA	17h§	Sie	TAG625-400, C122D, TIC116D, CS6-04, ++[9]	data
BSt C10 26 M	50Hz-Thy	400V, 6A(Tc=85°C), Igt/Ih<25/<80mA	17h§	Sie	CS6-04, TAG660-400, S2800D, CS3,5-04, ++[9]	data
BSt C10 33	50Hz-Thy	=BStC1026: 500V	17h§		TAG625-500, C122E, TIC116E, CS6-06, ++[9]	data
BSt C10 33 M	50Hz-Thy	=BStC1026M: 500V	17h§		CS6-06, TAG660-500, S2800E, CS3,5-06, ++[9]	data
BSt C10 40	50Hz-Thy	=BStC1026: 600V	17h§		TAG625-600, C122M, TIC116M, CS6-06, ++[9]	data
BSt C10 40 M	50Hz-Thy	=BStC1026M: 600V	17h§		CS6-06, TAG660-600, S2800M, CS3,5-06, ++[9]	data
BSt C10 46	50Hz-Thy	=BStC1026: 700V	17h§		TAG625-700, TIC116S, CS6-07, BStC1046M++[9]	data
BSt C10 46 M	50Hz-Thy	=BStC1026M: 700V	17h§		CS6-07, TAG660-700, S2800S, CS3,5-07, ++[9]	data
BSt C10 53	50Hz-Thy	=BStC1026: 800V	17h§	TO-220	TAG625-800, TIC116N, CS6-08, BStC1053M++[9]	data
BSt C10 53 M	50Hz-Thy	=BStC1026M: 800V	17h§		CS6-08, TAG660-800, S2800N, 2N6399, ++[9]	data
BSt C12 26	F-Thy	400V, 2,5A(Tc=80°C), Igt/Ih<50/<100mA	17h§	Sie	S5800D, BT153, CSF11-04, CSF0,7-04	data
					(BStCC0233H, S3900E, 17088)[15]	data
BSt C12 33	F-Thy	=BStC1226: 500V	17h§		S5800E, BT153, CSF11-06	data
					(BStCC0233H, S3900E, 17088)[15]	data
BSt C12 40	F-Thy	=BStC1226: 600V	17h§		S5800M, CSF11-06	data
					(BStCC0240H, S3900MF, 17088)[15]	data
BSt C12 46	F-Thy	=BStC1226: 700V	17h§		S5800S, CSF11-08	data
					(BStCC0246H, S3900S, 17088)[15]	data
BSt C12 50	F-Thy	=BStC1226: 750V	17h§		S5800N, CSF11-08	data
					(BStCC0253H, S3900SF, 17088)[15]	data
BSt C12 53	F-Thy	=BStC1226: 800V	17h§		S5800N, CSF11-08	data
					(BStCC0253H, 17088)[15]	data
BSt C30 26	50Hz-Thy	400V, 1A(Ta=45°C), Igt/Ih<25/<80mA	27b	Sie	(TAG2,5-400, TAG611-400, TAG605-400)[11]	data
BSt C30 33	50Hz-Thy	=BStC3026: 500V	27b		(TAG2,5-500, TAG611-600, TAG605-600)[11]	data
BSt C30 40	50Hz-Thy	=BStC3026: 600V	27b		(TAG2,5-600, TAG611-600, TAG605-600)[11]	data
BSt C30 46	50Hz-Thy	=BStC3026: 700V	27b		(TAG2,5-700, TAG611-700, TAG605-700)[11]	data
BSt C30 53	50Hz-Thy	=BStC3026: 800V	27b		(TAG2,5-800, TAG611-800, TAG605-800)[11]	data
BSt C31 26	50Hz-Thy	400V, 1,5A(Tc=85°C), Igt/Ih<25/<80mA	28a	Sie	BStC3126M, (TAG630-400, TAG620-400,++)[11]	data
BSt C31 26 M	50Hz-Thy	400V, 2,5A(Tc=85°C),Igt/Ih<25/<80mA	28a	Sie	(TAG630-400, TAG620-400, BStC1026,++)[11]	data
BSt C31 33	50Hz-Thy	=BStC3126: 500V	28a		BStC3133M, (TAG630-500, TAG620-500,++)[11]	data
BSt C31 33 M	50Hz-Thy	=BStC3126M: 500V	28a		(TAG630-500, TAG620-500, BStC1033,++)[11]	data
BSt C31 40	50Hz-Thy	=BStC3126: 600V	28a		BStC3140M, (TAG630-600, TAG620-600,++)[11]	data
BSt C31 40 M	50Hz-Thy	=BStC3126M: 600V	28a		(TAG630-600, TAG620-600, BStC1040,++)[11]	data
BSt C31 46	50Hz-Thy	=BStC3126: 700V	28a		BStC3146M, (TAG630-700, TAG620-700,++)[11]	data
BSt C31 46 M	50Hz-Thy	=BStC3126M: 700V	28a		(TAG630-700, TAG620-700, BStC1046,++)[11]	data
BSt C31 53	50Hz-Thy	=BStC3126: 800V	28a		BStC3153M, (TAG630-800, TAG620-800,++)[11]	data
BSt C31 53 M	50Hz-Thy	=BStC3126M: 800V	28a		(TAG630-800, TAG620-800, BStC1053,++)[11]	data
BSt CC01 26H	F-Thy+Di	TV-HA,400V,3,2A,Igt/Ih<50/<100mA,<3µs	22a§	Sie	S6087B, TD3F400H, TD4F400H[9]	data
BSt CC01 26R	F-Thy+Di	TV-HA,400V,3,2A,Igt/Ih<50/<100mA,<5µs	22a§	Sie	S6087A, TD3F400R, TD4F400R[9]	data
BSt CC01 33H	F-Thy+Di	=BStCC0126H: 500V	22a§		S6087B, TD3F500H, TD4F500H[9]	data
BSt CC01 33R	F-Thy+Di	=BStCC0126R: 500V	22a§		S6087A, TD3F500R, TD4F500R[9]	data
BSt CC01 40H	F-Thy+Di	=BStCC0126H: 600V	22a§		S6087B, TD3F600H, TD4F600H[9]	data
BSt CC01 40R	F-Thy+Di	=BStCC0126R: 600V	22a§		S6087A, TD3F600R, TD4F600R[9]	data
BSt CC01 46H	F-Thy+Di	=BStCC0126H: 700V	22a§		S6087B, TD3F700H, TD4F700H[9]	data
BSt CC01 46R	F-Thy+Di	=BStCC0126R: 700V	22a§		S6087A, TD3F700R, TD4F700R[9]	data
BSt CC01 53H	F-Thy+Di	=BStCC0126H: 800V	22a§		TD3F800H, TD4F800H[9]	data
BSt CC01 53R	F-Thy+Di	=BStCC0126R: 800V	22a§		TD3F800R, TD4F800R[9]	data
BSt CC02 33H	F-Thy+Di	TV-HA, 500V, 5A, Igt/Ih<50/<100mA,<3µs	17j§	Sie	S3900E, 17088	data
BSt CC02 33R	F-Thy+Di	TV-HA, 500V, 5A, Igt/Ih<50/<100mA, 5µs	17j§	Sie	S3901E, 17089	data
BSt CC02 40H	F-Thy+Di	=BStCC0233H: 600V	17j§		S3900MF, 17088	data
BSt CC02 40R	F-Thy+Di	=BStCC0233R: 600V	17j§		S3901MF, 17089	data
BSt CC02 46H	F-Thy+Di	=BStCC0233H: 700V	17j§		S3900S, 17088	data

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BSt CC02 46R	F-Thy+Di	=BStCC0233R: 700V	17j§		S3901S, 17089	data
BSt CC02 53H	F-Thy+Di	=BStCC0233H: 800V	17j§		17088	data
BSt CC02 53R	F-Thy+Di	=BStCC0233R: 800V	17j§		17089	data
BSt CC02 60H	F-Thy+Di	=BStCC0233H: 900V	17j§		17088	data
BSt CC02 60R	F-Thy+Di	=BStCC0233R: 900V	17j§		17089	data
BSt D02 20	50Hz-Thy	300V, 8,5A(Tc=82°C), Igt/Ih<50/120mA	21b§	Sie	BTW42/600R	data
BSt D02 40	50Hz-Thy	=BStD0220: 600V	21b§		BTW42/600R	data
BSt D02 60	50Hz-Thy	=BStD0220: 900V	21b§		BTW42/1000R	data
BSt D03 13	50Hz-Thy	200V, 16A(Tc=85°C), Igt/Ih<30/<80mA	21b§	Sie	CS8-02[9]	data
BSt D03 26	50Hz-Thy	=BStD0313: 400V	21b§		CS8-04[9]	data
BSt D03 40	50Hz-Thy	=BStD0313: 600V	21b§		CS8-06[9]	data
BSt D03 53	50Hz-Thy	=BStD0313: 800V	21b§		CS8-08[9]	data
BSt D03 66	50Hz-Thy	=BStD0313: 1000V	21b§		CS8-10[9]	data
BSt D03 80	50Hz-Thy	=BStD0313: 1200V	21b§		CS8-12[9]	data
BSt D10 26	50Hz-Thy	400V, 8A(Tc=85°C), Igt/Ih<25/<80mA	17h§	Sie	BStD1026M, TIC126D, T7,5N400, TAG680-400[9]	data
BSt D10 26 M	50Hz-Thy	400V, 10A(Tc=85°C),Igt/Ih<25/<80mA	17h§	Sie	T9,5N400, CS15-04[9]	data
BSt D10 33	50Hz-Thy	=BStD1026: 500V	17h§		BStD1033M, TIC126E, T7,5N600, TAG680-500[9]	data
BSt D10 33 M	50Hz-Thy	=BStD1026M: 500V	17h§		T9,5N500, CS15-06[9]	data
BSt D10 40	50Hz-Thy	=BStD1026: 600V	17h§		BStD1040M, TIC126M, T7,5N600, TAG680-600[9]	data
BSt D10 40 M	50Hz-Thy	=BStD1026M: 600V	17h§		T9,5N600, CS15-06[9]	data
BSt D10 46	50Hz-Thy	=BStD1026: 700V	17h§		BStD1046M, TIC126S, T7,5N700, TAG680-700[9]	data
BSt D10 46 M	50Hz-Thy	=BStD1026M: 700V	17h§		T9,5N700, CS15-07[9]	data
BSt D10 53	50Hz-Thy	=BStD1026: 800V	17h§		BStD1052M, TIC126N, T7,5N800, TAG680-800[9]	data
BSt D10 53 M	50Hz-Thy	=BStD1026M: 800V	17h§		T9,5N800, CS15-08[9]	data
BSt D16 66 M	50Hz-Thy	1000V, 7,5A(Tc=85°C), Igt/Ih<10/<50mA	17h§	Sie	-	data
BSt D16 66 N	50Hz-Thy	=BStD1666M: Igt/Ih<20/<80mA	17h§	Sie	-	data
BSt D16 66 P	50Hz-Thy	=BStD1666M: Igt/Ih<50/<150mA	17h§		-	data
BSt D16 80 M	50Hz-Thy	=BStD1666M: 1200V	17h§		-	data
BSt D16 80 N	50Hz-Thy	=BStD1680M: Igt/Ih<20/<80mA	17h§		-	data
BSt D16 80 P	50Hz-Thy	=BStD1680M: Igt/Ih<50/<150mA	17h§		-	data
BSt D36 66 M	50Hz-Thy	1000V, 1A(Ta=45°C),Igt/Ih<10/<50mA	27b	Sie	(BStD1666M)[4]	data
BSt D36 66 N	50Hz-Thy	=BStD3666M: Igt/Ih<20/<80mA	27b		(BStD1666N)[4]	data
BSt D36 66 P	50Hz-Thy	=BStD3666M: Igt/Ih<50/<150mA	27b		(BStD1666P)[4]	data
BSt D36 80 M	50Hz-Thy	=BStD3666M: 1200V	27b		(BStD1680M)[4]	data
BSt D36 80 N	50Hz-Thy	=BStD3680M: Igt/Ih<20/<80mA	27b		(BStD1680N)[4]	data
BSt D36 80 P	50Hz-Thy	=BStD3680M: Igt/Ih<50/<150mA	27b		(BStD1680P)[4]	data
BSt D40 26	50Hz-Thy	400V, 12A, Igt<10mA	29b	Sie	T10N400H, S6200D, BStD4026M, C232D[9]	data
BSt D40 26 M	50Hz-Thy	400V, 15A, Igt<10mA	29b	Sie	C 232D[9]	data
BSt D40 33	50Hz-Thy	=BStD4026: 500V	29b		T10N500H, S6200M, BStD4033M, C232E[9]	data
BSt D40 33 M	50Hz-Thy	=BStD4026M: 500V	29b		C 232M[9]	data
BSt D40 40	50Hz-Thy	=BStD4026: 600V	29b		T10N600H, S6200M, BStD4040M, C232M[9]	data
BSt D40 40 M	50Hz-Thy	=BStD4026M: 600V	29b		C 232M[9]	data
BSt D40 46	50Hz-Thy	=BStD4026: 700V	29b		T10N700H, BStD4046M[9]	data
BSt D40 46 M	50Hz-Thy	=BStD4026M: 700V	29b		-[9]	data
BSt D40 53	50Hz-Thy	=BStD4026: 800V	29b		T10N800H, BStD4053M[9]	data
BSt D40 53 M	50Hz-Thy	=BStD4026M: 800V	29b		-	data
BSt D41 26	50Hz-Thy	=BStD4026:	21b§		T10N400C, S6210D, BStD4126M, BStE4126,++[9]	data
BSt D41 26 M	50Hz-Thy	=BStD4026M:	21b§		C230D, BStE4126, BStE4126M[9]	data
BSt D41 33	50Hz-Thy	=BStD4033:	21b§		T10N500C, S6210M, BStD4133M, BStE4133,++[9]	data
BSt D41 33 M	50Hz-Thy	=BStD4033M:	21b§		C230E, BStE4133, BStE4133M[9]	data
BSt D41 40	50Hz-Thy	=BStD4040:	21b§		T10N600C, S6210M, BStD4140M, BStE4140,++[9]	data
BSt D41 40 M	50Hz-Thy	=BStD4040M:	21b§		C230M, BStE4140, BStE4140M[9]	data
BSt D41 46	50Hz-Thy	=BStD4046:	21b§		T10N700C, BStD4146M, BStE4146, BStE4146M[9]	data
BSt D41 46 M	50Hz-Thy	=BStD4046M:	21b§		BStE4146, BStE4146M[9]	data
BSt D41 53	50Hz-Thy	=BStD4053:	21b§		T10N800C, BStD4153M, BStE4153, BStE4153M[9]	data
BSt D41 53 M	50Hz-Thy	=BStD4053M:	21b§		BStE4153, BStE4153M[9]	data
BSt E03 26	F-Thy	400V, 0,6A(Ta=45°C),Igt/Ih<35/<50mA	27b	Sie	(S5800D, BT153, TAG650S-400,TAG655S-400)[11]	data
BSt E03 33	F-Thy	=BStE0326: 500V	27b		(S5800E, BT153, TAG650S-500,TAG655S-500)[11]	data
BSt E03 40	F-Thy	=BStE0326: 600V	27b		(S5800M, TAG650S-600, TAG655S-600)[11]	data
BSt E03 46	F-Thy	=BStE0326: 700V	27b		(S5800S, CSF11-08)[11]	data
BSt E04 26	F-Thy	400V, 4A(Tc=77°C),Igt/Ih<50/<100mA	22a§	Sie	T3S400, TAG670S-400, TAG675S-400[9]	data
BSt E04 33	F-Thy	=BStE0426: 500V	22a§		T3S500, TAG670S-500, TAG675S-500[9]	data
BSt E04 40	F-Thy	=BStE0426: 600V	22a§		T3S600, TAG670S-600, TAG675S-600[9]	data
BSt E04 46	F-Thy	=BStE0426: 700V	22a§		T3S700, TAG670S-700, TAG675S-700[9]	data
BSt E40 26	50Hz-Thy	400V, 18A, Igt<50mA	29b	Sie	BStE4026M[9]	data
BSt E40 26 M	50Hz-Thy	400V, 22A, Igt<50mA	29b	Sie	-	data
BSt E40 33	50Hz-Thy	=BStE4026: 500V	29b		BStE4033M[9]	data
BSt E40 33 M	50Hz-Thy	=BStE4026M: 500V	29b		-	data
BSt E40 40	50Hz-Thy	=BStE4026: 600V	29b		BStE4040M[9]	data
BSt E40 40 M	50Hz-Thy	=BStE4026M: 600V	29b		-	data
BSt E40 46	50Hz-Thy	=BStE4026: 700V	29b		BStE4046M[9]	data
BSt E40 46 M	50Hz-Thy	=BStE4026M: 700V	29b		-	data
BSt E40 53	50Hz-Thy	=BStE4026: 800V	29b		BStE4053M[9]	data
BSt E40 53 M	50Hz-Thy	=BStE4026M: 800V	29b		-[9]	data
BSt E41 26	50Hz-Thy	=BStE4026:	21b§		CS13-04, T15,1N400, TAG16N400, BTW40/400[9]	data
BSt E41 26 M	50Hz-Thy	=BStE4026M:	21b§		T17N400, T24N400, TAG24N400, CS23-04, ++[9]	data
BSt E41 33	50Hz-Thy	=BStE4033:	21b§		CS13-06, T15,1N600, TAG16N600, BTW40/600[9]	data
BSt E41 33 M	50Hz-Thy	=BStE4033M:	21b§		T17N600, T24N600, TAG24N600, CS23-06, ++[9]	data
BSt E41 40	50Hz-Thy	=BStE4040:	21b§		CS13-06, T15,1N600, TAG16N600, BTW40/600[9]	data
BSt E41 40 M	50Hz-Thy	=BStE4040M:	21b§		T17N600, T24N600, TAG24N600, CS23-06, ++[9]	data
BSt E41 46	50Hz-Thy	=BStE4046:	21b§		CS13-08, T15,1N800, TAG16N800, BTW40/800[9]	data

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IR 2136	CMOS/LIN-IC	MOSFET Gate Drv,Uoffs=600V, 0,12/0,25A 3-Phase Bridge Driver	28-DIP	Inr	-	pdf
IR 2137	CMOS/LIN-IC	MOSFET Gate Drv, Uoffs=600V, 0,2/0,46A 3-Phase Bridge Driver	68-PLCC	Inr	-	pdf
IR 2151	CMOS/LIN-IC	MOSFET Gate Drv, Uoffs=600V, 0,1/0,21A	8-DIP	Inr	-	pdf
IR 2152	CMOS/LIN-IC	MOSFET Gate Drv, Uoffs=600V, 0,1/0,21A	8-DIP	Inr	-	pdf
IR 2153	CMOS/LIN-IC	MOSFET Gate Drv, Uoffs=600V, 0,2/0,4A	8-DIP	Inr	-	pdf
IR 2154	CMOS/LIN-IC	MOSFET Gate Drv, Uoffs=600V	8-DIP	Inr	-	pdf
IR 2154 S	CMOS/LIN-IC	SMD,MOSFET Gate Drv, Uoffs=600V	8-MDIP		-	
IR 2155	CMOS/LIN-IC	MOSFET Gate Driver, Uoffs=-5...600V	8-DIP	Inr	-	pdf
IR 2157	LIN-IC	600V Ballast Control	16-DIP	Inr	-	
IR 2157 S	LIN-IC	SMD,600V Ballast Control	16-MDIP		-	
IR 2159	LIN-IC	600V Dimming Ballast Control	16-DIP	Inr	-	
IR 2159 S	LIN-IC	SMD,600V Dimming Ballast Control	16-MDIP		-	pdf
IR 2213	CMOS/LIN-IC	MOSFET Gate Drv, Uoffs=1200V, 1,7/2A	14-DIP	Inr	-	
IR 2213 S	LIN-IC	SMD,MOSFET Gate Drv, Uoffs=1200V	16-MDIP		-	
IR 2233	CMOS/LIN-IC	MOSFET Gate Drv,Uoffs=1200V, 0,2/0,42A	44-MP	Inr	-	pdf
IR 2235	CMOS/LIN-IC	MOSFET Gate Drv,Uoffs=1200V, 0,2/0,42A	44-MP	Inr	-	pdf
IR 2403-2	IC				-	
IR 3220 S /8	IC	PROTECTED H-BRIDGE FOR D.C. MOTOR	TSOP	Inr	-	pdf pinout
IR 6000	DMOS-IC	High-Side Power Switch, 5...35V, 3,5A		Inr	-	
IR 6210	MOS-IC	Intelligent High Side MOSFET Power Sw. 5...50V, 28W, on=0,2Ω, Ilim=5A	86/5Pin	Inr	-	pdf
IR 6216	MOS-IC	Intelligent High Side MOSFET Power Sw. 5...50V, 28W, on=0,2Ω, Ilim=10A	86/5Pin	Inr	-	pdf
IR 6220	MOS-IC	Intelligent High Side MOSFET Power Sw. 5...50V, 28W, on=0,1Ω, Ilim=10A	86/5Pin	Inr	-	pdf
IR 6224	MOS-IC	Intelligent High Side MOSFET Power Sw. 5...50V, 28W, on=0,1Ω, Ilim=20A	86/5Pin	Inr	-	pdf
IR 6226	MOS-IC	Intelligent High Side MOSFET Power Sw. 5...50V, 28W, on=0,1Ω, Ilim=20A	86/5Pin	Inr	-	pdf
IR 6311 G	MOS-IC	Intelligent High Side MOSFET Power Sw. 5...50V, on=0,15Ω, Ilim=5A	8-MDIP	Inr	-	
IR 6320 G	MOS-IC	Intelligent High Side MOSFET Power Sw. 5...50V, on=85mΩ, Ilim=10A	8-MDIP	Inr	-	
IR 9161	KOP-IC	Quad, ±18V, 0...+70°	16-DIP	Sha	-	
IR 9161 N	KOP-IC	=IR 9161: SMD	16-MDIP		-	
IR 9331	LIN-IC	V/F-Converter	8-DIP	Sha	-	
IR 9331 N	LIN-IC	SMD, V/F-Converter	8-MDIP		-	
IR 9431	LIN-IC	Regler/shunt reg., Uref=2,5V	8-DIP	Sha	-	
IR 9494	LIN-IC	S-Reg, +41V, 0,25A, 1...300kHz	16-DIP	Sha	-	
IR 9494 N	LIN-IC	=IR 9494: SMD	16-MDIP		-	
IR 21014	CMOS/LIN-IC	MOSFET Gate Drv, Uoffs=600V, 0,1/0,21A	14-DIP	Inr	-	pdf
IR 21014 S	CMOS/LIN-IC	SMD,MOSFET Gate Drv, Uoffs=600V	14-MDIP		-	
IR 21024	CMOS/LIN-IC	MOSFET Gate Drv, Uoffs=600V, 0,1/0,21A	14-DIP	Inr	-	pdf
IR 21024 S	CMOS/LIN-IC	SMD,MOSFET Gate Drv, Uoffs=600V	14-MDIP		-	
IR 21034	CMOS/LIN-IC	MOSFET Gate Drv, Uoffs=600V, 0,1/0,21A	14-DIP	Inr	-	
IR 21034 S	CMOS/LIN-IC	SMD,MOSFET Gate Drv, Uoffs=600V	14-MDIP		-	
IR 21044	CMOS/LIN-IC	MOSFET Gate Drv, Uoffs=600V, 0,1/0,21A	14-DIP	Inr	-	
IR 21044 S	CMOS/LIN-IC	SMD,MOSFET Gate Drv, Uoffs=600V	14-MDIP		-	
IR 21064	CMOS/LIN-IC	MOSFET Gate Drv,Uoffs=600V, 0,12/0,25A	14-DIP	Inr	-	pdf
IR 21064 S	CMOS/LIN-IC	SMD,MOSFET Gate Drv,Uoffs=600V	14-MDIP		-	pdf
IR 21074	CMOS/LIN-IC	MOSFET Gate Drv,Uoffs=600V, 0,12/0,25A	14-DIP	Inr	-	
IR 21074 S	CMOS/LIN-IC	SMD,MOSFET Gate Drv,Uoffs=600V	14-MDIP		-	
IR 21084	CMOS/LIN-IC	MOSFET Gate Drv,Uoffs=600V, 0,12/0,25A	14-DIP	Inr	-	pdf
IR 21084 S	CMOS/LIN-IC	SMD,MOSFET Gate Drv,Uoffs=600V	14-MDIP		-	
IR 21094	CMOS/LIN-IC	MOSFET Gate Drv,Uoffs=600V, 0,12/0,25A	14-DIP	Inr	-	pdf
IR 21094 S	CMOS/LIN-IC	SMD,MOSFET Gate Drv,Uoffs=600V	14-MDIP		-	
IR 21362	CMOS/LIN-IC	MOSFET Gate Drv,Uoffs=600V, 0,12/0,25A 3-Phase Bridge Driver	28-DIP	Inr	-	pdf
IR 21531(D)	CMOS/LIN-IC	MOSFET Gate Drv, Uoffs=600V	8-DIP	Inr	-	
IR 21531(D)S	CMOS/LIN-IC	SMD,MOSFET Gate Drv, Uoffs=600V	8-MDIP		-	
IR 21541	CMOS/LIN-IC	MOSFET Gate Drv, Uoffs=600V	8-DIP	Inr	-	
IR 21541 S	CMOS/LIN-IC	SMD,MOSFET Gate Drv, Uoffs=600V	8-MDIP		-	
IR 3220 S /20	IC	PROTECTED H-BRIDGE FOR D.C. MOTOR	TSOP	Inr	-	pdf pinout
IRC 150	MOS-N-FET-e	V-MOS, L, Current Sense, 100V, 30A	23/4Pin	Inr	-	data
IRC 250	MOS-N-FET-e	V-MOS, L, Current Sense, 200V, 29A	23/4Pin	Inr	-	data
IRC 254	MOS-N-FET-e	V-MOS, L, Current Sense, 250V, 22,2A	23/4Pin	Inr	-	data
IRC 350	MOS-N-FET-e	V-MOS, L, Current Sense, 400V, 14,5A	23/4Pin	Inr	-	data
IRC 450	MOS-N-FET-e	V-MOS, L, Current Sense, 500V, 12,2A	23/4Pin	Inr	-	data
IRC 530	MOS-N-FET-e	V-MOS, Current Sense, 100V, 14A, 79W	86/5Pin	Inr	-	data pdf
IRC 531	MOS-N-FET-e	=IRC 530: 80V	86/5Pin	Inr	-	data
IRC 540	MOS-N-FET-e	V-MOS, Current Sense, 100V, 28A, 150W	86/5Pin	Inr	-	data pdf
IRC 630	MOS-N-FET-e	V-MOS, Current Sense, 200V, 9A, 74W	86/5Pin	Inr	-	data pdf
IRC 634	MOS-N-FET-e	V-MOS, Current Sense, 250V, 8,1A, 74W	86/5Pin	Inr	-	data pdf
IRC 640	MOS-N-FET-e	V-MOS, Current Sense, 250V, 18A, 125W	86/5Pin	Inr	-	data pdf
IRC 644	MOS-N-FET-e	V-MOS, Current Sense, 250V, 14A, 125W	86/5Pin	Inr	-	data pdf
IRC 730	MOS-N-FET-e	V-MOS, Current Sense, 400V, 5,5A, 74W	86/5Pin	Inr	-	data pdf

Typ Type · Tipo	**Art** Device Genre · Tipo Specie	**Kurzbeschreibung** Short description · Description succ. Descrizione somm. · Descripción breve	**Bild** Fig.	**Herst.** Manu. Fabr. Prod.	**Vergleichstypen** Comparisontypes · Types d'equivalence Tipi correspondenti · Tipos de repuesto	**ECA-Info** more at **www.ecadata.de**
IRC 740	MOS-N-FET-e	V-MOS, Current Sense, 400V, 10A, 125W	86/5Pin	Inr	-	data pdf
IRC 830	MOS-N-FET-e	V-MOS, Current Sense, 500V, 4,5A, 74W	86/5Pin	Inr	-	data pdf
IRC 832	MOS-N-FET-e	V-MOS, Current Sense, 500V, 4A	86/5Pin	Inr	-	data
IRC 840	MOS-N-FET-e	V-MOS, Current Sense, 500V, 8A, 125W	86/5Pin	Inr	-	data pdf
IRCP 054	MOS-N-FET-e	V-MOS, Current Sense, 60V, 70A, 230W	85/5Pin	Inr	-	data pdf
IRCZ 24	MOS-N-FET-e	V-MOS, Current Sense, 60V, 17A, 60W	86/5Pin	Inr	-	data pdf
IRCZ 34	MOS-N-FET-e	V-MOS, Current Sense, 60V, 30A, 88W	86/5Pin	Inr	-	data pdf
IRCZ 44	MOS-N-FET-e	V-MOS, Current Sense, 60V, 50A, 150W	86/5Pin	Inr	-	data pdf
IRD	Si-P	=2SA1484-D (Typ-Code/Stempel/marking)	35	Hit	→2SA1484	data
IRE	Si-P	=2SA1484-E (Typ-Code/Stempel/marking)	35	Hit	→2SA1484	data
IRF 9 Z10	MOS-P-FET-e	V-MOS, 50V, 4,7A, 20W, <0,5Ω(2,5A)	17c§	Inr,Sam	BUZ 171...172, IRF 9521, 2SJ102, 2SJ153	data
IRF 9 Z12	MOS-P-FET-e	=IRF 9Z10: 4A, <0,7Ω(2,5A)	17c§	Inr,Sam	→IRF 9Z10	data
IRF 9 Z14	MOS-P-FET-e	V-MOS, 60V, 6,7A, 43W, <0,5Ω(4A)	17c§	Inr,Sam	IRF 9630...33, MTP 8P08, 2SJ247	data pdf
IRF 9 Z14L,S	MOS-P-FET-e	=IRF 9Z14:	30c§		2SJ266	data
IRF 9 Z15	MOS-P-FET-e	=IRF 9Z14: 4A, <0,7Ω(2,5A)	17c§	Inr,Sam	→IRF 9Z14	data
IRF 9 Z20	MOS-P-FET-e	V-MOS, 50V, 9,7A, 40W, <0,28Ω(5,6A)	17c§	Inr,Sam	IRF 9531, IRF 9533, 2SJ122...123, 2SJ169+	data
IRF 9 Z22	MOS-P-FET-e	=IRF 9Z20: 8,9A, <0,33Ω(5,6A)	17c§	Inr,Sam	→IRF 9Z20	data
IRF 9 Z24	MOS-P-FET-e	V-MOS, 60V, 11A, 60W, <0,28Ω(6,6A)	17c§	Inr,Sam	IRF 9530...31, 2SJ122...123, 2SJ169, ++	data pdf
IRF 9 Z24L,S	MOS-P-FET-e	=IRF 9Z24:	30c§		2SJ219, 2SJ268, 2SJ296, 2SJ384	data
IRF 9 Z24N	MOS-P-FET-e	V-MOS, 55V, 12A, 45W, <0,175Ω(7,2A)	17c§	Inr	IRF 9530...31, 2SJ122, 2SJ140, 2SJ169, ++	data pdf
IRF 9 Z24NL,NS	MOS-P-FET-e	=IRF 9Z24N:	30c§		2SJ219, 2SJ268, 2SJ296, 2SJ384	data
IRF 9 Z25	MOS-P-FET-e	=IRF 9Z24: 8,9A, <0,33Ω(5,6A)	17c§	Inr,Sam	→IRF 9Z24	data
IRF 9 Z30	MOS-P-FET-e	V-MOS, 50V, 18A, 74W, <0,14Ω(9,3A)	17c§	Inr,Sam	BUZ 271, IRF 9541, 2SJ174, 2SJ291	data
IRF 9 Z32	MOS-P-FET-e	=IRF 9Z30: 15A, <0,21Ω(9,3A)	17c§	Inr,Sam	→IRF 9Z30	data
IRF 9 Z34	MOS-P-FET-e	V-MOS, 60V, 18A, 88W, <0,14Ω(11A)	17c§	Inr,Sam	IRF 9540...41, 2SJ174, 2SJ291	data
IRF 9 Z34N	MOS-P-FET-e	V-MOS, 55V, 19A, 68W, <0,1Ω(10A)	17c§	Inr	IRF 9540...41, 2SJ174, 2SJ291	data pdf
IRF 9 Z34(N)L,S	MOS-P-FET-e	=IRF 9Z34...:	30c§		2SJ220, 2SJ241, 2SJ297, 2SJ401	data
IRF 9 Z35	MOS-P-FET-e	=IRF 9Z34: 15A, <0,21Ω(9,3A)	17c§	Inr,Sam	→IRF 9Z34	data
IRF 034	MOS-N-FET-e	V-MOS, 60V, 30A, 90W, <0,05Ω(18A)	23a§	Inr	BUZ 24, 2N6763, 2SK561, 2SK906, 2SK1429+	data pdf
IRF 035	MOS-N-FET-e	V-MOS, 60V, 25A, 90W, <0,07Ω(18A)	23a§	Inr	BUZ 24, 2N6763, 2SK561, 2SK906, 2SK1429+	data
IRF 044	MOS-N-FET-e	V-MOS, 60V, 30A, 150W, <0,028Ω(33A)	23a§	Inr	BUZ 24, 2N6764, 2SK561, 2SK906, 2SK1429+	data pdf
IRF 045	MOS-N-FET-e	V-MOS, 60V, 30A, 150W, <0,035Ω(33A)	23a§	Inr	BUZ 24, 2N6764, 2SK561, 2SK906, 2SK1429+	data
IRF 120	MOS-N-FET-e	V-MOS, 100V, 9,2A, 60W, <0,27Ω(5,6A)	23a§	Inr,Fch,Sam	MTM 12N10, 2N6765, 2SK398...399, 2SK405++	data pdf
IRF 121	MOS-N-FET-e	=IRF 120: 80V	23a§	Inr,Fch,Sam	MTM 12N08, 2N6765, 2SK398...399, 2SK405++	data pdf
IRF 122	MOS-N-FET-e	V-MOS, 100V, 8A, 60W, <0,36Ω(5,6A)	23a§	Inr,Fch,Sam	MTM 12N10, 2N6765, 2SK398...399, 2SK405++	data pdf
IRF 123	MOS-N-FET-e	=IRF 122: 80V	23a§	Inr,Fch,Sam	MTM 12N08, 2N6765, 2SK398...399, 2SK405++	data pdf
IRF 130	MOS-N-FET-e	V-MOS, 100V, 14A, 79W, <0,16Ω(8,3A)	23a§	Inr,Sam++	BUZ 36, MTM 12N10, 2N6765, 2SK572	data pdf
IRF 131	MOS-N-FET-e	=IRF 130: 80V	23a§	Inr,Sam++	BUZ 36, MTM 12N08, 2N6765, 2SK572	data pdf
IRF 132	MOS-N-FET-e	V-MOS, 100V, 12A, 79W, <0,23Ω(8,3A)	23a§	Inr,Sam++	BUZ 36, MTM 12N10, 2N6765, 2SK572	data pdf
IRF 133	MOS-N-FET-e	=IRF 132: 80V	23a§	Inr,Sam++	BUZ 36, MTM 12N08, 2N6765, 2SK572	data pdf
IRF 140	MOS-N-FET-e	V-MOS, 100V, 28A, 150W, <0,077Ω(17A)	23a§	Inr,Sam++	BUZ 24, BUZ 349, 2N6764, 2SK906, 2SK1433	data pdf
IRF 141	MOS-N-FET-e	=IRF 140: 80V	23a§	Inr,Sam++	BUZ 24, BUZ 349, 2N6764, 2SK906, 2SK1433	data pdf
IRF 142	MOS-N-FET-e	V-MOS, 100V, 25A, 150W, <0,1Ω(17A)	23a§	Inr,Sam++	BUZ 24, BUZ 349, 2N6764, 2SK906, 2SK1433	data pdf
IRF 143	MOS-N-FET-e	=IRF 142: 80V	23a§	Inr,Sam++	BUZ 24, BUZ 349, 2N6764, 2SK906, 2SK1433	data pdf
IRF 150	MOS-N-FET-e	V-MOS, 100V, 30A, 150W, <0,055Ω(20A)	23a§	Inr,Sam++	BUZ 24, BUZ 349, 2N6764, 2SK906, 2SK1433	data pdf
IRF 151	MOS-N-FET-e	=IRF 150: 60V	23a§	Inr,Sam++	BUZ 24, BUZ 349, 2N6763, 2SK906, 2SK1433	data pdf
IRF 152	MOS-N-FET-e	V-MOS, 100V, 30A, 150W, <0,08Ω(20A)	23a§	Inr,Sam++	BUZ 24, BUZ 349, 2N6764, 2SK906, 2SK1433	data pdf
IRF 153	MOS-N-FET-e	=IRF 152: 60V	23a§		BUZ 24, BUZ 349, 2N6763, 2SK906	data pdf
IRF 220	MOS-N-FET-e	V-MOS, 200V, 5A, 40W, <0,8Ω(2,5A)	23a§	Inr,Fch,Sam	BUZ 63, MTM 8N20, 2SK400	data pdf
IRF 221	MOS-N-FET-e	=IRF 220: 150V	23a§	Inr,Fch,Sam	BUZ 63, MTM 8N18, 2SK400	data pdf
IRF 222	MOS-N-FET-e	V-MOS, 200V, 4A, 40W, <1,2Ω(2,5A)	23a§	Inr,Fch,Sam	BUZ 63, MTM 8N20, 2SK400	data pdf
IRF 223	MOS-N-FET-e	=IRF 222: 150V	23a§	Inr,Fch,Sam	BUZ 63, MTM 8N18, 2SK400	data pdf
IRF 224	MOS-N-FET-e	V-MOS, 250V, 3,8A, 40W, <1,1Ω(2,1A)	23a§	Inr	BUZ 63, 2SK259..260, 2SK2264	data
IRF 225	MOS-N-FET-e	V-MOS, 250V, 3,3A, 40W, <1,5Ω(2,1A)	23a§	Inr	BUZ 63, 2SK259..260, 2SK2264	data
IRF 230	MOS-N-FET-e	V-MOS, 200V, 9A, 75W, <0,4Ω(5A)	23a§	Inr,Sam++	MTM 8N20, 2SK400...401, 2SK412	data pdf
IRF 231	MOS-N-FET-e	=IRF 230: 150V	23a§	Inr,Sam++	MTM 8N18, 2SK400...401, 2SK412	data pdf
IRF 232	MOS-N-FET-e	V-MOS, 200V, 8A, 75W, <0,6Ω(5A)	23a§	Inr,Sam++	MTM 8N20, 2SK400...401, 2SK412	data pdf
IRF 233	MOS-N-FET-e	=IRF 232: 150V	23a§	Inr,Sam++	MTM 8N18, 2SK400...401, 2SK412	data pdf
IRF 234	MOS-N-FET-e	V-MOS, 250V, 8,1A, 75W, <0,45Ω(4,1A)	23a§	Inr	BUZ 64, BUZ 325, 2SK293, 2SK501, ++	data pdf
IRF 235	MOS-N-FET-e	V-MOS, 250V, 6,5A, 75W, <0,68Ω(4,1A)	23a§	Inr	BUZ 64, BUZ 325, 2SK293, 2SK501, ++	data pdf
IRF 236	MOS-N-FET-e	=IRF 234: 275V	23a§	Inr	BUZ 64, BUZ 325, 2SK293, 2SK501, ++	data pdf
IRF 237	MOS-N-FET-e	=IRF 235: 275V	23a§	Inr	BUZ 64, BUZ 325, 2SK293, 2SK501, ++	data pdf
IRF 240	MOS-N-FET-e	V-MOS, 200V, 18A, 125W, <0,18Ω(10A)	23a§	Inr,Sam++	BUZ 36, BUZ 350, MTM 15N20, 2SK901	data pdf
IRF 241	MOS-N-FET-e	=IRF 240: 150V	23a§	Inr,Sam++	BUZ 36, BUZ 350, MTM 15N20, 2SK901	data pdf
IRF 242	MOS-N-FET-e	V-MOS, 200V, 16A, 125W, <0,22Ω(10A)	23a§	Inr,Sam++	BUZ 36, BUZ 350, MTM 15N20, 2SK901	data pdf
IRF 243	MOS-N-FET-e	=IRF 242: 150V	23a§	Inr,Sam++	BUZ 36, BUZ 350, MTM 15N20, 2SK901	data pdf
IRF 244	MOS-N-FET-e	V-MOS, 250V, 14A, 125W, <0,28Ω(8A)	23a§	Inr	BUZ 323, 2SK559..560, 2SK573, 2SK1135,++	data pdf
IRF 245	MOS-N-FET-e	V-MOS, 250V, 13A, 125W, <0,34Ω(8A)	23a§	Inr	BUZ 323, 2SK559..560, 2SK573, 2SK1135,++	data pdf
IRF 246	MOS-N-FET-e	=IRF 244: 275V	23a§	Inr	BUZ 323, 2SK559..560, 2SK868, 2SK1401,++	data pdf
IRF 247	MOS-N-FET-e	=IRF 245: 275V	23a§	Inr	BUZ 323, 2SK559..560, 2SK868, 2SK1401	data pdf
IRF 250	MOS-N-FET-e	V-MOS, 200V, 30A, 150W, <85mΩ(16A)	23a§	Inr,Sam++	BUZ 341, 2N6766, 2SK851, 2SK902, 2SK1492	data pdf
IRF 251	MOS-N-FET-e	=IRF 250: 150V	23a§	Inr,Sam++	BUZ 341, 2N6766, 2SK851, 2SK902, 2SK1492	data pdf
IRF 252	MOS-N-FET-e	V-MOS, 200V, 25A, 150W, <0,12Ω(16A)	23a§	Inr,Sam++	BUZ 341, 2N6766, 2SK851, 2SK902, 2SK1492	data pdf
IRF 253	MOS-N-FET-e	=IRF 250: 150V	23a§	Inr,Sam++	BUZ 341, 2N6766, 2SK851, 2SK902, 2SK1492	data pdf
IRF 254	MOS-N-FET-e	V-MOS, 250V, 22A, 150W, <0,14Ω(12A)	23a§	Inr,Sam	2SK623, 2SK901, 2SK944, 2SK1641, 2SK2007	data
IRF 255	MOS-N-FET-e	V-MOS, 250V, 20A, 150W, <0,17Ω(12A)	23a§	Inr,Sam	2SK623, 2SK901, 2SK944, 2SK1641, 2SK2007	data

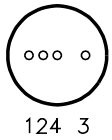


Fig.1 (von unten/ bottom view)

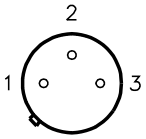


Fig.2 (von unten/ bottom view)

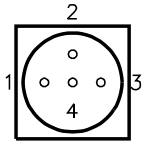


Fig.3 (von unten/ bottom view)

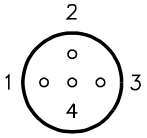


Fig.4 (von unten/ bottom view)

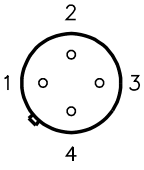


Fig.5 (von unten/ bottom view)

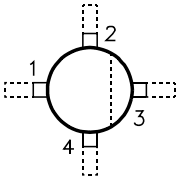


Fig.6 (von unten/ bottom view)

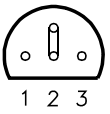


Fig.7 (von unten/ bottom view)

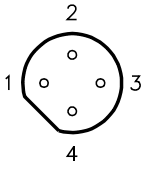


Fig.8 (von unten/ bottom view)

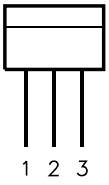


Fig.9

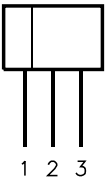


Fig.10

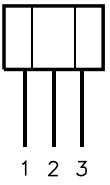


Fig.11

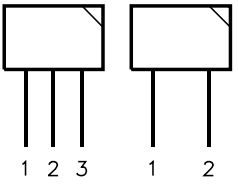


Fig.12

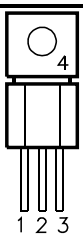


Fig.13 (von oben/ top view)

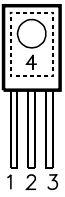


Fig.14 (von oben/ top view)

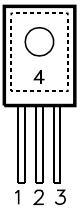


Fig.15 (von oben/ top view)

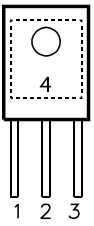


Fig.16 (von oben/ top view)

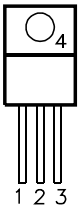


Fig.17 (von oben/ top view)

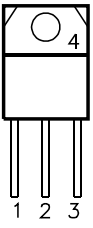


Fig.18 (von oben/ top view)

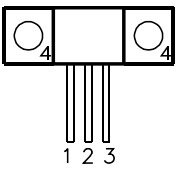


Fig.19 (von oben/ top view)

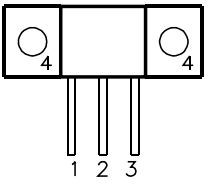


Fig.20 (von oben/ top view)

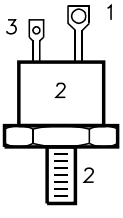


Fig.21

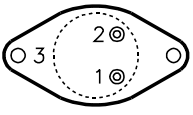


Fig.22 (von unten/ bottom view)

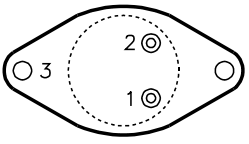


Fig.23 (von unten/ bottom view)

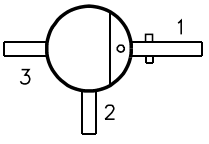


Fig.24 (von oben/ top view)

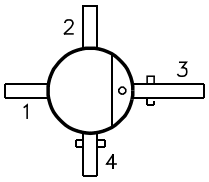


Fig.25 (von oben/ top view)

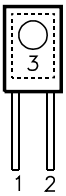


Fig.26 (von oben/ top view)

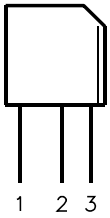


Fig.27

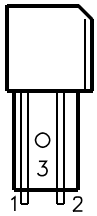


Fig.28

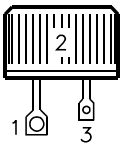


Fig.29

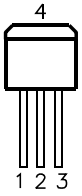


Fig.30 (von oben/ top view)

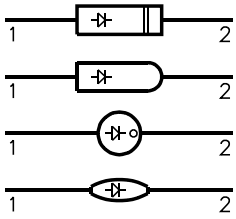


Fig.31

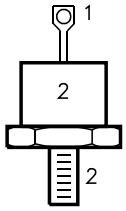


Fig.32

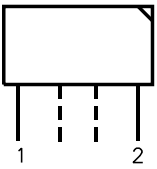


Fig.33

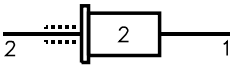
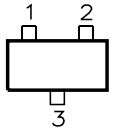


Fig.34



SOT-23: 2,9 x 1,5mm
SOT-323: 2 x 1,25mm
SS Mini: 1,6 x 0,8mm

Fig.35 (von oben/ top view)

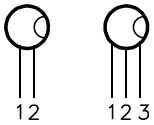


Fig.36

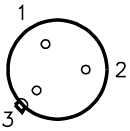


Fig.37 (von unten/ bottom view)

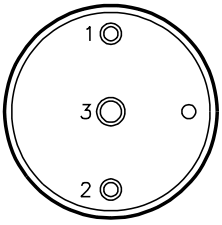


Fig.38 (von unten/ bottom view)

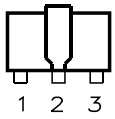


Fig.39

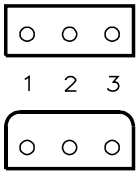


Fig.40 (von unten/ bottom view)

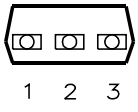


Fig.41 (von unten/ bottom view)

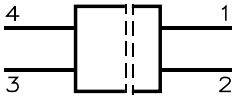


Fig.42 (von oben/ top view)

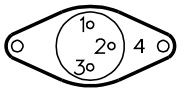
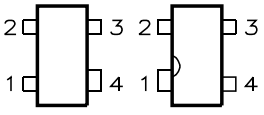
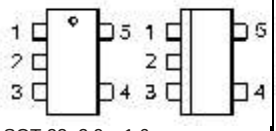


Fig.43 (von unten/ bottom view)



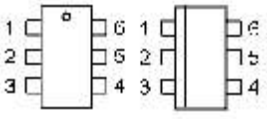
SOT-143(R): 2,9 x 1,5mm
SOT-343: 2 x 1,25mm

Fig.44 (von oben/ top view)



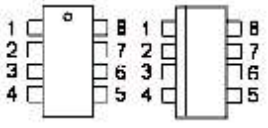
SOT-23 2,9 x 1,6 mm
SOT-153 2,9 x 1,5 mm
SOT-353 2 x 1,25 mm

Fig.45 (von oben/ top view)



SOT-23 2,9 x 1,6 mm
SOT-163 2,9 x 1,5 mm
SOT-363 2 x 1,25 mm

Fig.46 (von oben/ top view)



SOT-23 2,9 x 1,6 mm
SOT-163 2,9 x 1,5 mm
SOT-363 2 x 1,25 mm

Fig.47 (von oben/ top view)

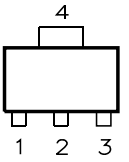


Fig.48 (von oben/ top view)

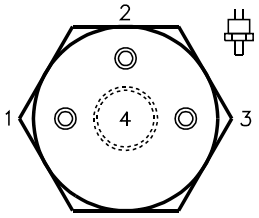


Fig.49 (von oben/ top view)

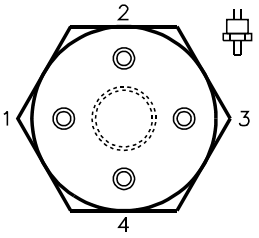


Fig.50 (von oben/ top view)

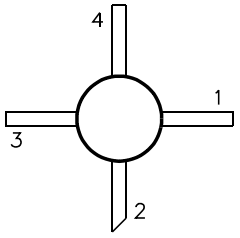


Fig.51 (von oben/ top view)

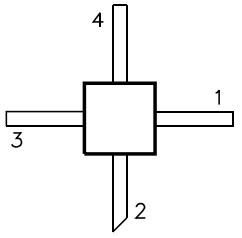


Fig.52 (von oben/ top view)

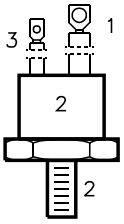


Fig.53

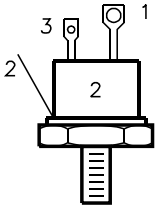


Fig.54

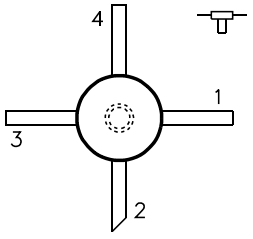


Fig.55 (von oben/ top view)

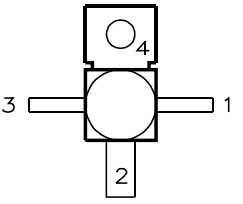


Fig.56 (von oben/ top view)

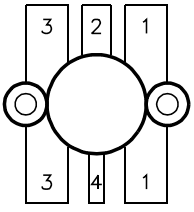


Fig.57 (von oben/ top view)

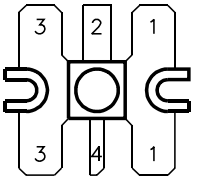


Fig.58 (von oben/ top view)

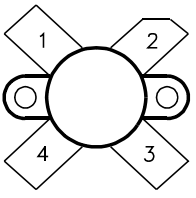


Fig.59 (von oben/ top view)

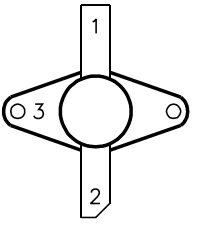


Fig.60 (von oben/ top view)

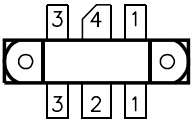


Fig.61 (von oben/ top view)

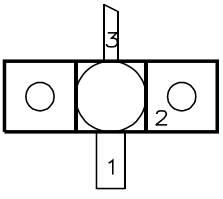


Fig.62 (von oben/ top view)

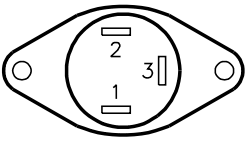


Fig.63 (von oben/ top view)

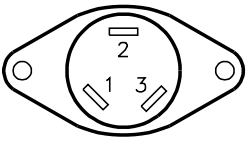


Fig.64 (von oben/ top view)

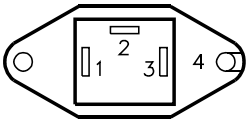


Fig.65 (von oben/ top view)

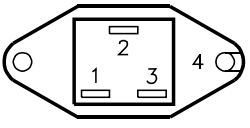


Fig.66 (von oben/ top view)

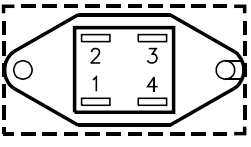


Fig.67 (von oben/ top view)

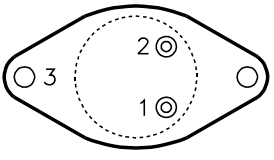


Fig.68 (von unten/ bottom view)

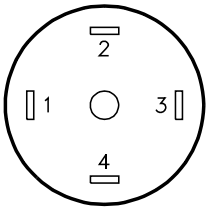


Fig.69 (von oben/ top view)

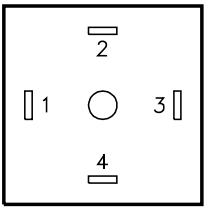
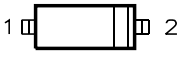
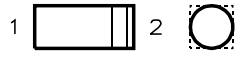


Fig.70 (von oben/ top view)



SOD-6: 6,4 x 4,2mm
SOD-15: 8 x 5,2mm
SOD-123: 2,7 x 1,55mm
SOD-323: 1,7 x 1,25mm

Fig.71 (von oben/ top view)



MELF: 5 x 2,5mm Ø
MINIMELF: 3,4 x 1,6mm Ø
DO-213: 3,5 x 1,4mm □

Fig.72

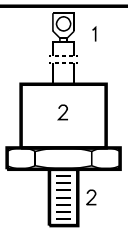


Fig.73

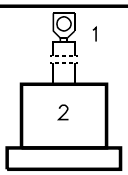


Fig.74

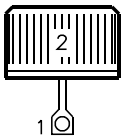


Fig.75

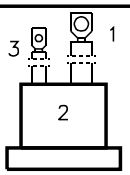


Fig.76

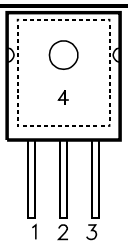


Fig.77 (von oben/ top view)

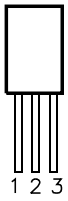


Fig.78 (von oben/ top view)

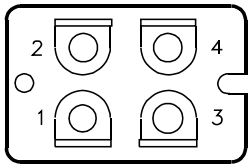


Fig.80 (von oben/ top view)

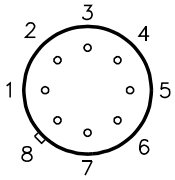


Fig.81 (von unten/ bottom view)

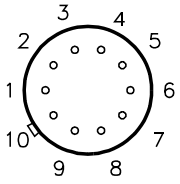


Fig.82 (von unten/ bottom view)

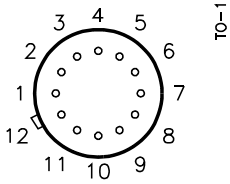


Fig.83 (von unten/ bottom view)

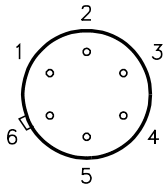


Fig.84 (von unten/ bottom view)

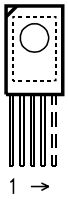


Fig.85 (von oben/ top view)

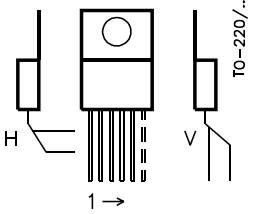


Fig.86 (von oben/ top view)

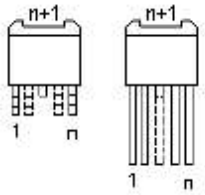
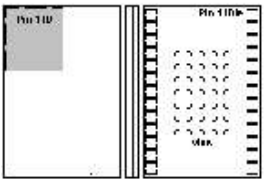
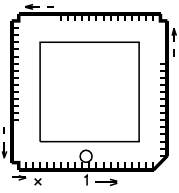


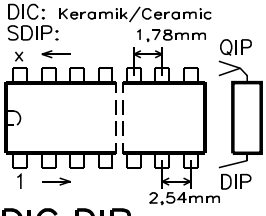
Fig.87 (von oben/ top view)



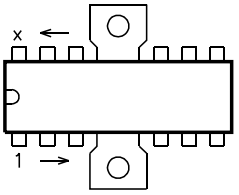
CSP



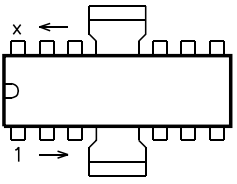
CCC (von oben/ top view)



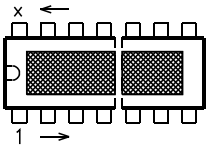
DIC,DIP QIP,SDIP (von oben/ top view)



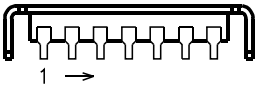
DIP/ QIP+a (von oben/ top view)



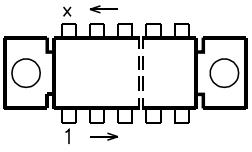
DIP/ QIP+b (von oben/ top view)



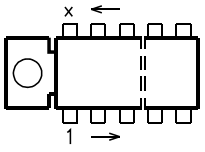
DIP/ QIP+c (von oben/ top view)



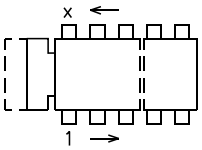
DIP/ QIP+d



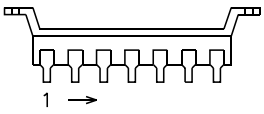
DIP/ QIP+f (von oben/ top view)



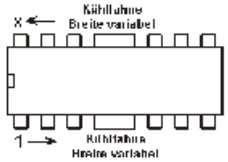
DIP/ QIP+g (von oben/ top view)



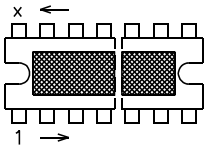
DIP/
QIP+h (von oben/ top view)



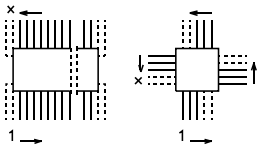
DIP/
QIP+j



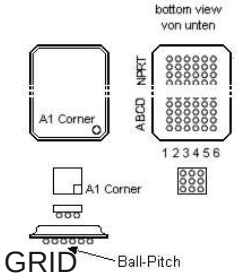
DIP/
QIP+k



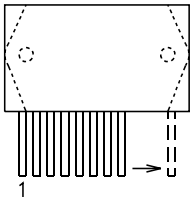
DILP (von oben/ top view)



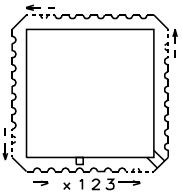
FLP (von oben/ top view)



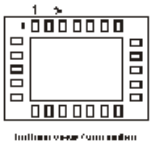
GRID



HYB

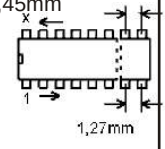


LCC (von oben/ top view)

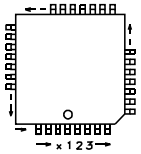


LPP

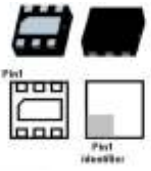
SMDIP: 1,0mm
HSMDIP: 0,8mm
SSMDIP: 0,65mm
VSMDIP: 0,45mm



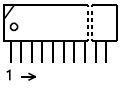
MDIP,
SMDIP (von oben/ top view)



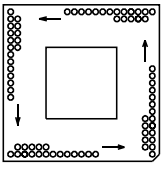
MP (von oben/ top view)



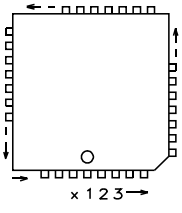
MLP



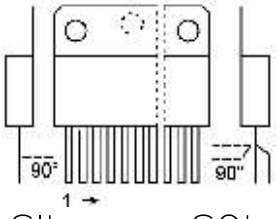
MSIP



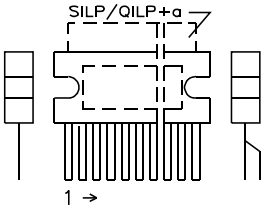
PGA (von oben/ top view)



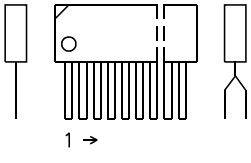
PLCC (von oben/ top view)



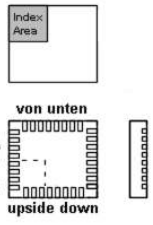
SIL SQL



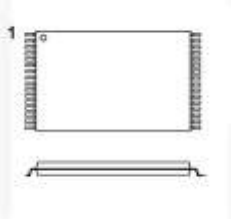
SILP QILP



SIP SQP

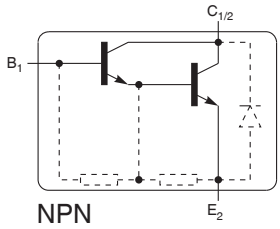


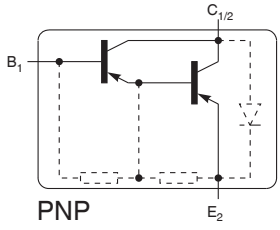
QFN



TSOP

	Transistor				Darlington				FET				
	1	2	3	4	1	2	3	4	1	2	3	4	
a	E	B	C		E2	B1	C1/2		S	G	D		a
b	E	C	B		E2	C1/2	B1		S	D	G		b
c	B	C	E		B1	C1/2	E2		G	D	S		c
d	B	E	C		-	-	-		G	S	D		d
e	C	B	E		C1/2	B1	E2		D	G	S		e
f	C	E	B		-	-	-		D	S	G		f
g	E	B	C	Geh	E2	B1	C1/2	Geh	S	G	D	Sub	g
h	E	C	B	Geh	E2	C1/2	B1	Geh	S	D	G	Sub	h
j	B	C	E	Geh	B1	C1/2	E2	Geh	G	D	S	Sub	j
k	B	E	C	Geh	-	-	-	-	-	-	-	-	k
l	C	B	E	Geh	-	-	-	-	D	G	S	Sub	l
m	C	B	E	C	-	-	-	-	D	S	G	Sub	m
n	E	B	Geh	C	C1	E1/B2	E2		D	G	Sub	S	n
o	E	C	Geh	B	-	-	-	-	D	S	Sub	G	o
p	C	Geh	E	B	-	-	-	-	G	Sub	S	D	p
q	C	C	E	B	-	-	-	-	S	D	G	G	q
r	E	C	E	B	E2	B1	C1/2	E1/B2	S	G1	D	G2	r
s	E	B	E	C	E2	B1	E1/B2	C1/2	S	G1	G2	D	s
t	E	C	B	C	E2	E1/B2	B1	C1/2	D	G2	G1	S/Sub	t
u	E	B	C	B	B2	E1/2	C2/B1	C1	G1	G2	D	S/Sub	u
v	B	C	B	E	C1/2	E1/B2	B1	E2	S	D	G2	G1	v
w	B	E	B	C	B2	E1/2	C1	C2/B1	G1	G2	S	D	w
x	E	B	C	E	E2	B1	C1/2	E2	D	S	G1	G2	x
y	E1	B	E2	C	-	-	-	-	S	G	S	D	y
z	E1	B	C	E2					S	D	S	G	z
za	B	E	C	E					G	S	D	S	za
zb	E/K	C	A	B					G		D	S	zb
zc	E2	E1	C1	B1/2 C2					G2	D	S	G1	zc
zd	input	U_S	output	Gnd					G2	D	G1	S	zd
ze	C	E	B	E					S	S	G	D	ze
zf	C	B	E	B					G	-	S	D	zf
zg	C		B	E					G	D	S	D	zg
zh	B		E	C					G	S	S	D	zh
zj	E1/2	C2	B1/2	C1									zj
zk	E	E	B	C									zk
zm	output	U_{S2}	U_{S1}	input									zm
zn	E		B	C									zn





⇦Weitere Pincode linke Seite
⇦Continuation on the left side

§ = C + Geh/case/boîte/invol.
& = B + Geh/case/boîte/invol.
* = E + Geh/case/boîte/invol.
Geh = Gehäuse/case/boîtier/involucro
Gnd = Masse/ground/commun/massa /masa

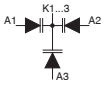
⇦Weitere Pincode linke Seite
⇦Continuation on the left side

§ = D + Geh/case/boîte/invol.
& = G + Geh/case/boîte/invol.
* = S + Geh/case/boîte/invol.
+ = Sub + Geh/case/boîte/inv.
= = G2 + Geh/case/boîte/inv.
Sub = Substrat/bulk/substrat/sostrato

Diode

	1	2	3	4
a	A	K		
aa	K1	-	K2	A1-2
ab	A1	-	A2	K1-2
ac	A1	-	K2	K1/A2
al	A	K	A	K
b	K	A		
b1	A1/K2	A2/K1		
b2	K	A	K	
c	A	-	K	
c1	A	A	K	
c2	A1/K2	-	A2/K1	
c3	K2	-	A1	
d	K	-	A	
d1	K	K	A	
e	-	A	K	
f	-	K	A	
g	A	K	Geh	
h	K	A	Geh	
j	A	K	A	
j3	A	K	-	K
j4	-	A	K	A
j5	A1	A2	A1	A2
j6	A1/A2	K1	K2	
j7	K1/K2	A1	A2	
j8	A1/K2	K1	A2	
l	A1	A2	K1-2	
l1	K1-2	A2	A1	
l2	A1	-	A2	K1-2
m	K1	K2	A1-2	
m1	A1-2	K2	K1	
m2	K1	A1/2	K2	
n	A1	K2	A2/K1	
n1	A1	A2/K1	K2	
n2	A2/K1	K2	A1	
o	K1	A2	A1/K2	
o1	K1	A1/K2	A2	
o2	K2	A1	A2/K1	
o4	K1	A1/K2	A2	A1/K2
o5	A1	K1/K2	A2	
p	A2	K1-2	A1	
q	K2	A1-2	K1	
r	A1	A2	A3	K1-3
r1	A1	A2	K1-3	A3
r2	K1-3	A1	A2	A3
r3	A1-3	K1	K2	K3
s	K1	K2	K3	A1-3
s0	A1	K1	K2	A2
s1	K1	K2	A1-3	K3
s2	A1	A2	K2	K1
s3	K1	A1	A2	K2
s4	K1	K2	A2	A1
s5	K1	K2	A1	A2
s6	K1	A2	K2	A1
s7	A1	A2	K1	K2
s8	A1	K2	K1	A2
s9	A1	K2	A2	K1
t	K	-	A	Geh
t1	A	-	K	Geh
t2	n.c.	-	A	K
t3	n.c.	K	A	
t4	A	-	A	K
t5	K	-	A	K
u	A2/K1	A1	Geh	K2
u1	A2/K1	K2	Geh	A1
v	A	A	K	K
v1	K	K	A	A
w	~	-	~	+
x	-	~	+	~
x1	+	~	~	-
x2	+	-	~	~
x3	+	~	-	~
x4	-	~	~	+
x5	-	+	~	~
x6	~	+	~	-
x7	~	~	+	-
y	A1/K4	A2/K1	A3/K2	A4/K3
z	AufdruckImprint Impr.			

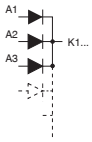
⇦Weitere Pincode linke Seite
⇦Continuation on the left side



Pin-Code: ba



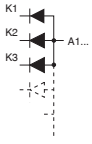
Pin-Code:
x, x1, x2, x3, x4, bn



Pin-Code:
r, r1, r2, cc, ce, cg,
cj, da, dc



Pin-Code: y



Pin-Code:
s, s1, cd, cf, ch, ck, db



Pin-Code:
n, n1, o, o1, u, u1, bm, cm, bo



Pin-Code:
m, m1, q



Pin-Code:
p, l, l1

Thy



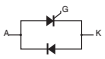
GTO-Thy



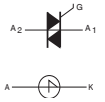
Tetrode



Thy + Di (ITR)



Triac



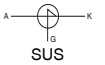
Trigger-Di



Diac



SAS, SBS



SUS



UJT



PUT

Thyristor,Triac*, PUT

	1	2	3	4
a	K	G	A	
b	K	A	G	
c	G	A	K	
d	G	K	A	
e	A	G	K	
f	A	K	G	
g	K	G	A	Geh
h	K	A	G	Geh
h1	K	A	G	A
j	G	A	K	Geh
k	G	K	A	Geh
l	A	G	K	Geh
m	A	K	G	Geh
n	K	-	G	A
o	K	-	A	G
p	A	A	G	K
q	T1	T2	G	T2
r	A1	G	A2	
s	A1	A2	G	

§ A + Geh./case/boîter/invol.
& K + Geh./case/boîter/invol.
* K= A1 (Triac)
A= A2 (Triac)

Tetroden

a	K	Gk	Ga	A
b	A	K	Ga	Gk
c	Gk	K	Ga	A
d	K	Gk	A	Ga
e	Gk	K	A	Ga
f	K	Ga	Gk	A

§ Ga + Geh./case/boîter/invol.

Trigger-Di, Diac**, UJT

a	A	K		
b	K	A		
c	A	-	K	
d	K	-	A	
e	A2	G	A1	
f	A2	A1	G	
g	K	G	A	
h	A	K	G	
m	B1	-	B2	E
n	B1	E	B2	
o	B2	E	B1	
p	E	B1	B2	
q	B1	B2	E	
r	E	B1	-	B2
s	E	B2	B1	
t	B2	B1	E	

§ B2 + Geh./case/boîter/invol.
& G + Geh./case/boîter/invol.
** K= A1 (Diac)
A= A2 (Diac)

Z-IC

a	output	input	Gnd	
b	input	Gnd	output	(Gnd)
c	Gnd	input	output	(input)
d	output	Gnd	input	
e	input	output	Gnd	
f	Gnd	output	input	
g	A	-	K	
h	A	K		
j	K	-	A	
k	input	Reg	output	
l	reg	output	input	
m	output	Reg	input	
n	reg	input	output	
o	input	output	Reg	

Reg = Regelung/adjust

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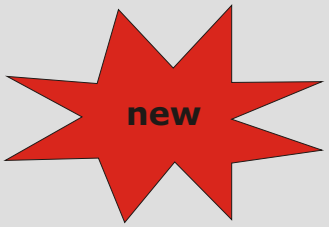


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