Ordering number : ENA1320

SANYO Semiconductors
DATA SHEET

N-Channel Silicon MOSFET

2SK2624FS — General-Purpose Switching Device Applications

Features

- Low ON-reisitance.
- Low Qg.
- Ultrahigh-speed switching.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		600	V
Gate-to-Source Voltage	V_{GSS}		±30	V
Drain Current (DC)	I_D		3.5	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	12	A
Allowable Power Dissipation	P_D		2.0	W
		Tc=25°C (SANYO's ideal heat dissipation condition)*1	25	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−55 to +150	°C
Avalanche Energy (Single Pulse) *2	E_{AS}		49	mJ
Avalanche Current *3	I_{AV}		3	A

Note :*1 SANYO's condition is radiation from backside.
The method is applying silicone grease to the backside of the device and attaching the device to water-cooled radiator made of aluminium.
*2 V_{DD}=50V, L=10mH, I_{AV}=3A
*3 L≤10mH, Single pulse
Marking : K2624

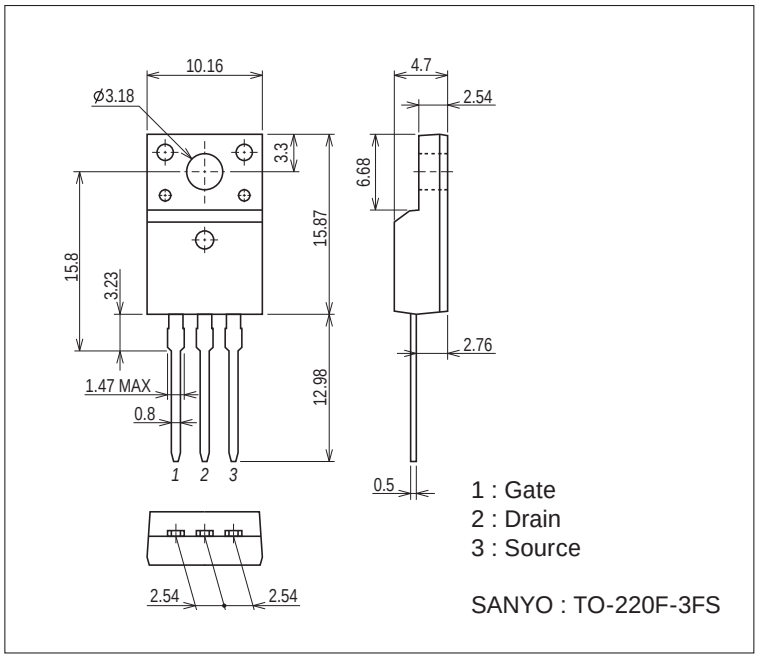
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=10mA, V_{GS}=0V	600			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=480V, V_{GS}=0V			1.0	mA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±30V, V_{DS}=0V			±100	nA
Cutoff Voltage	V_{GS}(off)	V_{DS}=10V, I_D=1mA	3.5		5.5	V
Forward Transfer Admittance	| yfs |	V_{DS}=10V, I_D=1.8A	1.0	2.0		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)	I_D=1.8A, V_{GS}=15V		2.0	2.6	Ω
Input Capacitance	Ciss	V_{DS}=20V, f=1MHz		550		pF
Output Capacitance	Coss	V_{DS}=20V, f=1MHz		165		pF
Reverse Transfer Capacitance	Crss	V_{DS}=20V, f=1MHz		85		pF
Turn-ON Delay Time	t_d(on)	See specified Test Circuit.		17		ns
Rise Time	t_r	See specified Test Circuit.		17		ns
Turn-OFF Delay Time	t_d(off)	See specified Test Circuit.		40		ns
Fall Time	t_f	See specified Test Circuit.		22		ns
Total Gate Charge	Qg	V_{DS}=200V, V_{GS}=10V, I_D=3A		15		nC
Diode Forward Voltage	V_{SD}	I_S=3A, V_{GS}=0V		0.98	1.2	V

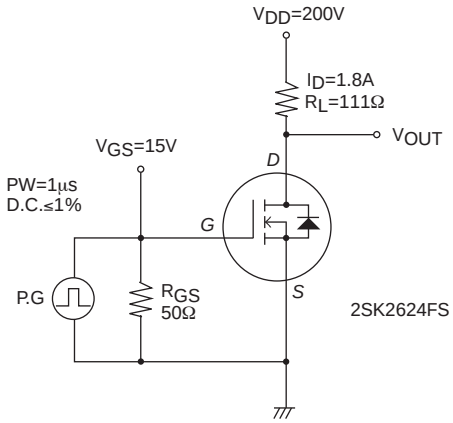
Package Dimensions

unit : mm (typ)

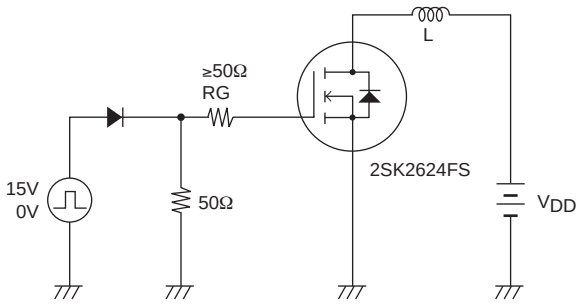
7528-001

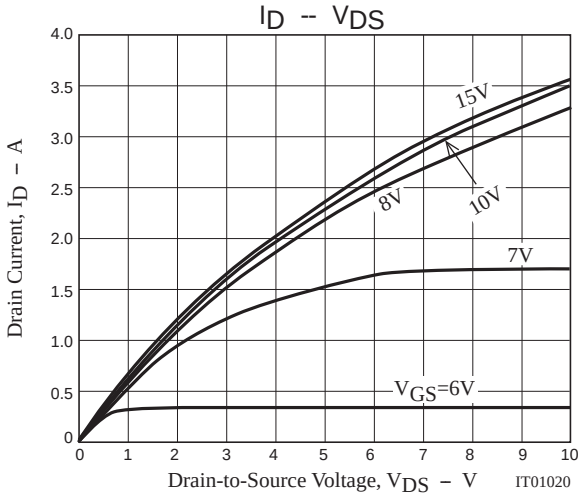


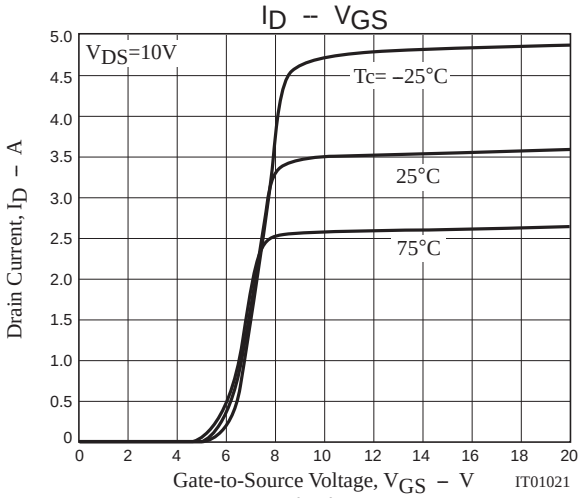
Switching Time Test Circuit

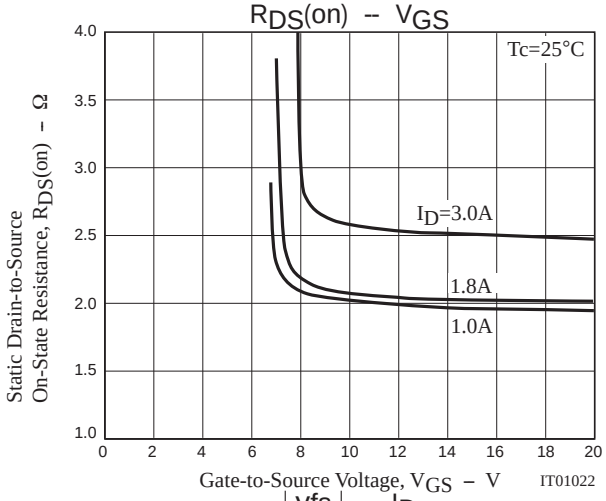


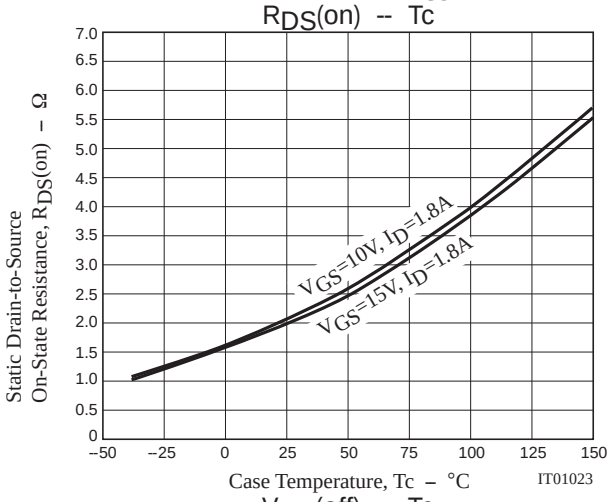
Avalanche Resistance Test Circuit

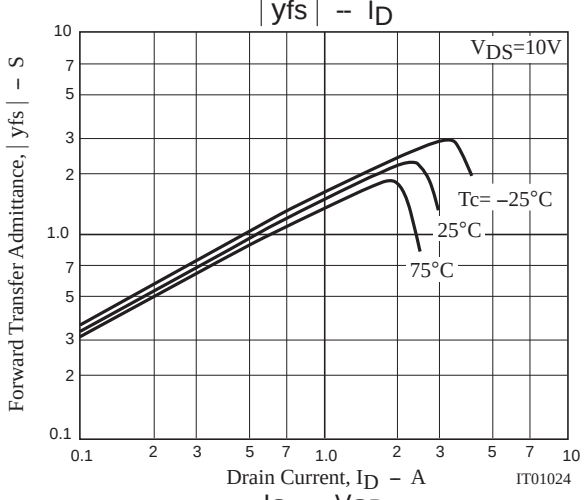


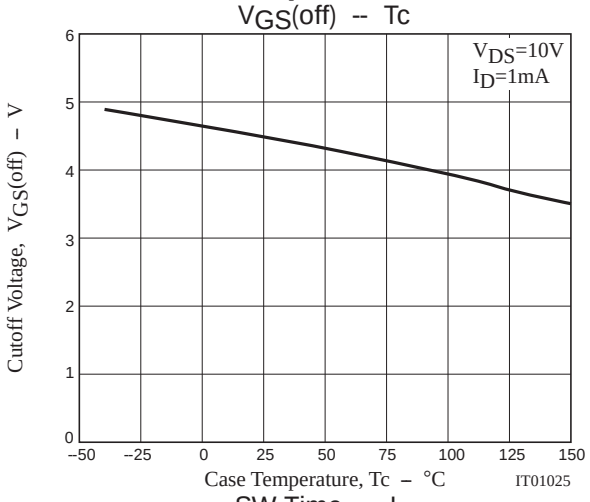

ID -- VDS
Drain Current, ID – A
Drain-to-Source Voltage, VDS – V
IT01020
15V
8V
10V
7V
VGS=6V

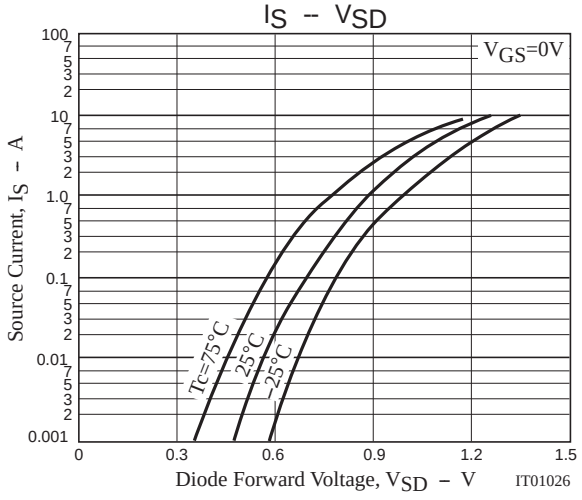

ID -- VGS
Drain Current, ID – A
Gate-to-Source Voltage, VGS – V
IT01021
VDS=10V
Tc= –25°C
25°C
75°C

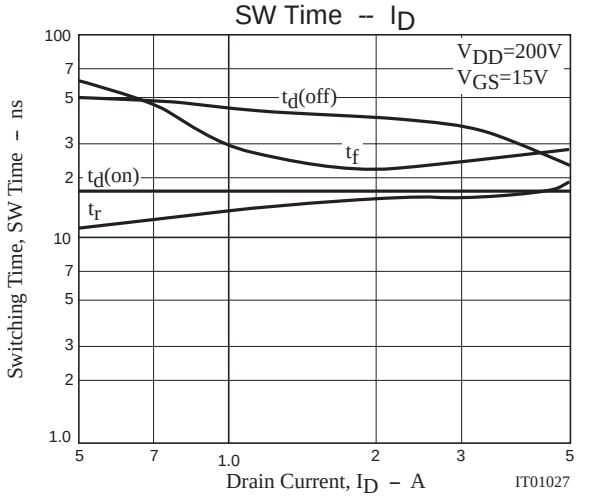

RDS(on) -- VGS
Static Drain-to-Source On-State Resistance, RDS(on) – Ω
Gate-to-Source Voltage, VGS – V
IT01022
Tc=25°C
ID=3.0A
1.8A
1.0A


RDS(on) -- Tc
Static Drain-to-Source On-State Resistance, RDS(on) – Ω
Case Temperature, Tc – °C
IT01023
VGS=10V, ID=1.8A
VGS=15V, ID=1.8A

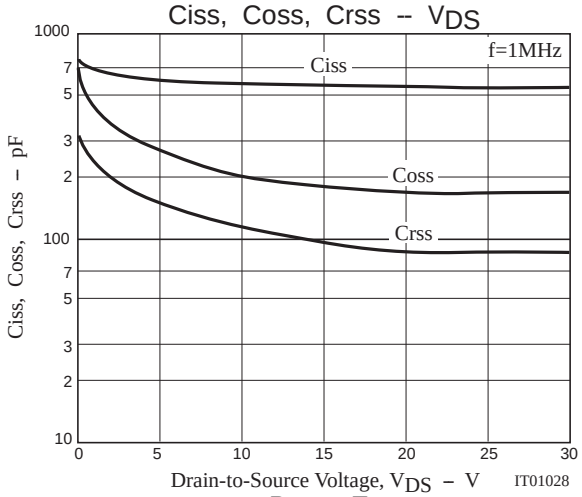

| yfs | -- ID
Forward Transfer Admittance, | yfs | – S
Drain Current, ID – A
IT01024
VDS=10V
Tc= –25°C
25°C
75°C


VGS(off) -- Tc
Cutoff Voltage, VGS(off) – V
Case Temperature, Tc – °C
IT01025
VDS=10V
ID=1mA

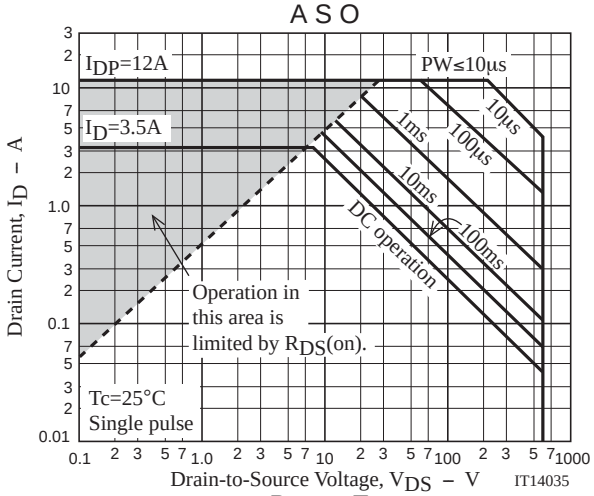

IS -- VSD
Source Current, IS – A
Diode Forward Voltage, VSD – V
IT01026
VGS=0V
Tc=75°C
25°C
–25°C


SW Time -- ID
Switching Time, SW Time – ns
Drain Current, ID – A
IT01027
VDD=200V
VGS=15V
td(off)
tf
td(on)
tr

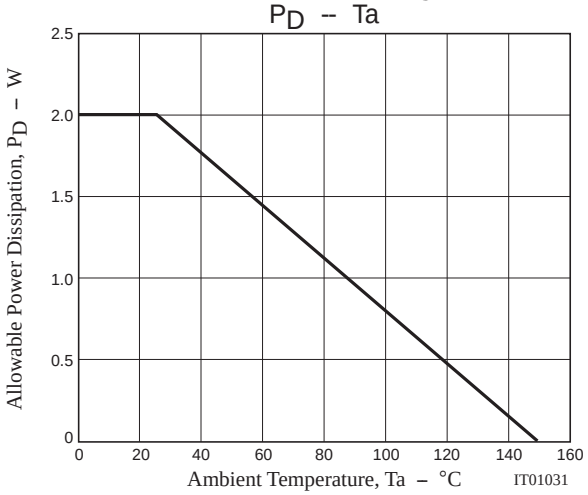
Ciss, Coss, Crss -- V_{DS}



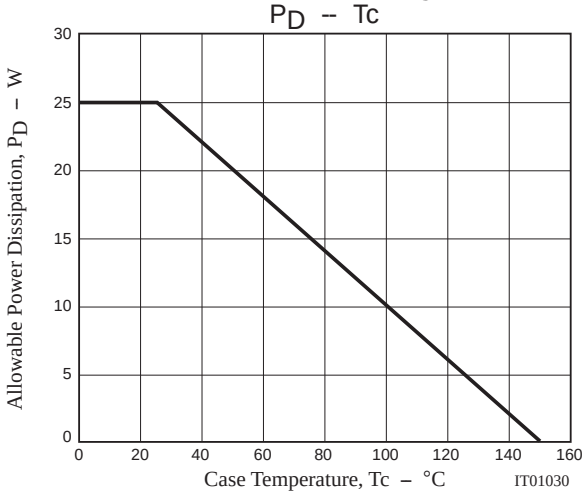
A S O



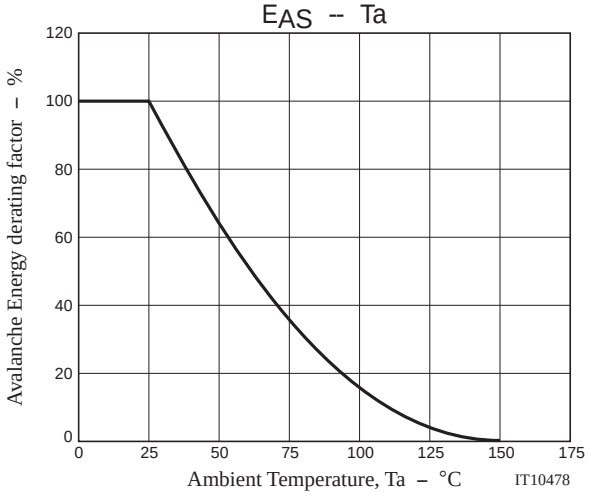
P_D -- Ta



P_D -- Tc



E_{AS} -- Ta



Note on usage : Since the 2SK2624FS is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

This catalog provides information as of October, 2008. Specifications and information herein are subject to change without notice.