Micro power relay silent


Powertrain Systems


Chassis Systems


Safety


Security


Body


Driver Information

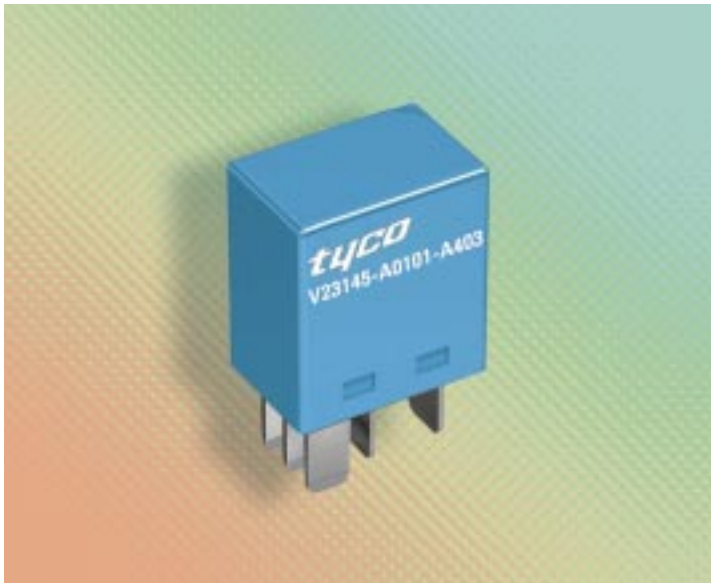

Convenience

Features

- Noise level below 50 dB (A)
- Limiting continuous currents 40/30 A at the NO/NC contacts
- Performance values comparable with micro and mini relays
- Standardized dimensions and pin assignment

Typical applications

- Air condition
- Brake light
- Electric heatings
- Heaters (seat, front/rear windows)
- Rear defrost
- Window defoggers
- Wiper controls
- Wiper/washer control



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Car Industry


Truck Industry


Other Industry

Design

Changeover contact
Plug-in terminals
Dust protected

Weight

Approx. 25 g -- Changeover contact

Nominal voltage

12 V

Terminals

- Plug-in terminals

Conditions

All parametric, environmental and endurance tests are performed according to EIA Standard RS-407-A at standard test conditions unless otherwise noted:
23 °C ambient temperature,
20-50% RH, 29.5 ± 1.0" Hg
(998.9 ±33.9 hPa).

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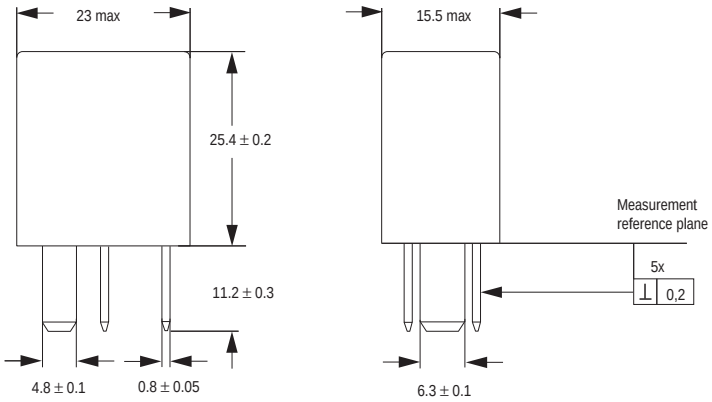
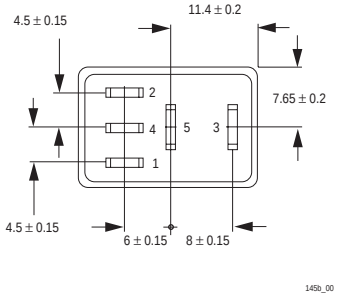
Dimensional drawing



Quick connect terminal similar to ISO 8092-1

View of the terminals (bottom view)



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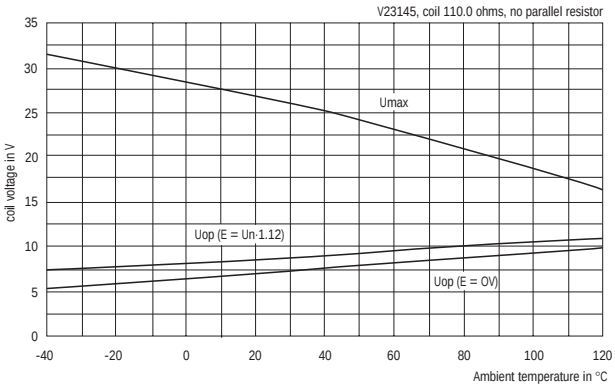
Contact data	
Contact configuration	1 changeover / 1 Form C
Contact material [2]	$AgSnO_2$
Circuit symbol (see also Pin assignment)	
Max. switching current[1]	NC/NO
On	40 A/80 A
Off	20 A/40 A
Limiting continuous current	NC/NO
at 23 °C	30 A/40 A
Min. recommended current	1 A
Voltage drop (initial) at 10 A,	Typ. 20 mV
Increase in coil temperature at 10 A load	Typ. 10 °C
Mechanical endurance (without load)	> 10^6 operations
Max. switching rate at nominal load	1 Hz

[1] The values apply to a resistive load or inductive load with suitable spark suppression. This current may flow for a maximum of 3 sec for a make/break ratio 1 : 10.
[2] AgNi0.15 available on request

Operating voltage range



Does not take into account the temperature rise due to the contact current
Uop = Operation Voltage, E = pre - energization

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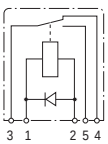
Pin assignment

1 changeover
1 Form C



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Diode with cathode at terminal 2 on request

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Coil data	
Available for nominal voltages	12 VDC (other coils on request)
Nominal power consumption of the unsuppressed coil at nominal voltage	1.3 W
Test voltage winding/contact	500 VAC_{rms}
Upper limit temperature for the coil	180 °C
Maximum ambient temperature range [1]	-40 to + 85 °C
Max. switching rate without contact loading	16 Hz
Max. switching rate at nominal contact load	1 Hz
Operate time [2]	10 msec
Release time [2]	10 msec
Noise emission [3]	< 50 dB (A)

[1] See also operating voltage range diagram
[2] Measured at nominal voltage without coil suppression unit
[3] Equivalent sound pressure level (Leq) measured at 10 cm distance, 500 ms/500 ms cycling, freely suspended in anechoic chamber

Mechanical data	
Cover retention	
pull	100 N (22.5 lbs)
push	100 N (22.5 lbs)
Terminals	
Pull force	100 N (22.5 lbs)
Push force	100 N (2.5 lbs)
Resistance to bending, force applied to front	10 N (2.2 lbs)
Resistance to bending, force applied to side	10 N (2.2 lbs)
TorsionEnclosures	0.3 Nm
Dust cover	Protects relay from dust. For use in passenger compartment and enclosures.

Operating conditions				
Test	Relevant standard	Test. acc.to	Dimension	Comments
Vibration resistance	IEC 68-2-6 (sine pulse wave) acceleration to position		15...200 Hz min 2 g	no change in switching state for < 10 µs
Corrosive gas	IEC 68-2-42	10 ± 2 cm^3/m^3 SO_2	10 days	
	IEC 68-2-43	1 ± 0.3 cm^3/m^3 H_2S	10 days	
Damp heat				
cyclic	DIN IEC 68-2-30	Db, variant 1	6 cycles	upper air temperature
constant	DIN IEC 68-2-3	Ca	10 days	T = 55 °C
Temperature cycling	IEC 68-2-14	Nb	10 Cycles	– 40 °C to 85 °C (5 °C per min.)
Load dump	ISO 7637	DIN 40 839 Part 1		
Drop test	Capable of meeting specifications after 1.0 m drop onto concrete			
Climatic cycling with condensation	EN ISO 6988		6 Cycles	Storage 8/16 h

Ordering information

Part number (Replace * with "Coil voltage designator") Micro silent	Contact arrangement	Contact material	Enclosure	Terminals
V23145 - A01* - A403	1 Form C	$AgSnO_2$	Dust protected	Plug-in terminals

Coil versions

Coil type designator Micro silent	Rated coil voltage (V)	Coil resistance +/- 10% (Ω)	Must operate voltage (VDC)	Must release voltage (VDC)	Allowable overdrive (VDC) at 23 °C[1]	Allowable overdrive (VDC) at 85 °C[1]
01	12	110	7.5	1	27	20

[1] Allowable overdrive is stated with no load current flowing through the relay contacts and minimum coil resistance.

Standard delivery packs (orders in multiples of delivery pack)

Micro power relay silent: 240 pieces