

Twin pack relay 42 V TPR 42 V



Powertrain Systems



Chassis Systems



Safety



~~Security~~



~~Body~~



Driver Information



~~Convenience~~

Features

- Special motor polarity reversal relay for 42 V loads
- Two separate systems
- Optimized assembly
- High switching capacity
- EMI compliance by included burst suppression for the NO contact

Typical applications

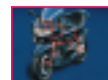
- Seat adjustments motors
- Window motors
- Sunroof motors
- Central locking mechanisms
- Mirror adjustment
- Steering column adjustment
- Retractable headlamps
- Power antenna



~~Car Industry~~



Truck Industry



~~Other Industry~~

Design

Sealed;
sealing in accordance with IEC 68;
immersion cleanable;
protection class IP 67
to IEC 529 (EN 60 529)

Weight

Approx. 0.81 oz. (23 g) PCB version

Nominal voltage

42 VDC

Terminals

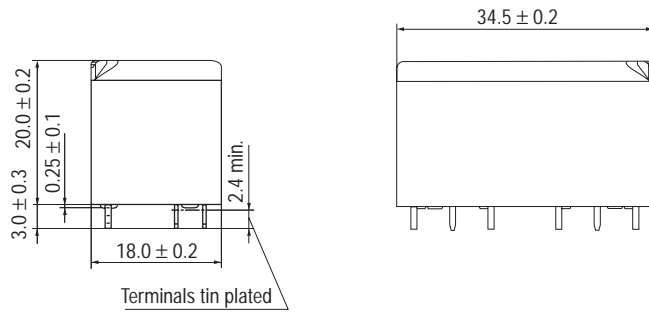
PCB terminals, for assembling in printed circuit boards

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).

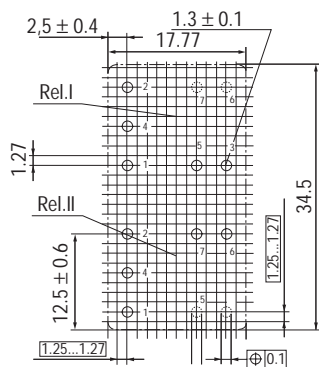
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Dimensional drawing



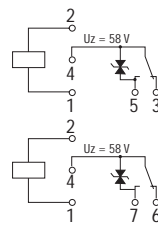
Mounting holes

View of the terminals (Bottom view)



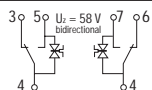
81dw_se2.*

Pin assignment



81dw_ab2.*

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Contact data	
Contact material	AgSnO ₂
Circuit symbol (see also Pin assignment)	
Max. switching voltage	58 VDC Changeover contacts
Max. switching current ¹⁾	Break
On ²⁾	2 x 12 A
Off	2 x 10 A
Limiting continuous current	Make
at 23 °C	2 x 15 A
at 85 °C	2 x 10 A
Voltage drop (initial)	Approx. 70 mV
Increase in coil temperature at 10 A load current	Approx. 20 mV
Max. inductive load ³⁾	15 A/10 mH 10 A/15 mH Max. 0.2 operations
Mechanical endurance (without load)	Approx. > 10 ⁷ operations
Electrical endurance ³⁾ at 42 V, 10 A, 10 mH (make)	Approx. 2 x 10 ⁵ operations
Electrical endurance for motor reverse at 42 V, 10 A, 10 mH	Approx. 1 x 10 ⁵ operations max. 1 operation

¹⁾ The values apply to a resistive load or inductive load with suitable spark suppression

²⁾ This current may flow for a maximum of 3 sec for a make/break ratio of 1 : 10

³⁾ Without external arc suppression

Coil data	
Available for nominal voltages ¹⁾	12, 36 VDC
Nominal power consumption of the unsuppressed coil at nominal voltage	1.5 W
Test voltage winding contact ²⁾	500 VAC _{rms}
Maximum ambient temperature	- 40 to + 85 °C
Max. switching rate without contact loading	20 Hz
Operate time	Approx. 3 msec
Release time ³⁾	Approx. 1.5 msec

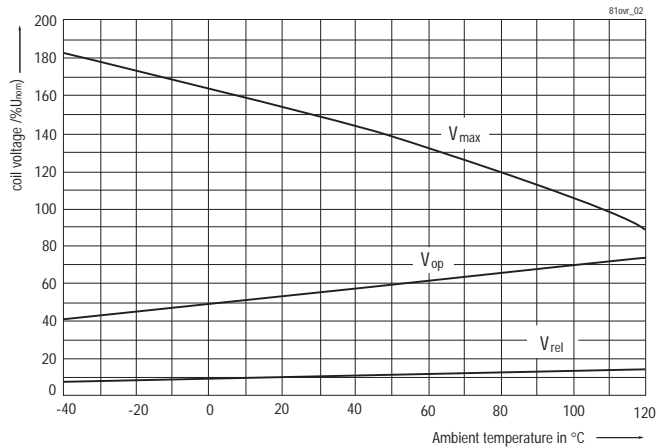
¹⁾ For 36 V coils the use of a 60 V varistor in parallel to the coil is recommended

²⁾ Insulation test of the open contacts is not applicable

³⁾ Measured at nominal voltage without coil suppression circuit

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Operating voltage range



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

Operating conditions

Test	Relevant standard	Testing as per	Dimension	Comments
Temperature range, storage	-40 °C to 155 °C			
Vibration resistance	IEC 68-2-6 (sine pulse form) acceleration, acc. to position		10 ... 200 Hz 5 ... 40 g	No change in the switching state > 10 µsec
Shock resistance	IEC 68-2-27 (half-sine pulse form) acceleration		8 msec 30 g	No change in the switching state > 10 µsec
Solderability	IEC 68-2-20	Ta, Method 1		Aging 3 (4 h/155 °C) Dewetting
Resistance to soldering heat	IEC 68-2-20	Tb, Method 1A		10 sec ± 1 sec with thermal screen

Ordering information

V23081-C1061-X005 = TPR 42 V with 12 V coil
V23081-C1042-X007 = TPR 42 V with 36 V coil