

Mini power relay UT

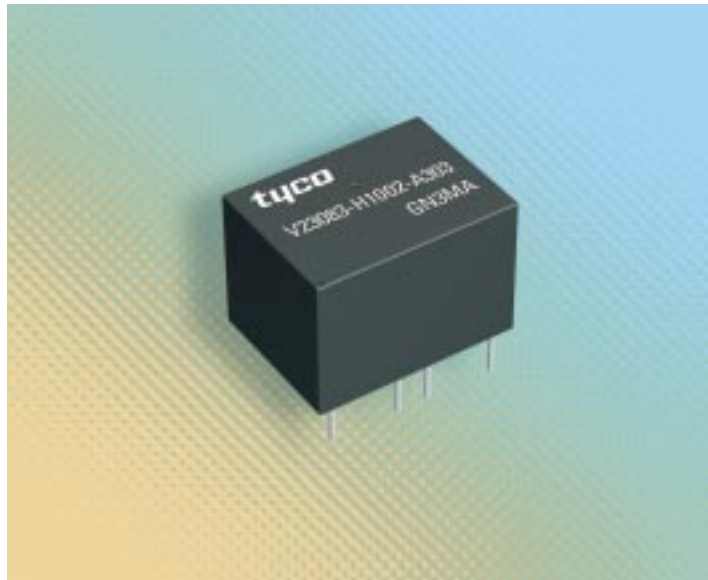


Features

- Miniature twin coil relay
- Minimal space requirement
- Immersion cleanable

Typical applications

- Central locking
- Window actuators
- Wiper control
- Immobilizer
- Electrical seat adjustment



83_3d02

Design

Sealed or flow solder type
sealed version:
sealing in accordance with
IEC 68;
immersion cleanable:
protection class IP 67 to
IEC 529 (EN 60 529)

Weight

Approx. 0.53 oz. (15 g)

Nominal voltage

9 V, 12 V;
other nominal voltages available
on request

Terminals

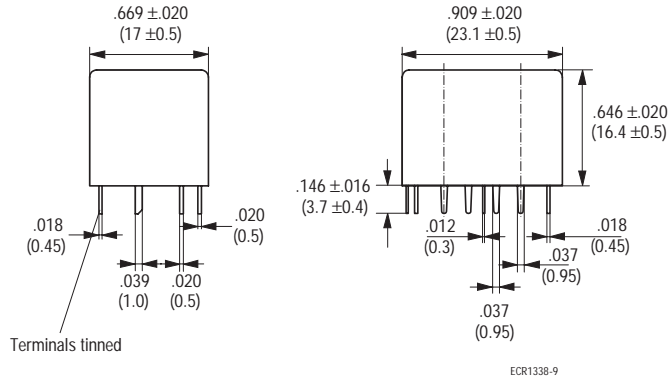
PCB terminals, for assembling in
printed circuit boards

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).

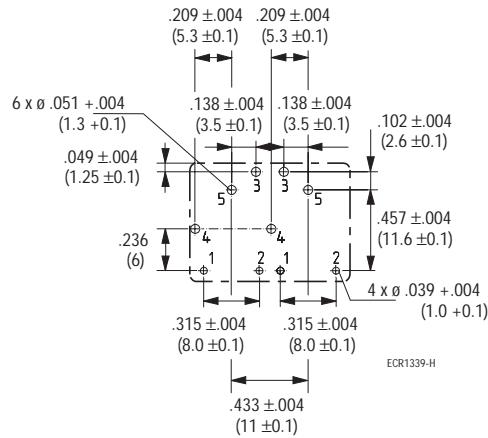
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Dimensional drawing



Mounting holes

View of the terminals (Bottom view)



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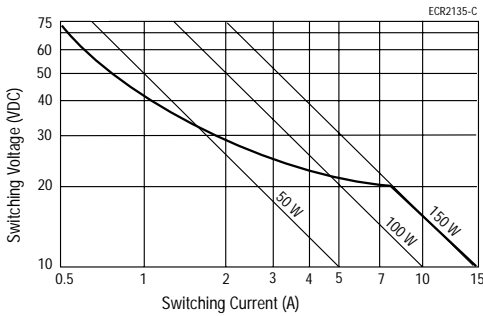
Contact data

Contact configuration	2 Changeover contacts/ 2 Form C	
Contact material	AgNi0.15	AgSnO ₂
Circuit symbol (see also Pin assignment)		
Max. switching voltage	See load limit curve	
Max. switching power	See load limit curve	
Max. switching current ¹⁾	NC/NO	NC/NO
On ²⁾	2 x 15 A/2 x 30 A	2 x 20 A/2 x 40 A
Off	2 x 5 A/2 x 10 A	2 x 5 A/2 x 10 A
Limiting continuous current		
at 23 °C	2 x 10 A/2 x 10 A	2 x 10 A/2 x 15 A
at 85 °C	2 x 5 A/2 x 6 A	2 x 5 A/2 x 10 A
Voltage drop (initial) at 40 A	NC: Typ. 50 mV NO: Typ. 35 mV	NC: Typ. 70 mV NO: Typ. 50 mV
Increase in coil temperature at 10 A load	Typ. 25 °C/18 °C	Typ. 35 °C/25 °C
Mechanical endurance (without load)	> 10 ⁷ operations	
Electrical endurance	> 1.5 x 10 ⁵ operations at 13.5 VDC, 10 A	> 1.5 x 10 ⁵ operations at 13.5 VDC, 15 A

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.

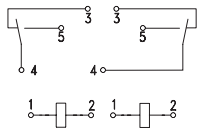
Load limit curve



Load limit curve ≙ arc extinguishes during transit time

Pin assignment

2 changeover contact/
2 form C



ECR1340-K

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Coil data	
Available for nominal voltages	9 V, 12 V
Nominal power consumption of the unsuppressed coil at nominal voltage	0.45 W
Test voltage winding/contact	500 VAC _{rms}
Upper limit temperature for the coil	130 °C
Maximum ambient temperature range ¹⁾	- 40 to + 85 °C
Max. switching rate without contact loading	5 Hz
Operate time	Typ. 3 msec ²⁾
Release time	Typ. 1.7 msec ²⁾

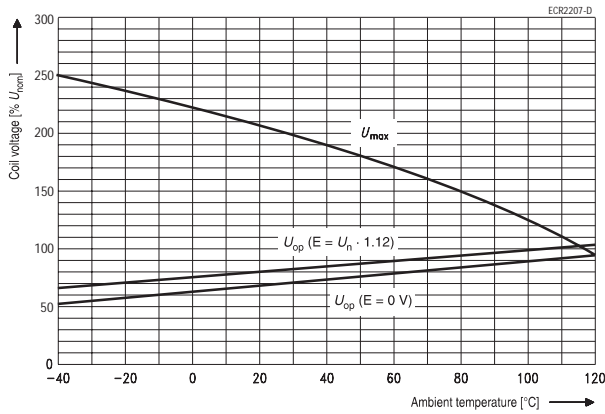
¹⁾ See also operating voltage diagram

²⁾ Measured at nominal voltage without coil suppression unit

N.B.

A low resistive device in parallel to the relay coil slows the armature movement down and reduces the lifetime caused by increased erosion and/or higher risk of contact tack welding.

Operating voltage range



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

Mechanical data	
Enclosures	Suitable for processing on soldering lines
Flow solder type	
Sealed	Sealed relay is suitable for immersion cleaning of PCB assembly or conformal coating.

Operating conditions				
Temperature range, storage	-40 °C to 130 °C			
Test	Relevant standard	Testing as per	Dimension	Comments
Vibration resistance	IEC 68-2-6 (sine pulse form) acceleration		10 ... 55Hz > 5 g	No change in the switching state > 10 μsec
Shock resistance	IEC 68-2-27 (half-sine pulse form) acceleration		11 msec > 10 g	No change in the switching state > 10 μsec
Drop test	Capable of meeting specifications after 1.0 m (3.28 foot) drop onto concrete			
Flammability	UL94-HB			
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
Sealing	IEC 68-2-17	Qc, Method 2		1 min / 70 °C

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Ordering information

Part number (Replace * with "Coil designator") Mini UT	Contact arrangement	Contact material	Enclosure	Terminals
V23083-G1*-A203	2 Form C	AgSnO ₂	Dust protected	Printed circuit
V23083-G1*-A303	2 Form C	AgNi0.15	Dust protected	Printed circuit
V23083-H1*-A203	2 Form C	AgSnO ₂	Sealed	Printed circuit
V23083-H1*-A303	2 Form C	AgNi0.15	Sealed	Printed circuit

Coil versions

Coil designator Mini UT	Rated coil voltage (V)	Coil resistance +/- 10% (Ω)	Must operate voltage (VDC)	Must release voltage (VDC)	Allowable overdrive (VDC)	
					at 23 °C ¹⁾	at 85 °C ¹⁾
001	12	320	8	1.2	24.8	17.5
002	9	180	6	1	18.3	12.5
012	12	180	6	1	18.3	12.5

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

Standard delivery pack (orders in multiples of delivery pack)

Mini UT: 1000 pieces