

Power Relay K-S



Description

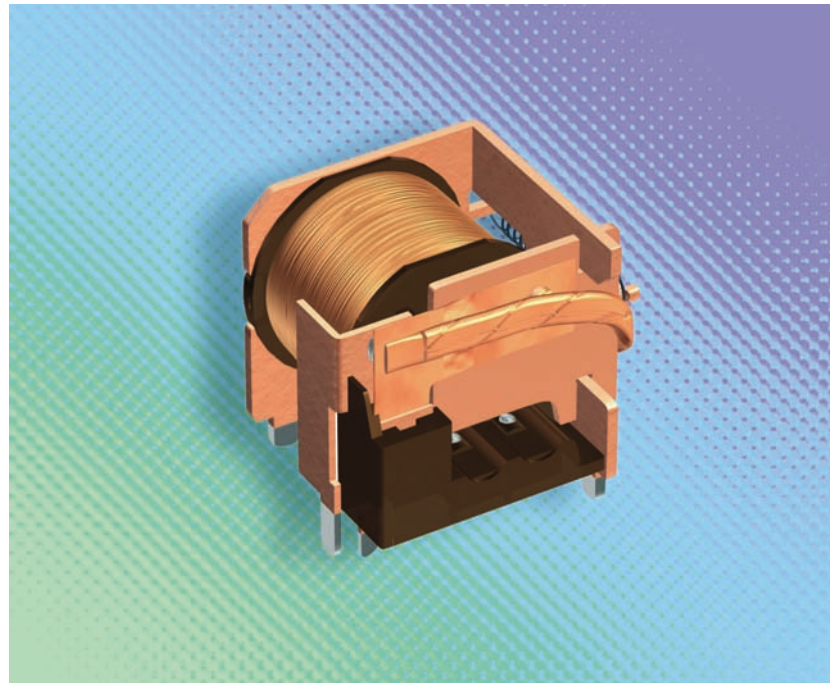
Features

- High-current design, i.e. very high switching and continuous currents
- Very low voltage drop

Typical applications

- Glow plug circuits
- Engine cooling fans
- Heating elements
- Starter solenoid switches etc.

Please contact Tyco Electronics for relay application support.



33S_3d01

Design

Open

Weight

Approx. 19 g (0.68 oz.)

Nominal voltage

12 V or 24 V;
other nominal voltages available on request

Terminals

PCB terminals, for assembling in printed circuit boards

Conditions

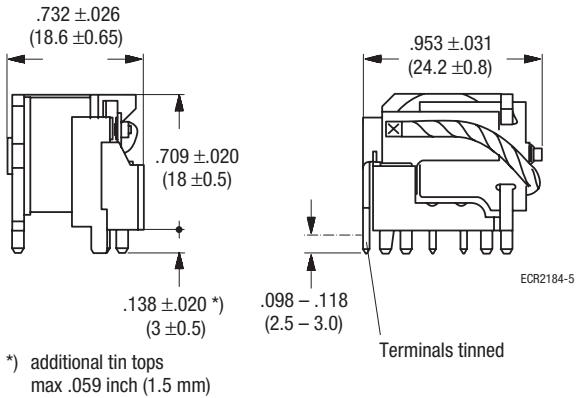
All parametric, environmental and endurance tests are performed according to EIA Standard RS-407-A at standard test conditions unless otherwise noted:
23 °C ambient temperature, 20-50% RH, 29.5 ± 1.0" Hg (998.9 ± 33.9 hPa).
Please also refer to the Application Recommendations in this catalog for general precautions.

Disclaimer

All technical performance data apply to the relay as such, specific conditions of the individual application are not considered. Please always check the suitability of the relay for your intended purpose. We do not assume any responsibility or liability for not complying herewith. We recommend to complete our questionnaire and to request our technical service. Any responsibility for the application of the product remains with the customer only. All specifications are subject to change without notification. All rights of Tyco are reserved.

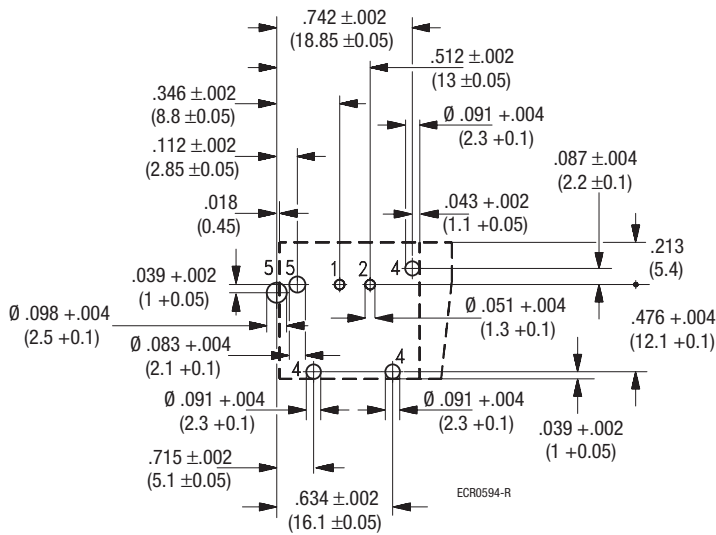
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Dimensional drawing




Mounting holes

View of the terminals (Bottom view)



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Contact data

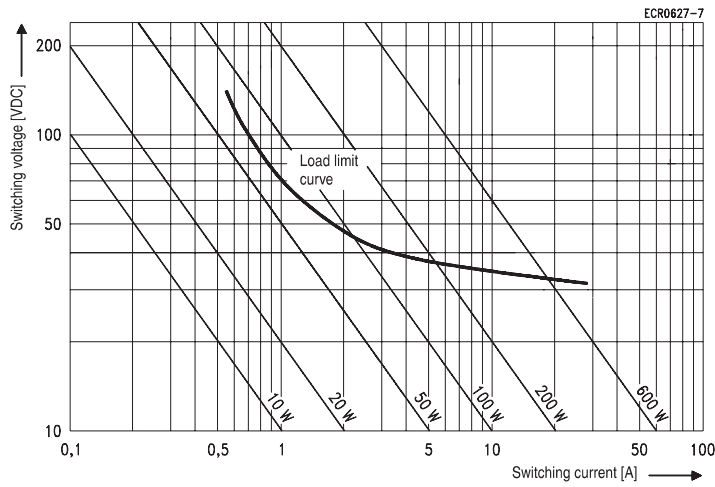
Contact configuration	Make contact/ Form A	
Circuit symbol (see also Pin assignment)		
Rated voltage	12 V	24 V
Rated current at 85 °C	50 A	
Contact material	AgNi0.15	
Max. switching power	See load limit curve	
Max. switching current ¹⁾		
On ²⁾	300 A	150 A
Off	70 A	35 A
Minimum recommended switching current ³⁾	1 A at 5 V	
Voltage drop at 10 A (initial)	Typ. 10 mV, 300 mV max.	
Mechanical endurance (without load)	> 10 ⁶ operations	
Electrical endurance (example of resistive load)	> 5 x 10 ⁴ operations at 13.5 V / 50 A	> 1 x 10 ⁶ operations at 27.5 V / 15 A

¹⁾ The values apply to a resistive or inductive load with suitable spark suppression and at maximum 13.5 V for 12 V or 27 V for 24 V load voltages.

²⁾ For a load current duration of maximum 3 s for a make/break ratio of 1:10.

³⁾ See chapter Diagnostics in our Application Recommendations on page 18 of this catalog or consult the internet at <http://relays.tycoelectronics.com/application.asp>

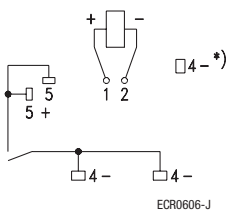
Load limit curve



Load limit curve $\hat{=}$ safe shutdown,
no stationary arc

Pin assignment

1 make contact/
1 form A



ECR0606-J

Note:

Check polarity and frame connection (ground)

* For mounting only, not for electrical connection.

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Coil data

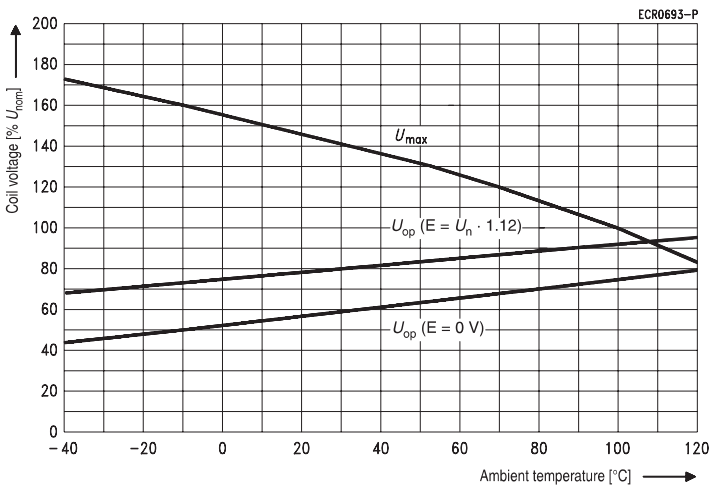
Available for nominal voltages	12, 24 V
Nominal power consumption of the unsuppressed coil at nominal voltage	2.25 W
Test voltage winding/contact	500 VAC _{rms}
Maximum ambient temperature range	- 40 to + 85 °C
Operate time at nominal voltage	Typ. 4 ms
Release time at nominal voltage ¹⁾	Typ. 3 ms

¹⁾ For unsuppressed relay coil

N.B.

A low resistive suppression device in parallel to the relay coil increases the release time 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

Operating conditions

Temperature range, storage	Refer to <i>Storage</i> in the "Glossary"		
Test	Relevant standard	Testing as per	Dimension
Vibration resistance	IEC 68-2-6 (sine pulse form) acceleration, acc. to position		10 ... 200 Hz 20 ... 40 g
Shock resistance	IEC 68-2-27 (half-sine pulse form) acceleration		8 ms 30 g
Solderability	IEC 68-2-20	Ta, Method 1	
Resistance to soldering heat	IEC 68-2-20	Tb, Method 1A	
			Aging 3 (4 h/155 °C) Dewetting 10 s ± 1 s with shielding

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Ordering information

Part numbers (see table below for coil data)		Contact arrangement	Contact material	Enclosure	Special features
Relay part number	Tyco order number				
V23071-A1009-A132	1393276-3	Form A (make contact)	AgNi0.15	Open	Printed circuit
V23071-A1010-A132	1393276-7	Form A (make contact)	AgNi0.15	Open	Printed circuit

Coil versions

Coil data for Power K-S	Rated coil voltage (V)	Coil resistance +/- 10% (Ω)	Must operate voltage (V)	Must release voltage (V)	Allowable overdrive ¹⁾ voltage (V)	
					at 23 °C	at 85 °C
V23071-**009-***	12	64	6.9	1.2	18.5	14.5
V23071-**010-***	24	234	14.1	2.4	31.1	24.7

¹⁾ Allowable overdrive is stated with no load applied and minimum coil resistance.

Standard delivery packs (orders in multiples of delivery pack)

Power K-S: 400 pieces