

Power Relay K (Sealed)

- Limiting continuous current 45A
- Wide voltage range
- 24VDC coil versions available

Typical applications

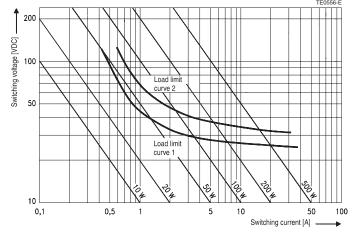
ABS control, blower fans, car alarm, cooling fan, engine control, fuel pump, hazard warning signal, heated front screen, heated rear screen, ignition, lamps front/rear/fog light, interior lights, main switch/supply relay, seat control, seatbelt pretensioner, sun roof, turn signal, valves, window lifter, wiper control.



| Contact Data | | | | | |
|---|---|-------------------------|---------------------------|-----------------------|-----------------------|
| Typical applications | Resistive/inductive Resistive/inductive | | Indicator lamps | Headlights, | Headlights |
| | loads | loads | | capacitive loads | capacitive loads |
| Contact arrangement | 1 form A, 1 NO | 1 form C, 1 CO | 1 form A, 1 NO | 1 form A, 1 NO | 1 form C, 1 CO |
| Rated voltage | 12VDC | 12VDC 12VDC | | 12VDC | 12VDC |
| | | A/B (NO/NC) | | | A/B (NO/NC) |
| Rated current | 45A | 45/30A | 30A | 40A | 40/25A |
| Limiting continuous current | | | | | |
| 23°C | 45A | 45/30A | 30A | 40A | 40/25A |
| 85°C | 30A | 30/25A | 25A | 25A | 25/20A |
| Limiting making current ¹⁾ | 100A | 100/30A | 120A ³⁾ | 180A | 180/60A |
| Limiting breaking current ²⁾ | 60A | 60/30A | 60A | 60A | 60/30A |
| Contact material | AgNi0.15 | AgNi0.15 | AgSnO ₂ | AgSnO ₂ | AgSnO ₂ |
| Min. recommended contact load | 1A at 5VDC ⁴⁾ | | | | |
| Initial voltage drop, at 10A, typ./max. | o./max. 20/300mV | | | | |
| Operate/release time | typ. 5/3ms ⁵⁾ | | | | |
| Electrical endurance | >2x10 ⁵ ops. | >2x10 ⁵ ops. | >2.2x10 ⁶ ops. | >10 ⁵ ops. | >10 ⁵ ops. |
| | at 13.5VDC, 40A | at 13.5VDC, 40A | up to 8x21W | up to 4x60W | up to 4x60W |
| Mechanical endurance DC coil | | >107 | - | | |

- 1) The values apply to a resistive or inductive load with suitable spark suppression and at maximum 13.5VDC for 12VDC or 27VDC for 24VDC load voltages
- 2) For a load current duration of maximum 3s for a make/break ratio of 1:10.
- 3) Corresponds to a peak inrush current on initial actuation (cold filament).
- 4) See chapter Diagnostics of Relays in our Application Notes or consult the internet at http://relays.te.com/appnotes/
- 5) For unsuppressed relay coil. 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.

Max. DC load breaking capacity

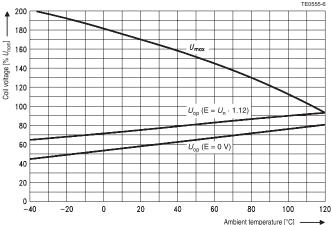


Load limit curve 1: arc extinguishes, during transit time (changeover contact).

Load limit curve 2: safe shutdown, no stationary arc (make contact).

Load limit curves measured with low inductive resistors verified for 1000 switching events.

Coil operating range



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



Power Relay K (Sealed) (Continued)

| Coil Data | |
|--------------------|---------------|
| Rated coil voltage | 12VDC / 24VDC |
| | |

Coil versions, DC coil

| Coil | Rated | Operate | Release | Coil | Rated coil |
|------|---------|---------|---------|------------|------------|
| code | voltage | voltage | voltage | resistance | power |
| | VDC | VDC | VDC | Ω±10% | W |
| 001 | 12 | 6.9 | 1.2 | 90 | 1.6 |
| 022 | 24 | 14.1 | 2.4 | 362 | 1.6 |

All figures are given for coil without pre-energization, at ambient temperature +23°C. Other coils on request.

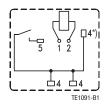
| Insulation Data | |
|-----------------------------|-----------------------|
| Initial dielectric strength | |
| between open contacts | 500VAC _{rms} |
| between contact and coil | 500VAC _{rms} |
| | |

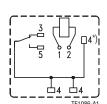
| Other Data | |
|-------------------------------------|--------------------------------------|
| EU RoHS/ELV compliance | compliant |
| Ambient temperature, DC coil | -40 to +85°C ⁶⁾ |
| Climatic cycling with condensation, | |
| EN ISO 6988 | 3 cycles, storage 8/16h |
| Temperature cycling (shock), | |
| IEC 60068-2-14, Na | 20 cycles, -40/+85°C (dwell time 1h) |
| Damp heat cyclic, | |
| IEC 60068-2-30. Db. Variant 1 | 6 cycles, upper air temperature 55°C |

Terminal Assignment

Bottom view on solder pins

1 form A, 1 NO



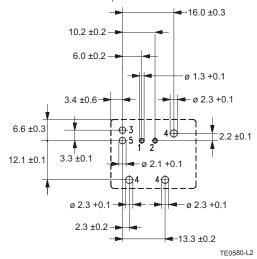


1 form C, 1 CO

*) Terminals 4 to be bridged

Mounting Hole Layout

Bottom view on solder pins



Other Data (continued)

Damp heat constant, 56 days, upper air temperature 55°C RT III – immersion cleanable version

Corrosive gas,

IEC 60068-2-42 10 days IEC 60068-2-43 10 days

Vibration resistance (functional),

IEC 60068-2-6 (sine pulse form),

acceleration, acc. to position 10 to 200Hz, 20 to 40g⁷⁾

Shock resistance (functional),

IEC 60068-2-27 (half sine form single pulses),

acceleration, acc. to position 8ms 30g⁷⁾
Terminal type PCB

Weight

sealed version approx. 22g (0.77oz) open version approx. 19g (0.67oz)

Solderability (aging 3: 4h/155°C) for leaded process (Tm = 183°C),

for Pb-free process (Tm = 217°C),

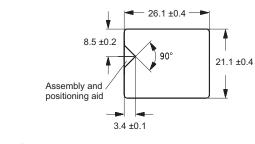
IEC 60068-2-20 Ta, method 1, hot dip 5s, 215°C Storage conditions according IEC 600688 8)

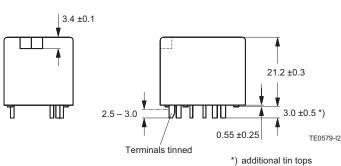
Packaging unit

sealed version 525 pcs.

- 6) See coil operating range DC.
- No change in the switching state >10μs.
- 8) For general storage and processing recommendations please refer to our Application Notes and especially to Storage in the Definitions or at http://relays.te.com/appnotes/

Dimensions

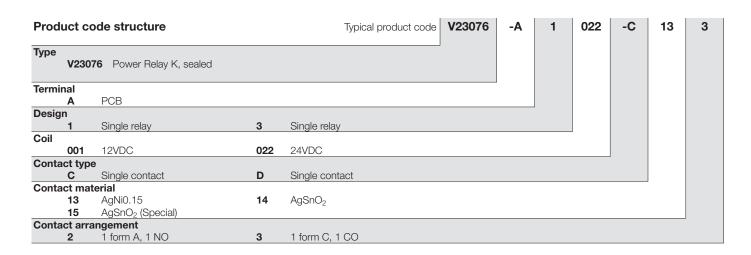




max. 1.5 mm



Power Relay K (Sealed) (Continued)



| Product code | Terminal/Encl. | Design | Coil | Contact | Contact mat. | Arrangement | Part number |
|---------------------|----------------|--------------|-------|---------|----------------------------|--------------|-------------|
| V23076-A1001-C133 | PCB, sealed | Single relay | 12VDC | Single | AgNi0.15 | 1 form C, CO | 1393277-4 |
| V23076-A1001-D143 | | | | | AgSnO ₂ | | 1393277-6 |
| V23076-A3001-C132 | | | | | AgNi0.15 | 1 form A, NO | 1-1393277-4 |
| V23076-A3001-D142 | | | | | AgSnO ₂ | | 1-1393277-7 |
| V23076-A3001-D1521) | | | | | AgSnO ₂ special | | 1-1414175-0 |
| V23076-A1022-C133 | | | 24VDC | | AgNi0.15 | 1 form C, CO | 1393277-8 |
| V23076-A1022-D143 | | | | | AgSnO ₂ | | 1393277-9 |
| V23076-A3022-C132 | | | | | AgNi0.15 | 1 form A, NO | 1-1393277-8 |
| V23076-A3022-D142 | | | | | AgSnO ₂ | | 1-1393277-9 |
| V23076-A3022-D1521) | | | | | AgSnO ₂ special | | 4-1904101-8 |

¹⁾ For indicator lamps.

Mouser Electronics

Authorized Distributor

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TE Connectivity:

1-1414310-0 V23076A1022C133 V23076A3001C132-T-*-USA V23076A3001C132