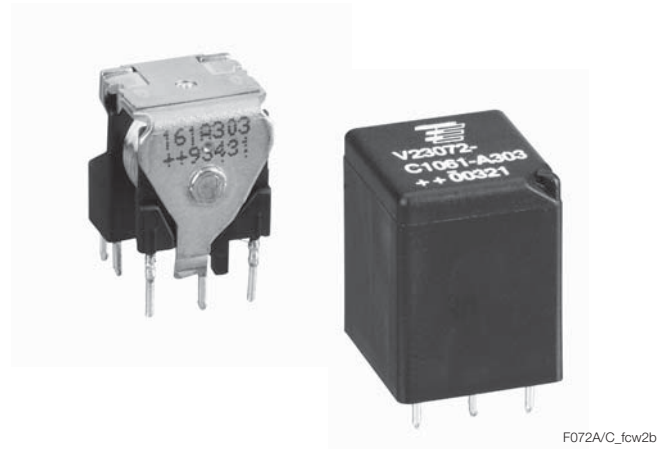


Mini Relay K (Open – Sealed)

- Limiting continuous current 20A
- 24VDC versions available

Typical applications

Car alarm, hazard warning signal, heated rear screen, immobilizer, lamps front/rear, fog light, interior lights, sun roof, turn signal, wiper control.



F072A/C_fw2b

Contact Data

| Load | resistive/inductive load | resistive/inductive load | resistive/inductive load | head/indicator lamp | head/indicator lamp |
|---|--|--|--|---|--|
| Contact arrangement | 1 form A, 1 NO | 1 form C, 1 CO | 1 form U/X, 2 NO | 1 form A, 1 NO | 1 form U/X, 2 NO |
| Rated voltage | 12VDC | 12VDC | 12VDC | 12VDC | 12VDC |
| Rated current | 15A | 10/15A | 2x10A | 10A | 2x6A |
| Limiting continuous current | | | | | |
| 23°C | 15A | 10/15A | 2x10A | 12A | 2x6A |
| 85°C | 10A | 5/10A | 2x6A | 10A | 2x5A |
| Limiting making current ¹⁾²⁾ | 60A | NC/NO 12/60A | 2x40A | 60A ³⁾ | 120A ³⁾ |
| Limiting breaking current | 20A | 10/20A | 2x20A | 6A | 12A |
| Contact material | AgNi0.15 | AgNi0.15 | AgNi0.15 | AgSnO.2 | AgSnO.2 |
| Min. recommended contact load ⁴⁾ | 1A at 5VDC | 1A at 5VDC | 1A at 5VDC | 1A at 5VDC | 1A at 5VDC |
| Initial voltage drop at 10A, typ./max. | 50/300mV | 50/300mV | 2x50/300mV | 150/300mV | 150/300mV |
| Operate/release time max. | | | typ. 3/1.5ms ⁵⁾ | | |
| Electrical endurance | >2x10 ⁵ ops. at 13.5VDC, 10A | >2x10 ⁵ ops. at 13.5VDC, 10A | >2x10 ⁵ ops. at 13.5VDC, 10A | >1x10 ⁶ ops. up to 6x21W >1.5x10 ⁵ ops. 100A (on), 10 A (off) high beam | >1.5 x 10 ⁶ ops. up to 6x21W >7.5x10 ⁵ ops. 100A (on), 10A (off) high beam |

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

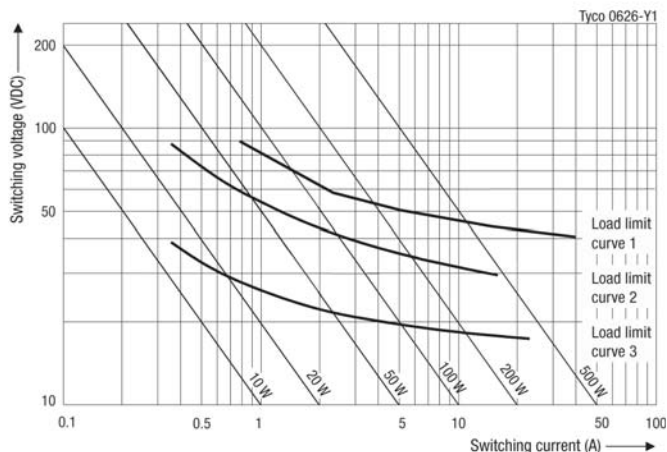
2) For a load current duration of maximum 3s for a make/break ratio of 1:10.

3) Corresponds to the 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 (monostable version only).

Max. DC load breaking capacity



Load limit curve 1: safe shutdown, connected as form X, load on pin 5 and 7.

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

Load limit curve 3: arc extinguishes during transit time (CO contact).

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

Mini Relay K (Open – Sealed) (Continued)

Coil Data

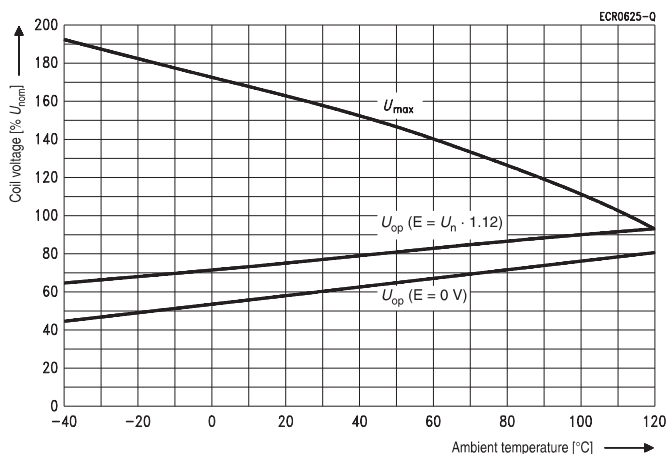
Rated coil voltage 12VDC, 24VDC

Coil versions, DC coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance $\Omega \pm 10\%$ | Rated coil power W |
|-----------|-------------------|---------------------|---------------------|-----------------------------------|--------------------|
| 061 | 12 | 6.9 | 1.2 | 130 | 1.1 |
| 062 | 24 | 14.1 | 2.4 | 520 | 1.1 |

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

Coil operating range

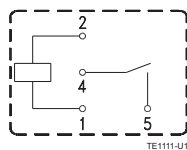


Does not take into account the temperature rise due to the contact current
E = pre-energization

Terminal assignment, open and sealed version

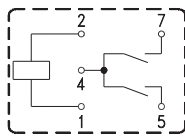
Bottom view on solder pins

1 form A, NO



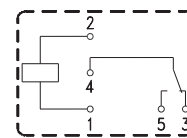
TE1111-U1

1 form U/X, 2 NO



TE1116-11

1 form C, CO



TE1077-B1

Other Data

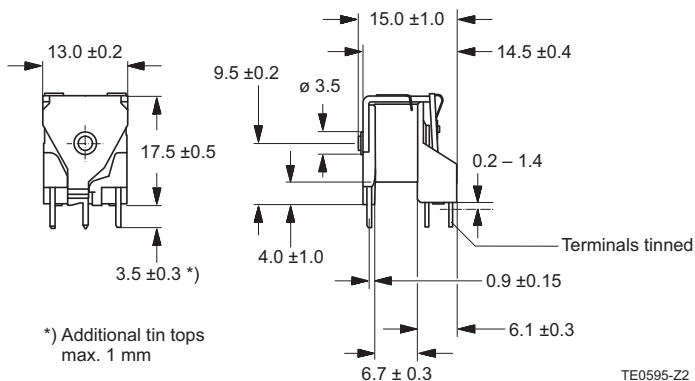
| | |
|--|--|
| EU RoHS/ELV compliance | compliant |
| Degree of protection | |
| IEC 61810 | RT 0 – open, RT III – immersion cleanable |
| Climatic cycling with condensation | |
| EN ISO 6988 | 20 cycles, storage 8/16h |
| Temperature cycling (shock) | |
| IEC 60068-2-14, Na | 720 cycles, -40/+85°C (dwell time 1h) |
| Damp heat constant | |
| IEC 60068-2-3, Ca | 56 days, upper air temperature 55°C |
| Corrosive gas | |
| IEC 60068-2-42 | 10 days |
| IEC 60068-2-43 | 10 days |
| Vibration resistance (functional) | |
| IEC 60068-2-6 (sine sweep), 10 to 200Hz, | 23 to 35g ⁶⁾ |
| Shock resistance (functional) | |
| IEC 60068-2-27 (half sine), 4 to 6ms | 23 to 280g ⁶⁾ |
| Terminal type | PCB |
| Weight, open/sealed | approx. 8/9g (0.28/0.32oz) |
| Solderability (aging 3: 4h/155°C) | |
| IEC 60068-2-20 | Ta, method 1, hot dip 5s, 215°C |
| Sealing, IEC 60068-2-17 | Qc, method 2, 1min/70°C |
| Packaging unit | |
| open | 600 pcs. |
| sealed | 504 pcs. |

6) Values weakest direction. Depending on mounting position: no change in the switching state >10µs.

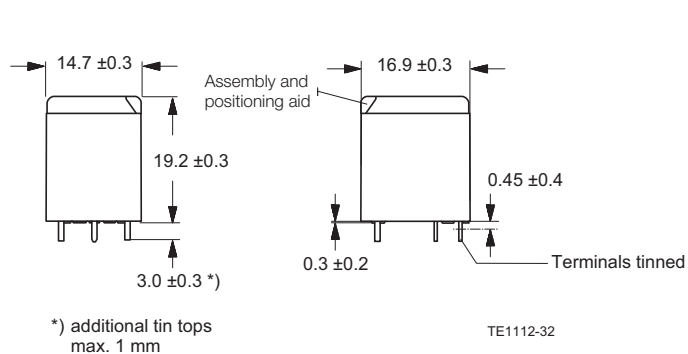
Mini Relay K (Open – Sealed) (Continued)

Dimensions

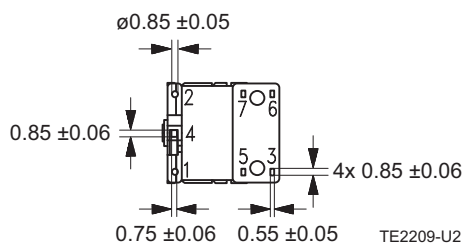
Mini Relay K Open Version



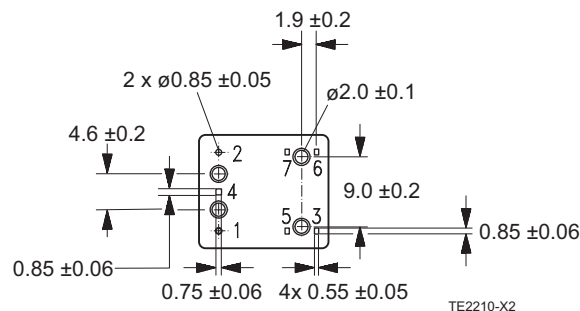
Mini Relay K Sealed Version



View of the terminals (bottom view)

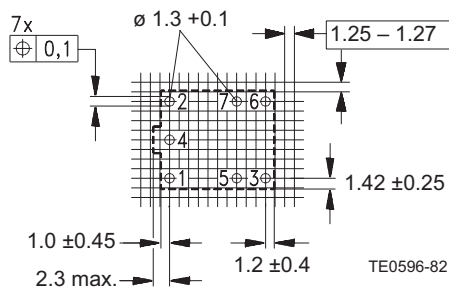


View of the Terminals (bottom view)



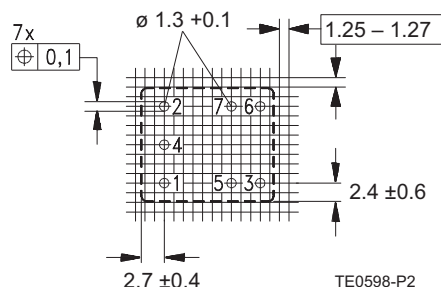
PCB layout

Bottom view on solder pins, grid 1.25 to 1.27mm



PCB layout

Bottom view on solder pins, grid 1.25 to 1.27mm



Mini Relay K (Open – Sealed) (Continued)

Product code structure

Typical product code

| | | | | | | |
|---------------|-----------|----------|------------|-----------|-----------|----------|
| V23072 | -A | 1 | 061 | -A | 30 | 2 |
|---------------|-----------|----------|------------|-----------|-----------|----------|

| | | | | | | |
|--|--|--|--|--|--|--|
| Type V23072 Mini Relay K (Open – Sealed) | | | | | | |
| Terminal and enclosure A PCB, open (RT 0) C PCB, sealed (RT III – immersion cleanable) | | | | | | |
| Type 1 Standard | | | | | | |
| Coil 061 12 VDC 062 24 VDC | | | | | | |
| Contact type A Standard | | | | | | |
| Contact material 30 AgNi0.15 40 AgSnO ₂ | | | | | | |
| Contact arrangement 2 1 form A, NO 3 1 form C, CO 8 1 form U/X, 2 NO | | | | | | |

| Product code | Terminal/Encl. | Design | Coil | Contact type | Cont. material | Arrangement | Part number |
|-------------------|----------------|--------------|-------|--------------|--------------------|------------------|-------------|
| V23072-A1061-A303 | PCB, open | Single relay | 12VDC | Standard | AgNi0.15 | 1 form C, CO | 3-1393272-2 |
| V23072-A1062-A303 | | | 24VDC | | | | 5-1393272-2 |
| V23072-A1061-A308 | | | 12VDC | | | 1 form U/X, 2 NO | 3-1393272-6 |
| V23072-A1062-A308 | | | 24VDC | | | | 5-1393272-3 |
| V23072-C1061-A302 | PCB, sealed | | 12VDC | | | 1 form A, NO | 4-1393273-9 |
| V23072-C1062-A302 | | | 24VDC | | | | 7-1393273-6 |
| V23072-C1061-A303 | | | 12VDC | | | 1 form C, CO | 5-1393273-6 |
| V23072-C1062-A303 | | | 24VDC | | | | 7-1393273-8 |
| V23072-C1061-A308 | | | 12VDC | | | 1 form U/X, 2 NO | 6-1393273-0 |
| V23072-C1062-A308 | | | 24VDC | | | | 8-1393273-2 |
| V23072-C1061-A402 | | | 12VDC | | AgSnO ₂ | 1 form A, NO | 2-1416001-0 |
| V23072-C1061-A408 | | | | | | 1 form U/X, 2 NO | 1-1416001-4 |

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[7-1393273-6](#) [6-1393273-0](#) [4-1393273-9](#) [1-1416001-4](#)