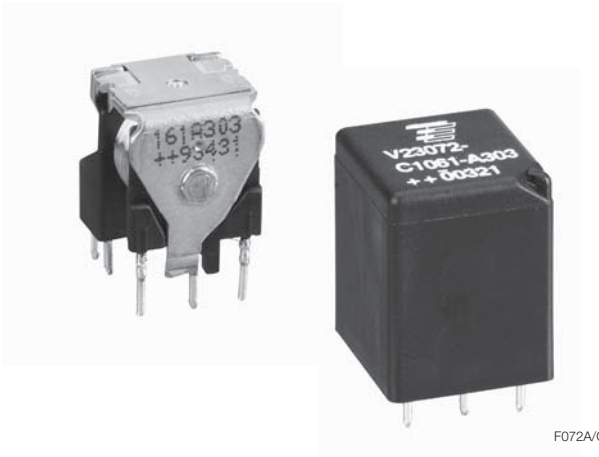
Mini Relay K (Open – Sealed)

- **Limiting continuous current 20A**
- **24VDC versions available**



F072A/C_fcw2b

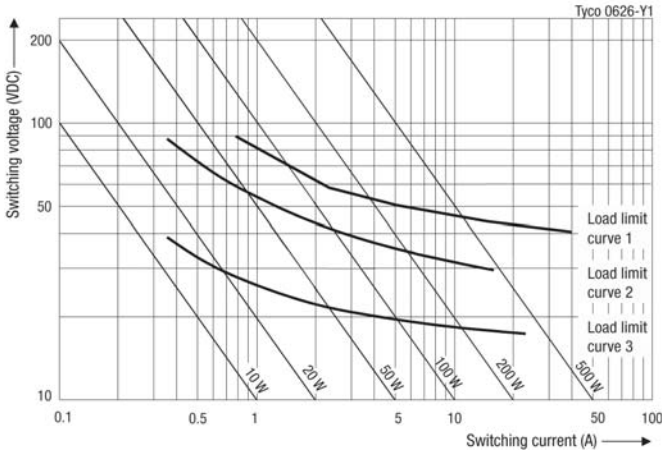
Typical applications
Car alarm, hazard warning signal, heated rear screen, immobilizer, lamps front/rear, fog light, interior lights, sun roof, turn signal, wiper control.

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.

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Mini Relay K (Open – Sealed) (Continued)

Coil Data

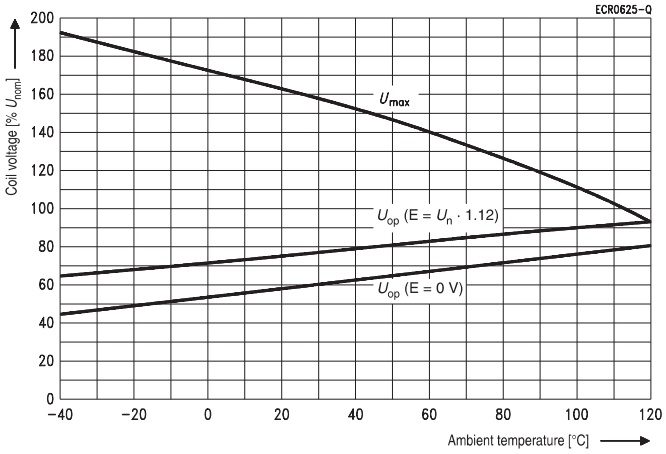
Rated coil voltage	12VDC, 24VDC

Coil versions, DC coil

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±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

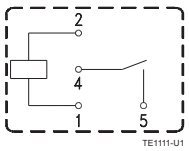
Other Data

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 temperatue 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.

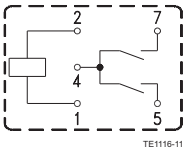
6) Values weekest direction. Depending on mounting position: no change in the switching state >10µs.

Terminal assignment, open and sealed version
Bottom view on solder pins

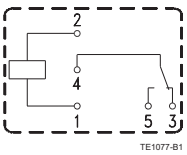
1 form A, NO



1 form U/X, 2 NO



1 form C, CO



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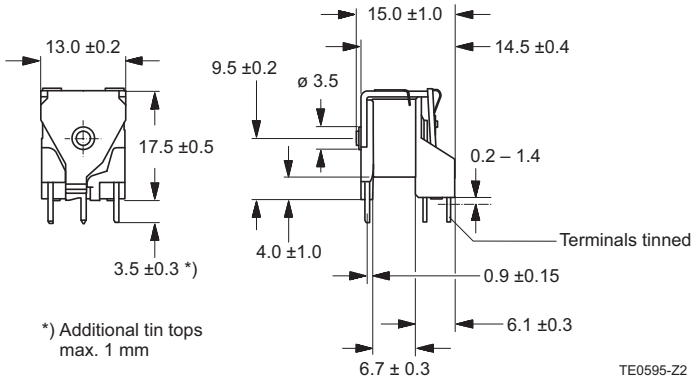
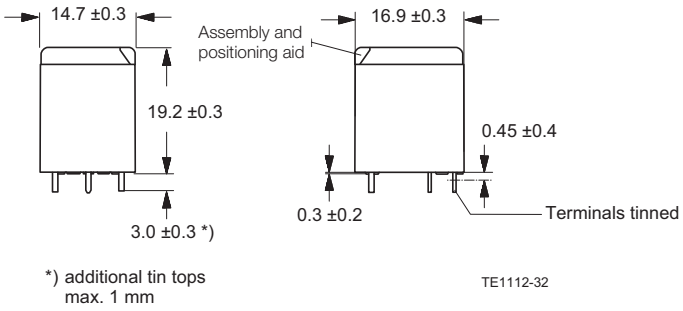
Dimensions

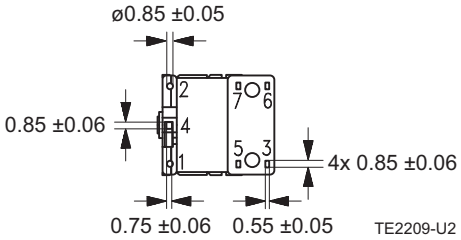
Mini Relay K Open Version



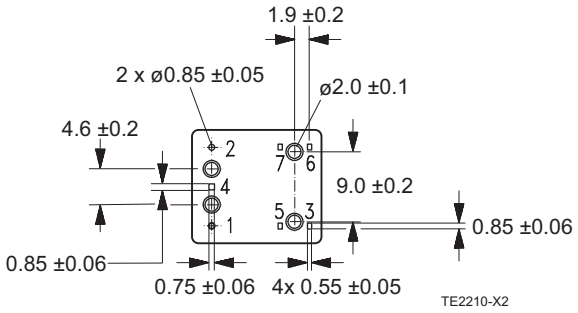
Mini Relay K Sealed Version



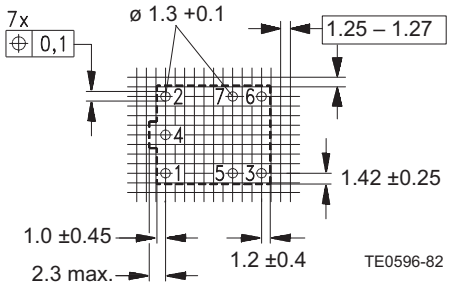
View of the terminals (bottom view)



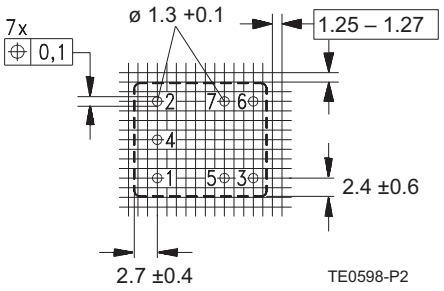
View of the Terminals (bottom view)



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



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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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