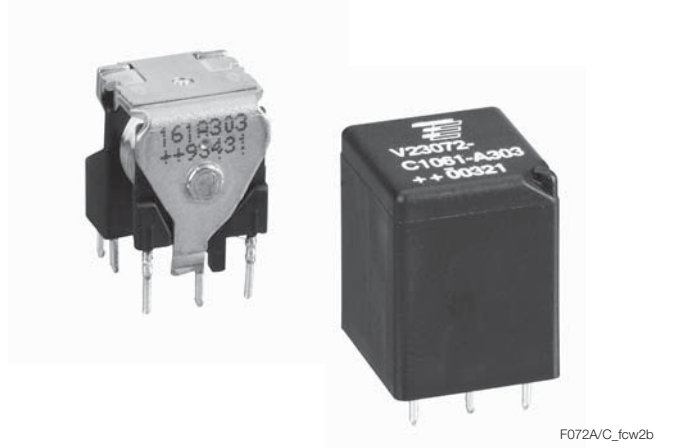


**Mini Relay K (Open – Sealed)**

- 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.

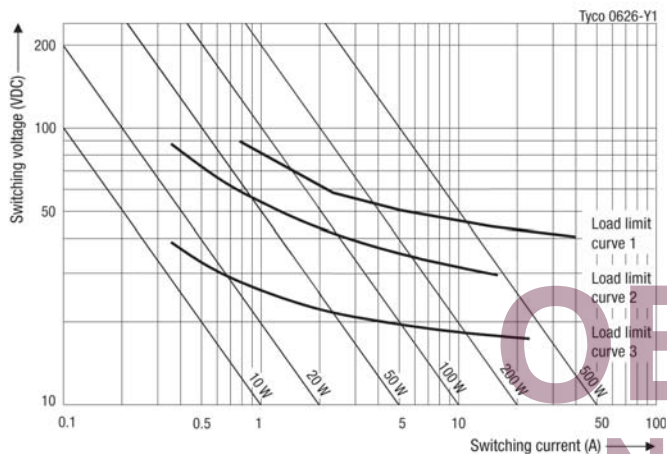


**Contact Data**

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 <sup>1)2)</sup>	60A	NC/NO 12/60A	2x40A	60A <sup>3)</sup>	120A <sup>3)</sup>
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 <sup>4)</sup>	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 <sup>5)</sup>		
Electrical endurance	>2x10 <sup>5</sup> ops. at 13.5VDC, 10A	>2x10 <sup>5</sup> ops. at 13.5VDC, 10A	>2x10 <sup>5</sup> ops. at 13.5VDC, 10A	>1x10 <sup>6</sup> ops. up to 6x21W >1.5x10 <sup>5</sup> ops. 100A (on), 10 A (off) high beam	>1.5 x 10 <sup>6</sup> ops. up to 6x21W >7.5x10 <sup>5</sup> ops. 100A (on), 10 A (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.

**OBsolete**  
**NOT the LATEST**  
**REVISION**

**Mini Relay K (Open – Sealed)** (Continued)

**Coil Data**

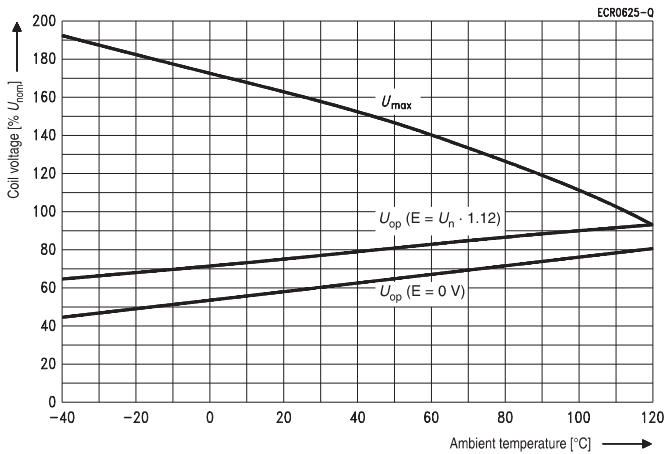
Rated coil voltage	12VDC, 24VDC
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**Coil versions, DC coil**

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**

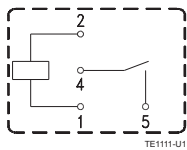


Does not take into account the temperature rise due to the contact current  
E = pre-energization

**Terminal assignment, open and sealed version**

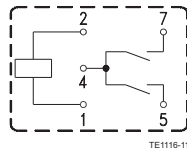
Bottom view on solder pins

1 form A, NO



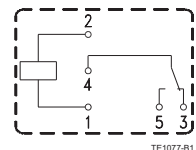
TE1111-U1

1 form U/X, 2 NO



TE1116-11

1 form C, CO



TE1077-B1

**Other Data**

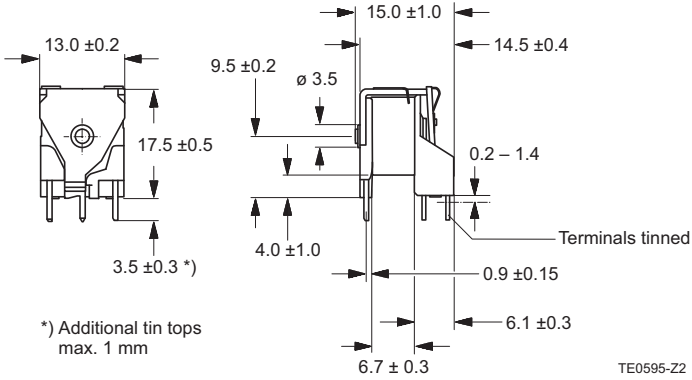
EU RoHS/ELV compliance	compliant
Degree of protection IEC 61810	RT 0 – open, RT III – immersion cleanable
Climatic cycling with condensation EN ISO 6988	20 cycles, storage 8/16h
Temperature cycling (shock) IEC 60068-2-14, Na	720 cycles, -40/+85°C (dwell time 1h)
Damp heat constant IEC 60068-2-3, Ca	56 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 <sup>6)</sup>
Shock resistance (functional) IEC 60068-2-27 (half sine), 4 to 6ms	23 to 280g <sup>6)</sup>
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.

<sup>6)</sup> Values weakest direction. Depending on mounting position: no change in the switching state >10 $\mu$ s.

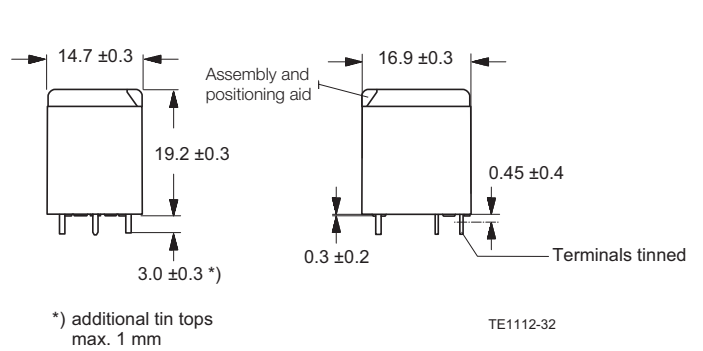
**Mini Relay K (Open – Sealed) (Continued)**

**Dimensions**

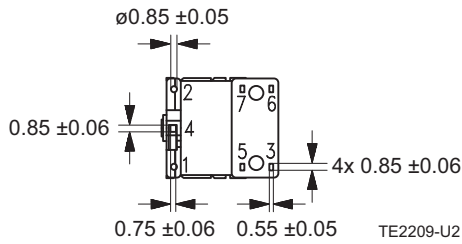
Mini Relay K Open Version



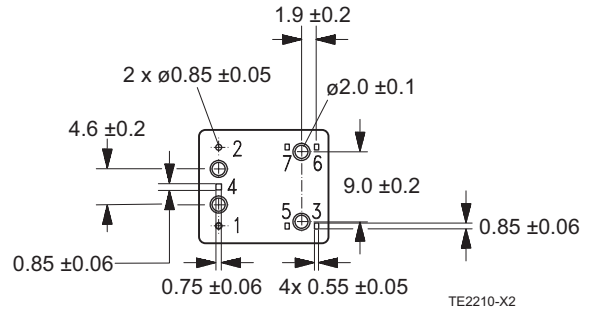
Mini Relay K Sealed Version



View of the terminals (bottom view)

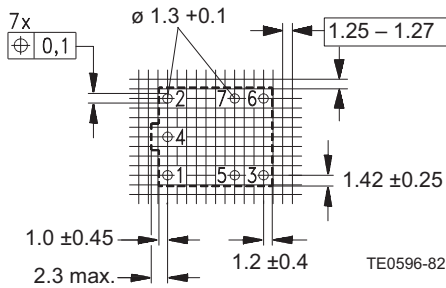


View of the Terminals (bottom view)



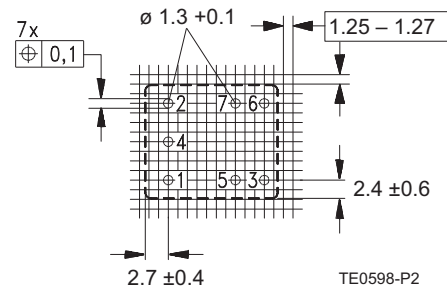
**PCB layout**

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)

<b>Product code structure</b>		Typical product code		<b>V23072</b>	<b>-A</b>	<b>1</b>	<b>061</b>	<b>-A</b>	<b>30</b>	<b>2</b>
<b>Type</b>		<b>V23072</b> Mini Relay K (Open – Sealed)								
<b>Terminal and enclosure</b>										
<b>A</b>	PCB, open (RT 0)	<b>C</b>	PCB, sealed (RT III – immersion cleanable)							
<b>Type</b>		<b>1</b> Standard								
<b>Coil</b>										
<b>061</b>	12 VDC	<b>062</b>	24 VDC							
<b>Contact type</b>		<b>A</b> Standard								
<b>Contact material</b>										
<b>30</b>	AgNi0.15	<b>40</b>	AgSnO <sub>2</sub>							
<b>Contact arrangement</b>										
<b>2</b>	1 form A, NO	<b>3</b>	1 form C, CO	<b>8</b>	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				3-1393272-6	
V23072-A1062-A308	PCB, sealed		24VDC			1 form U/X, 2 NO	5-1393272-3	
V23072-C1061-A302			12VDC				4-1393273-9	
V23072-C1062-A302			24VDC				7-1393273-6	
V23072-C1061-A303			12VDC				5-1393273-6	
V23072-C1062-A303			24VDC				7-1393273-8	
V23072-C1061-A308			12VDC				6-1393273-0	
V23072-C1062-A308			24VDC				8-1393273-2	
V23072-C1061-A402			12VDC				2-1416001-0	
V23072-C1061-A408			AgSnO <sub>2</sub>				1 form A, NO	2-1416001-0
							1 form U/X, 2 NO	1-1416001-4