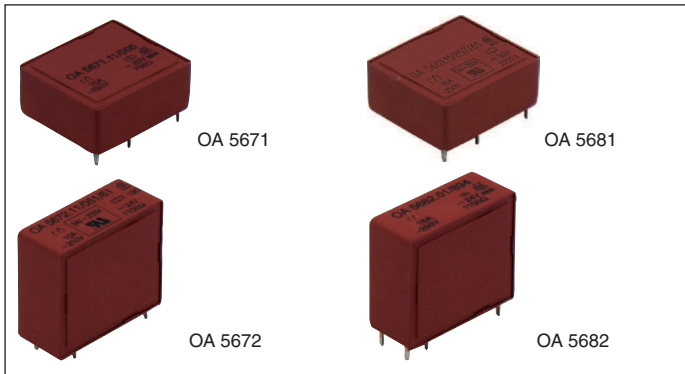


## Printed Circuit Board Relays

monostable

OA 5671, OA 5681, OA 5672, OA 5682



- According to DIN EN 61810-1, DIN EN 60664-1
- Clearance and creepage distances: contact-coil  $\geq 8$  mm
- Compact size, small height (at horizontal model)
- OA 5671 / 5681 horizontal mounting
- OA 5672 / 5682 vertical mounting
- OA 5671 and OA 5672 for continuous currents to 10 A or with contact with  $5 \mu\text{m Au}$
- OA 5681 and OA 5682 for continuous currents to 16 A
- OA 5672 as option with 7 mm or 10 mm pin distance
- For continuous operating temperature to  $110^\circ\text{C}$
- Voltage range  $0.7 U_N \dots 2.2 U_N$
- Solder line proof

### Applications

- Control technique
- Interface

### Approvals and Markings



### Technical Data

Relay type	OA 5671, OA 5672		OA 5681, OA 5682
<b>1.0 Spule</b>			
1.1 Nominal voltage	DC V	6, 12, 15, 20, 24, 48, 60, 110 (others on request)	
1.2 Nominal consumption	W	0.53	
1.11 Voltage range	$U_N$	0.7 ... 2.2	
1.13 Holding power (at $0.5 \times U_N$ )	W	0.14	
<b>2.0 Contacts</b>			
2.1 Contact arrangement <sup>1)</sup>	1 changeover contact		
2.2 Contact material	$\text{AgSnO}_2 + 0.2 \mu\text{m Au}$		
2.3 Rated insulated voltage	AC V	250	
Switching voltage min./max.	DC V, AC V	12 / 250, 400 ( $\approx 100\text{mV} / \approx 60\text{V}$ ) <sup>4)</sup>	12 / 250, 400
2.4 Limiting continuous current $I_{th}$	A	$10^{5)}$	$16^{5)}$
Switching current min./max.	A	10 mA <sup>7)</sup> / 16 (1 mA / 0.3 A) <sup>4)</sup>	0.3 / 25 <sup>2)</sup>
2.5 Switching power min./max.	VA	4 / 2 500 (1 mVA / 7 VA) <sup>4)</sup>	4 / 4 000
Switching power min./max.	W	35 ... 300 <sup>6)</sup> (1mW / 7 W) <sup>4)</sup>	35 ... 500 <sup>6)</sup>
2.6 Switching capacity to IEC/EN 60947-5-1			
AC 15	AC V/A	NC: 230 / 5; NO: 230 / 10	
DC 13	DC V/A	NC: 24 / 1; NO: 24 / 1	
to UL 508		B150	
2.7 Electrical life <sup>3)</sup>	switching cycles	$(50 \times 10^6)^{4)}$	
at AC 250 V, $I_{th}$ (OA/OW)	switching cycles	approx. $0.3 \times 10^6$ / approx. $0.15 \times 10^6$	approx. $0.2 \times 10^6$ / approx. $0.1 \times 10^6$
2.8 Switching frequency max.	switching cycles / s	20	
2.9 Response time / Release time	ms	typically 7 / typically 3	
2.10 Contact force NO / NC	cN	25 / 12	
<b>3.0 Other</b>			
3.1 Mechanical life	switching cycles	approx. $30 \times 10^6$	
3.2 Temperature range	$^\circ\text{C}$	- 40 ... + 110	
3.3 Degree of protection, housing	Solder line proof RT II		
3.5 Vibration resistance	$\leq 10$ g, to 100 Hz IEC/EN 60068-2-6		
3.6 Climate resistance	40 / 110 / 04 (climate category); A/B/D IEC/EN 60068-1		

<sup>1)</sup> NO and NC on request

<sup>2)</sup> max. 4 s or 10 % ED

<sup>3)</sup> at 0,5 s On, 3,5 s Off

<sup>4)</sup> Values for contact with  $5 \mu\text{m Au}$

<sup>5)</sup> see operating voltage limit curve

<sup>6)</sup> see limit curve for arc free operation

<sup>7)</sup> Typical values

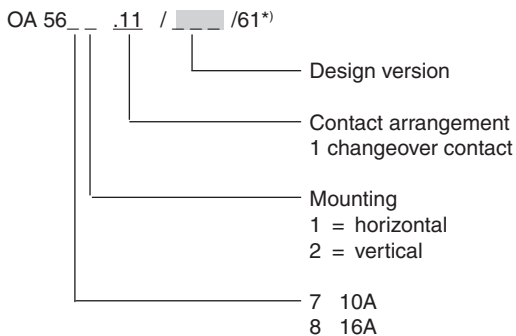
## Technical Data

3.8	Insulation acc. to IEC 60664-1, EN 50178			
	Rated insulation voltage	AC V		250
	Pollution degree			3
	Overtoltage category			III
	Test voltage			
	contact-coil (1 min)	AC kV eff.		≥ 4
	contact-contact (1 min)	AC kV eff.		≥ 1.5
	Transient voltage			
	contact-coil (1.2 - 50 μs)	kV		≥ 6
	Clearance and creepage distances	mm		≥ 8
3.9	Weight	g	17	17
<b>4.0 Packing</b>				
4.1	in blister	piece	OA 5671: 20 OA 5672: 20	OA 5681: 20 OA 5682: 20
4.2	in case package	piece	OA 5671: 200 or 100 OA 5672: 200 or 100	OA 5681: 200 or 100 OA 5682: 200 or 100
<b>5.0 Solder method</b>				
5.1	Solder method /-temperature /-duration	°C / s	Wafer soldering / 260 / 5	

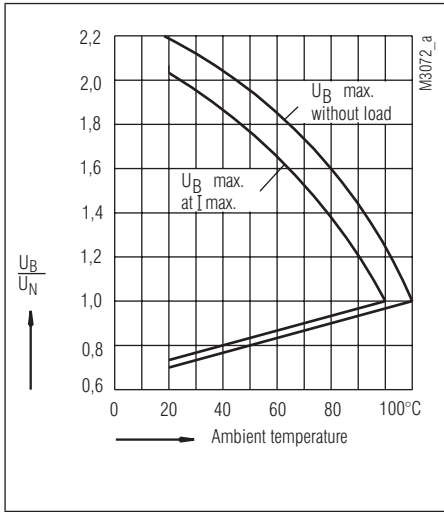
## Design Versions

U <sub>N</sub> (DC V)	Voltage range (DC V)	Resistance at 20°C Ω	AgSnO <sub>2</sub>			AgSnO <sub>2</sub>		AgNi 10 + 5 μm Au		
			OA 5671	OA 5672 7 mm	OA 5672 10 mm	OA 5681	OA 5682	OA 5671	OA 5672 7 mm	OA 5672 10 mm
6	4,2 ... 13,2	70	001	046	821	851	881	031	076	061
12	8,4 ... 26,4	280	003	048	822	852	882	033	078	063
15	10,5 ... 33,0	420	004	049	823	853	883	034	079	064
20	14,0 ... 44,0	750	005	050	824	854	884	035	080	065
24	16,8 ... 52,8	1100	006	051	825	855	885	036	081	066
48	33,6 ... 105,6	4500	010	055	829	859	889	040	085	070
60	42,0 ... 132,0	7000	011	056	830	860	890	041	086	071
110	77,0 ... 242,0	23000	012	057	831	861	891	042	087	072

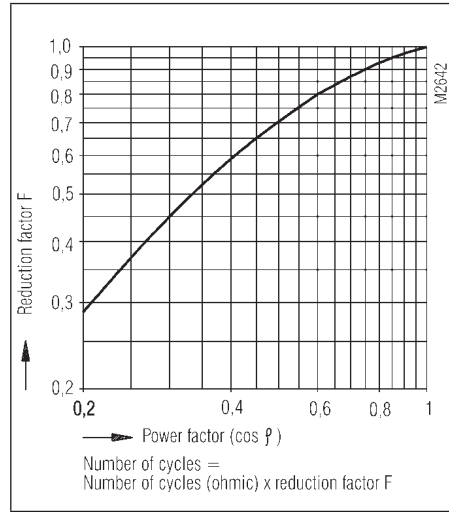
## Ordering Example



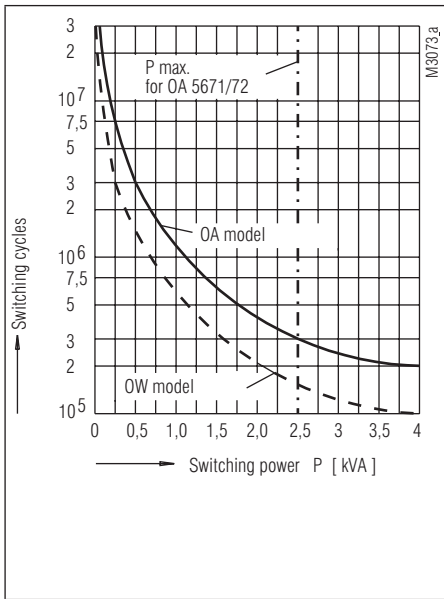
\*) /61 cURus approval



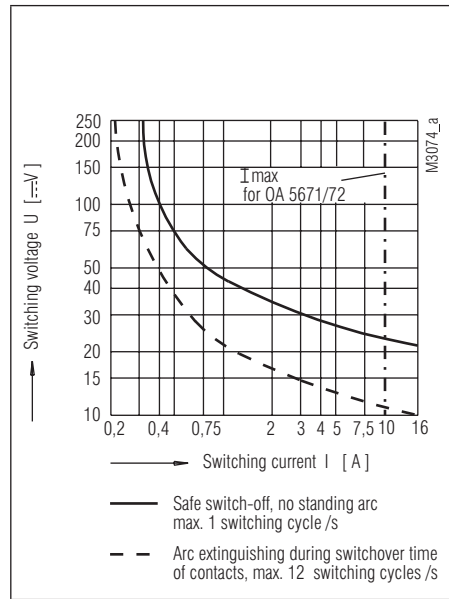
Operating voltage limit curve



Reduction factor for inductive loads



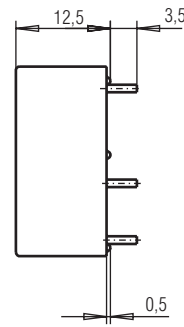
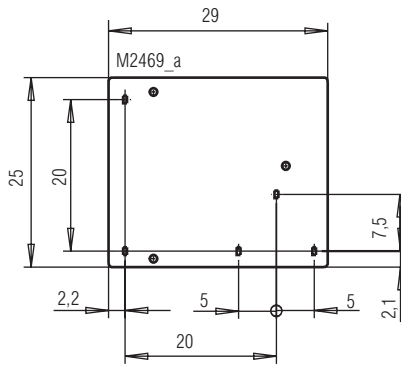
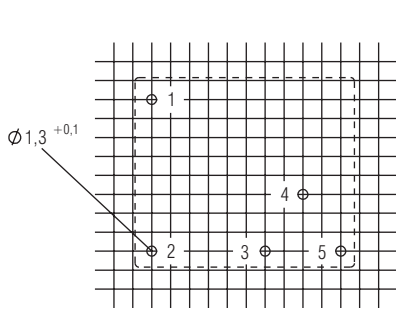
Contact service life (at  $t_u = 20^\circ\text{C}$ )



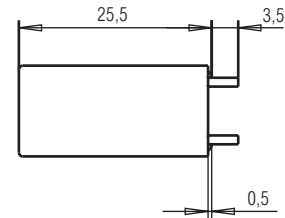
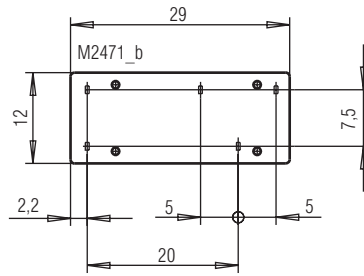
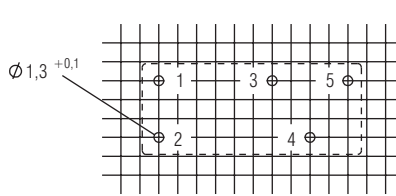
Limit curve for arc-free operation

Drilling plan (solder side)

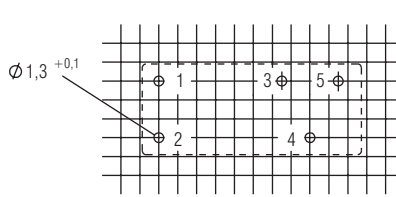
OA 5671  
10 mm pin distance



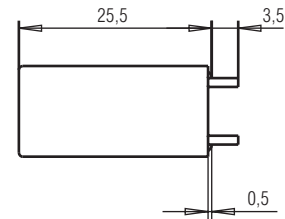
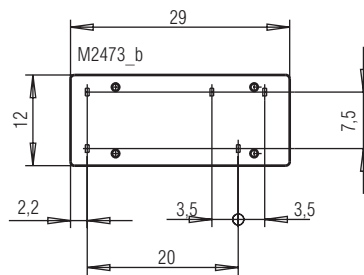
OA 5672  
10 mm pin distance



OA 5672  
7 mm pin distance



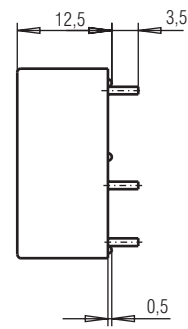
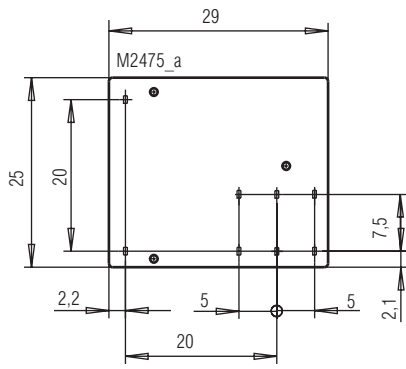
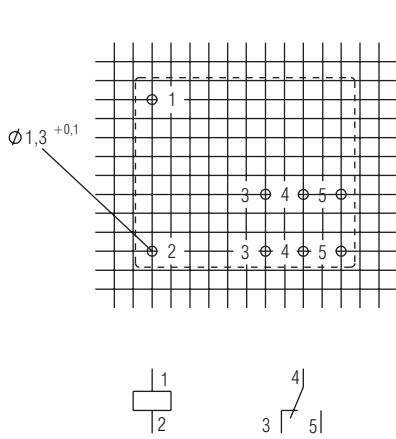
OA 5672



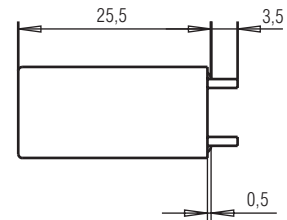
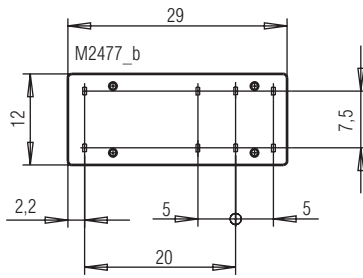
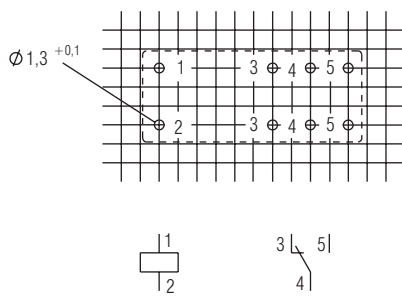
Connection for basic grid dimensions 2.5 mm as well as 2.54 mm according to IEC/EN 60097 and IEC 60326 average

Drilling plan (solder side)

OA 5681  
10 mm pin distance



OA 5682  
10 mm pin distance



Connection for basic grid dimensions 2.5 mm as well as 2.54 mm according to IEC/EN 60097 and IEC 60326 average

