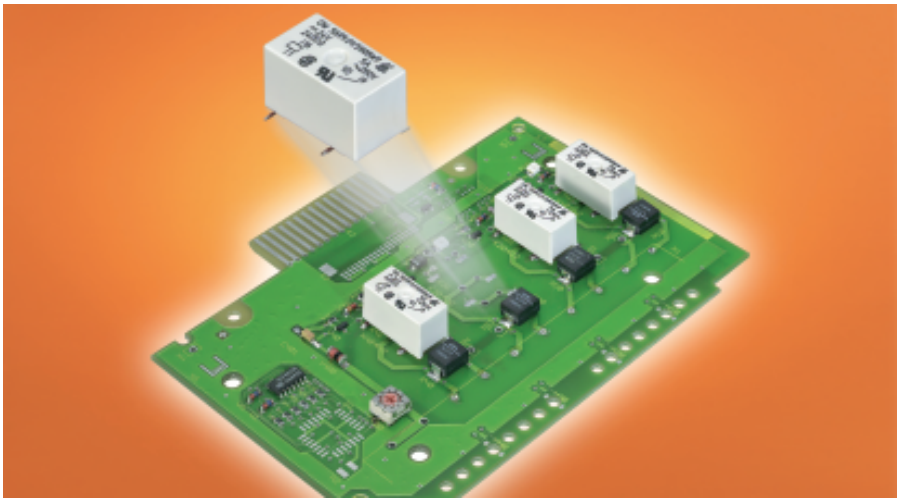
Miniature relay, monostable
dilais® OW 5699, SMD model

- according to IEC/EN 60 255
- Power miniature relay for SMD mounting
- high switching power AC 250 V / 5 A
- high dielectric strength 4 kV
- high limiting continuous current I_{th} = 5 A
- compact size V = 2,47 cm^3
- safe separation L + K ≥ 5,5 mm EN 50 178
- Approval: cULus, SP

SMT / SMD (Surface Mounting Technology) for Reflow-soldering
THT (Through Hole Technology) for Reflow-soldering



Technical data

Relay type			OW 5699
1. 0 **Relay coil**			
1. 1 Nominal voltage		DC V	4,5, 6, 12, 20, 24, 48
1. 2 Nominal consumption		mW	250 (1 NO), 310 (1 changeover contact)
2. 0 **Contacts**			
2. 1 Contact arrangement			1 NO, 1 changeover contact
2. 2 Contact material			$AgSnO_2$, AgNi 0,15[1]
2. 3 Rated insulation voltage		AC	250 V
Switching voltage min./max.		V	AC/DC 10 / DC 120, AC 250 [1]
2. 4 Limiting continuous current I_{th}		A	5
Switching current min./max.		A	0,01[2] / 5
2. 5 Switching power min./max.		VA	0,1 / 1 250
Switching power min./max.		W	0,1 / 120
2. 6 Switching capacity to IEC/EN 60 947-5-1 AC 15	AC V/A		NC: 230 / 1 NO: 230 / 3
2. 7 Electrical life			
at AC 230 V 1 A cos φ = 1		switching cycles	> 5 x 10^5
at AC 230 V 5 A cos φ = 1		switching cycles	> 1,5 x 10^5
2. 8 max. Switching frequency		switching cycles/s	20
2. 9 Response time / Release time		ms	≤ 8 (typ. 5) / ≤ 4 (typ. 2)
2.10 Contact force		cN	8 (1 NO), 8 (1 changeover contact, NC and NO)
3. 0 **Other**			
3. 1 Mechanical life		switching cycles	≥ 5 x 10^7
3. 2 Temperature range		°C	- 40 ... + 80
3. 3 Degree of protection Housing, Connect.		IP 67; IP 00	IEC/EN 60 529, wash proof as per Qc 2 IEC/EN 60 068-2-17
3. 4 Housing material			Thermoplast GF PA
3. 5 Vibration resistance		10 ... 55 Hz; 1,2 mm amplitude; 10 g max.	IEC/EN 60 068-2-6

[1] Special version gold plated contacts with 3 µm Au for small loads (0,1 ... 60 V, 1 ... 300 mA) on request

[2] Typical values

Technical data

3. 6	Climate resistance		20 / 080 / 04 (climate category); A/B/D IEC/EN 60 068-1
3. 8	Insulation according to IEC 60 664-1		
	Rated insulation voltage	AC V	250
	Contamination level		3
	Overvoltage category		III
	Test voltage contact-coil (1 min)	AC kV eff.	≥ 4
	Clearance an creepage distances as per EN 50 178	mm	5,5
3. 9	Weight	g	approx. 5
3.10	Soldering: Reflow-convection soldering		max. 260°C; 10 s

Coil data with design version

Nominal voltage V	Voltage range V	Resistance at 20°C Ω (±10%)	OW 5699.01/_ _ _ $AgSnO_2$ + 0,3 µm Au	OW 5699.01/_ _ _ AgNi 0,15 + 0,3 µm Au
4,5	3,0 ... 9,9	78	351	371
6	4,3 ... 13,2	155	352	372
12	8,0 ... 26,4	600	353	373
20	13,0 ... 44,0	1 600	354	374
24	16,0 ... 52,8	2 400	355	375
48	32,0 ... 105,0	9 216	356	376

Nominal voltage V	Voltage range V	Resistance at 20°C Ω (±10%)	OW5699.11/_ _ _ $AgSnO_2$ + 0,3 µm Au	OW5699.11/_ _ _ AgNi 0,15 + 0,3 µm Au
4,5	3,3 ... 7,2	65	361	381
6	4,5 ... 9,6	115	362	382
12	9,0 ... 19,2	465	363	383
20	15,0 ... 32,0	1 250	364	384
24	18,0 ... 38,4	1 860	365	385
48	36,0 ... 76,8	6 310	366	386

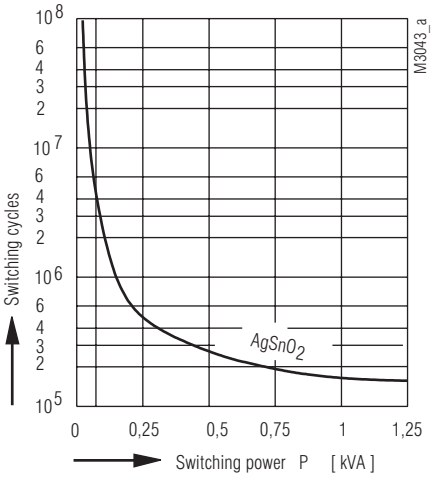
Ordering example

OW 5699 ._ _ / _ _ _ /61*)

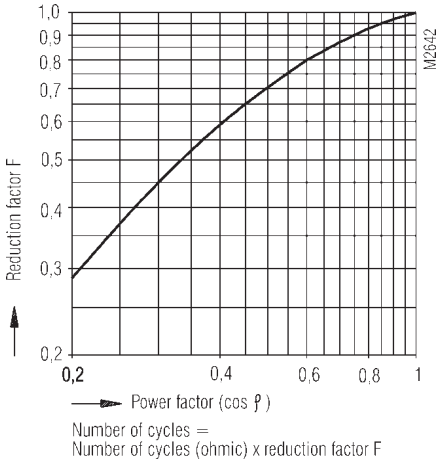
- Design version
- 01 = 1 NO
  11 = 1 changeover contact
- Relay type

*) /61 cURus approval

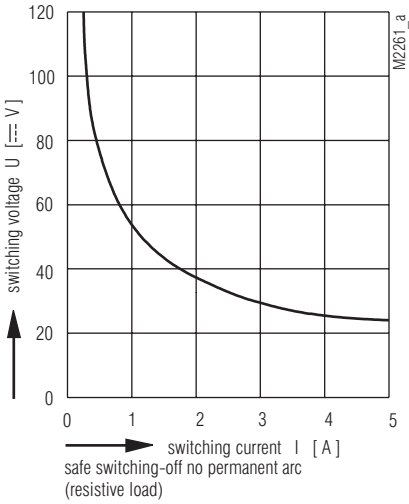
Characteristics



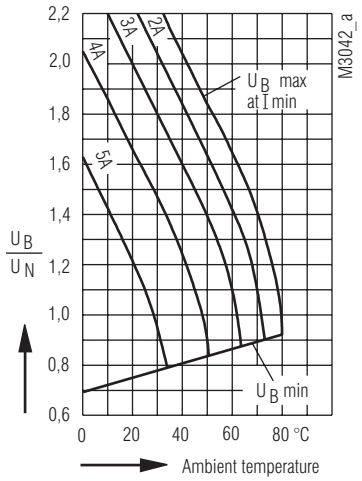
Contact service life



Reduction factor for inductive loads



Limit curve for arc-free operation

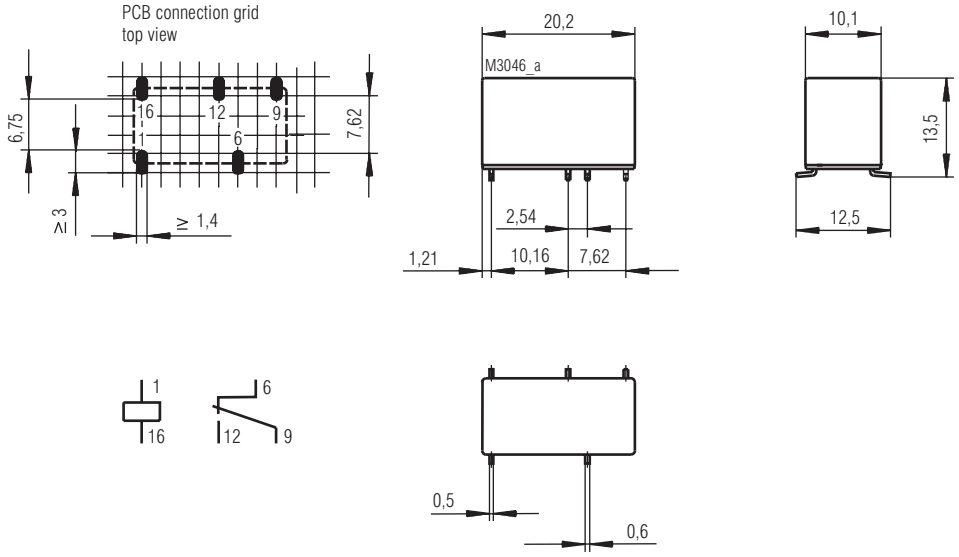


Operating voltage limit curve

Dimensions, pin configuration, connection diagrams

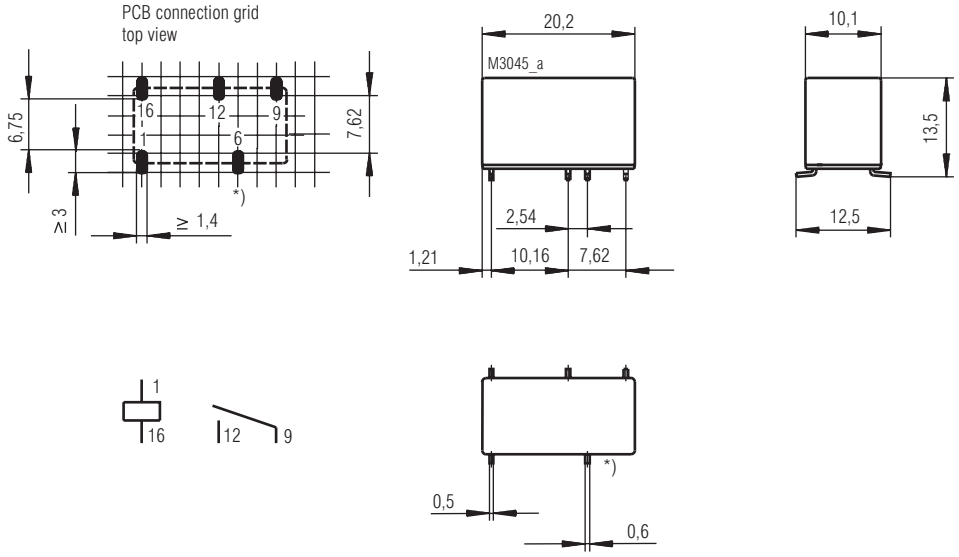
Drilling plan (solder side)

OW 5699.11 SMD



The tolerance of all pins being on the same level is +0,1

OW 5699.01 SMD



The tolerance of all pins being on the same level is +0,1
*) Pin 6 and Pin 9 have same potential in initial state

Connection for basic grid divensions 2,5 mm as well as 2,54 mm according to IEC/EN 60 097 and IEC 60 326 average