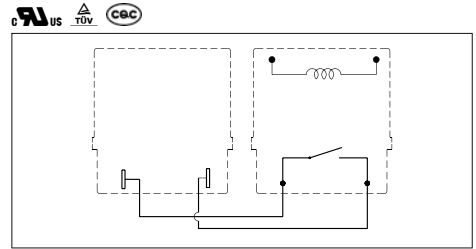


REF Power Relay

- 1 Form A
- Rated current: 10 to 15 A
- Low shape
- 200 mW high sensitive coil
- #187 Faston terminal



REF
1 Form A, 10 A



Technical parameters

Coil data		
Coil input voltage		5/9/12/18/24 V DC
Coil power		200 mW
Response voltage		< 75% (Room temp.)
Drop out voltage		> 5% (Room temp.)
Operation time / Release time		Less than 15 ms / less than 5 ms
Contact data		
Contact numbers		1 Form A
Contact material		Ag alloy
Max. switching voltage		250 V AC
Max. switching power		2,770 VA
Contact ratings		10 A 250 V AC, 10 A 30 V DC, 1/3HP 240 V AC
Contact resistance		Max. 100 mΩ (1 A / 6 V DC)
Mechanical service life		1×10 ⁶ times
Electrical Service life	AC1	1×10 ⁵ times
General data		
Rated withstand impulse voltage	Coil / Contact Between contacts	2 kV AC / 1 min 1 kV AC / 1 min
Surge voltage		5 kV AC (1.2/50 μs)
Insulation Resistance		1,000 MΩ (500 V DC)
Vibration		Malfunction 10~55 Hz (Amplitude 1.5 mm) Endurance 10~55 Hz (Amplitude 1.5 mm)
Shock		Malfunction 98 m/s ² , Endurance 980 m/s ²
Ambient temperature (Operation)		-40~105 °C (No condensation)
Operating humidity		20~85%
Dimension L×W×H (mm)		24.5×23.6×10.2
Enclosure type		Flux-proof, sealed
Mounting		PCB & faston terminal
Weight (g)		10
Compliance certification number		cULus:E345228, TUV:R50250866, CQC:CQC12002086474

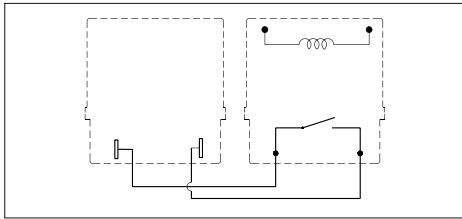
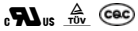
Type designation

Model designation	Number of poles	Coil voltage	Coil power	Contact configuration	Contact rating	Insulation class	Enclosure type	Special request
REF	-1	12	D	M	1	F	-S	XXX
REF: B type, base with PCB & faston terminal	1: 1 pole	05: 5 V 09: 9 V 12: 12 V 18: 18 V 24: 24 V	D: 200 mW	M: 1 Form A	Blank: 10 A 1: 15 A/16 A	Blank: class A F: class F	Blank: flux-proof S: sealed	335: Stands for product in accordance with IEC 60335-1 (GWT)



REF

1 Form A, 15 A



Technical parameters

5/9/12/18/24 V DC
 200 mW
 < 75% (Room temp.)
 > 5% (Room temp.)
 Less than 15 ms / less than 5 ms

1 Form A
 Ag alloy
 250 V AC
 4,432 VA
 15 A 250 V AC, 1/3HP 240 V AC
 Max. 100 mΩ (1 A / 6 V DC)
 1×10⁶ times
 1×10⁵ times

2 kV AC / 1 min
 1 kV AC / 1 min
 5 kV AC (1.2/50 μs)
 1,000 MΩ (500 V DC)
 Malfunction 10~55 Hz (Amplitude 1.5 mm)
 Endurance 10~55 Hz (Amplitude 1.5 mm)
 Malfunction 98 m/s², Endurance 980 m/s²
 -40~105 °C (No condensation)
 20~85%
 24.5×23.6×10.2
 Flux-proof, sealed
 PCB & faston terminal
 10

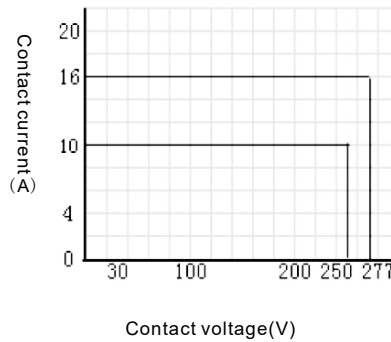
cULus:E345228, TUV:R50250866, CQC:CQC12002086474

SSA approval rating							
cULus		10A/250VAC (Resistive)	105 °C	100,000ops	15A/250VAC	105 °C	100,000ops
		10A/30VDC (Resistive)	105 °C	100,000ops	16A/250VAC	105 °C	100,000ops
		15A/250VAC (Resistive)	105 °C	100,000ops	CQC		
		1/3HP 240VAC (HP)	105 °C	30,000ops	10A/250VAC	105 °C	100,000ops
TUV					15A/250VAC	105 °C	100,000ops
		10A/250VAC	105 °C	100,000ops	16A/250VAC	105 °C	100,000ops
					16A/277VDC	105 °C	100,000ops

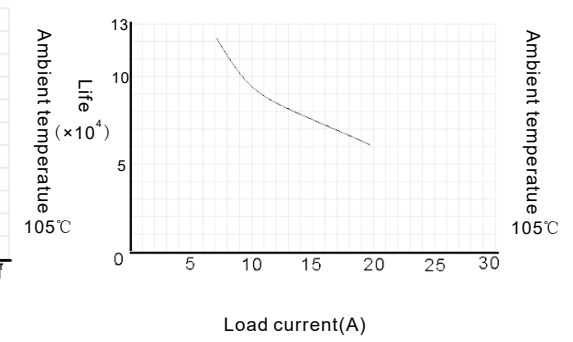
Coil rating					
Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω±10%)	Operating power (mW)	Operating voltage (VDC)	Release voltage (VDC)
5	40	125	200	≤3.75	≥0.25
9	22.2	405	200	≤6.75	≥0.45
12	16.7	720	200	≤9.00	≥0.60
18	11.1	1,620	200	≤13.50	≥0.90
24	8.3	2,880	200	≤18.00	≥1.20

MAX. allowable coil voltage: 130% of rated coil voltage (Room temperature)

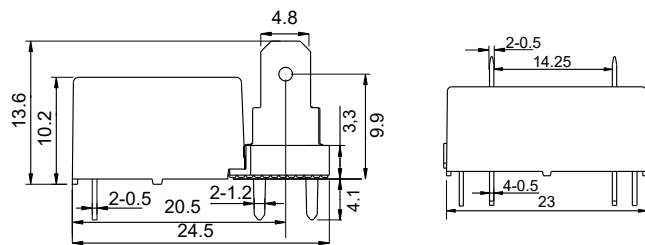
MAX.contact capacity



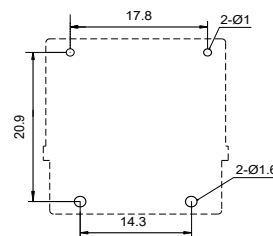
Life curve(10A)



Outline dimensions



PCB board layout (Bottom view)



Tolerance	
Outline dimension	
<1mm	±0.2mm
1~5mm	±0.3mm
>5mm	±0.4mm
PCB board layout	
Pitch-row	±0.1mm
Aperture	+0.1mm