

**RoHS
Compliant**



Features

- Miniature automotive relay
Single relay: MPCMA25 Twin relay: MPCMA252
MPCMA25 dimensions: 12mm × 7.3mm × 14mm
MPCMA252 dimensions: 12mm × 14.5mm × 14mm
- Motor load: 25A
- Reflow soldering version is available
- Typical applications: Automatic doors and windows, Central door lock, Sunroof control, Seat adjustment, Mirror adjustment

Specification

Contact Data		
Contact Form	C - 1 Form C	
Contact Material	Ag Alloy	
Contact Rating	NO/NC: 20A/10A 14V DC (Resistance) 25A 14V DC (Motor)	
Contact Resistance	Max. 100mΩ (6V DC 1A)	
Load	Max. Switching Voltage	16V DC
	Max. Continuous current (1)	35A (23°C, 2min, 12V DC), 25A (85°C, 2min, 12V DC) T:30A (85°C, 2min, 12V DC), T:20A (125°C, 2min, 12V DC)
	Max. Switching Current	NO: 60A (23°C, 14V DC) NC: 30A (23°C, 14V DC)
	Max. Switching Power	1A 6V DC
Life	Electrical	1×10 ⁵ ops (Resistance), 1s on/9s off 1×10 ⁵ (Motor locked, 0.5s on/9.5s off)
	Mechanical	1×10 ⁷ ops (300ops/min)
Coil Data		
Nominal Coil Power	0.9W, 0.655W	
Max. Permitted Coil Voltage	16V DC	
General Data		
Insulation Resistance	Min. 100MΩ 500V DC	
Dielectric Strength	Between open contacts	500V AC, 50/60Hz, 1 min
	Between coil and contacts	500V AC, 50/60Hz, 1 min
Operate Time	Max. 10ms	
Release Time	Max. 10ms	
Operating Temperature	-40°C to +85°C (Standard)	
	-40°C to +125°C (Reflow)	
Humidity	35 to 95%RH, +40°C	
Shock Resistanc	Endurance	1000m/s ² (Pulse duration 6ms)
	Misoperation (3)	100m/s ² (Pulse duration 11ms)
Vibration Resistance	Endurance	10-500Hz, 43m/s ² Acceleration, 200h
	Misoperation	10-300Hz, 43m/s ² Acceleration
Weight	MPCMA25: 3.5g, CMA252: 6.5g	

Note: Data shown are of initial value

(1) Test according to the following conditions

(a) The relay is installed on the PCB board, and the coil is applied with 100% rated voltage

(b) PCB board is a double-layer board, and the thickness of copper foil is 4oz (140 μm), width of each copper foil is $3.76 \times (1 \pm 5\%)$ mm, length of copper foil is $50\text{mm} \pm 1\text{mm}$, PCB board Tg is 150°C

(2) When energized, the NO contact opening time shall less than 1ms. When non-energized, the NC contact opening time shall less than 1ms, at the same time, NO contact shall not be closed.

(3) When energized, the NO contact opening time shall less than 10 μs. When non-energized, the NC contact opening time shall less than 10 μs, at the same time, NO contact shall not be closed.

Coil Data

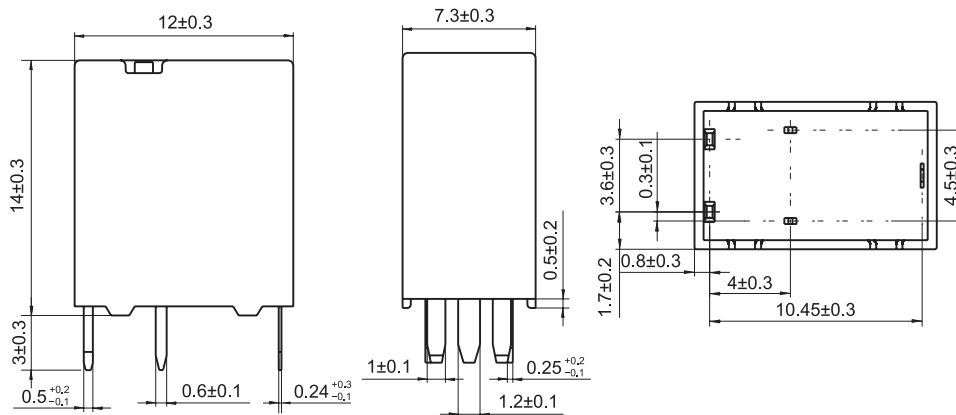
Ambient Temperature: 23°C

Model	Nominal Voltage V DC	Coil Resistance Ω+/-10%	Operate Voltage ≤V DC	Release Voltage ≥ VDC	Coil Power W
MPCMA252-S-DC12V-BP	12	160	6.5	0.8	0.9
MPCMA252-S-DC12V-C		220	7.7		0.655
MPCMA252H-S-DC12V-BP		160	6.5		0.9
MPCMA252H-S-DC12V-C		220	7.7		0.655

Outline, Wiring Diagram, Mounting Hole Layout

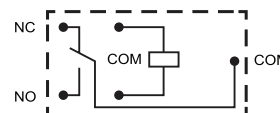
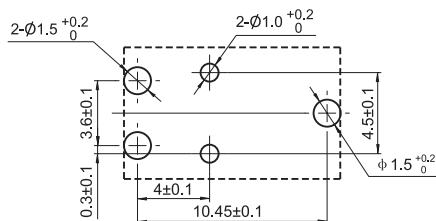
MPCMA25 Single relay

Outline



Mounting Hole Layout
(Bottom View)

Wiring Diagram
(Bottom View)



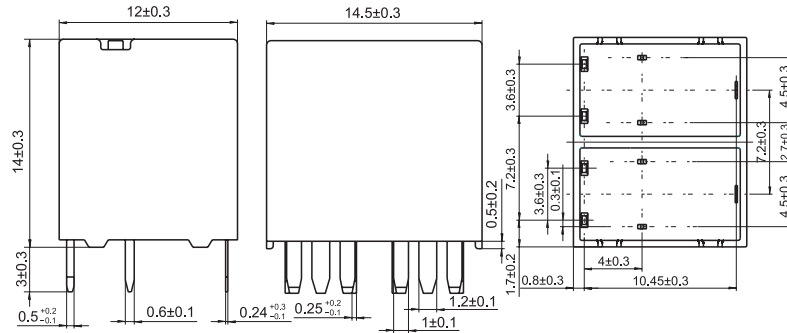
Dimensions : Millimetres

Automotive Relay

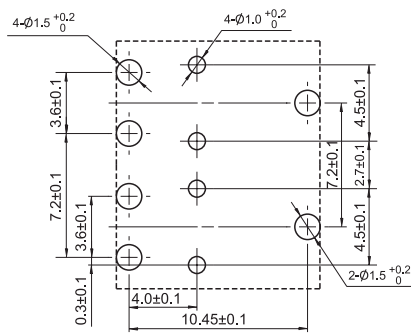
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MP CMA252 Twin relay

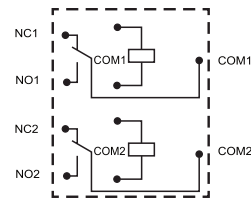
Outline



Mounting Hole Layout
(Bottom View)

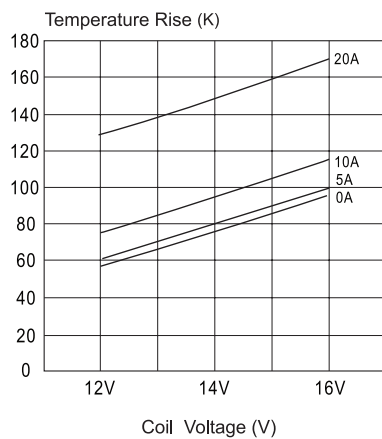


Wiring Diagram
(Bottom View)

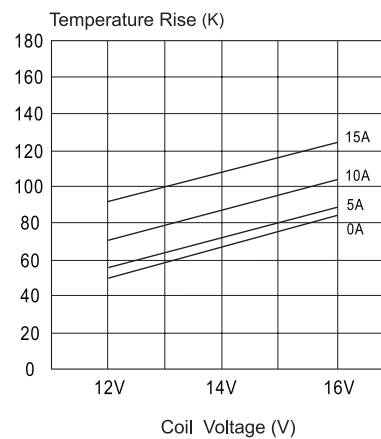


Dimensions : Millimetres

Coil Temperature Rise(23°C)



Coil Temperature Rise(85°C)



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Life Test of Motor Locked

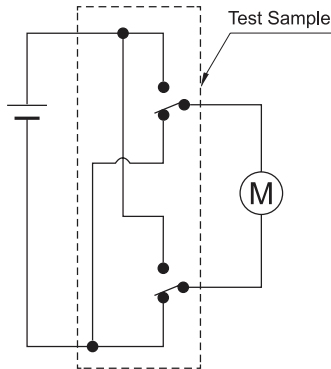
Load:25A 14VDC

Actual load of power window motor (locked state)

Frequency:ON/OFF=0.5s/9.5s

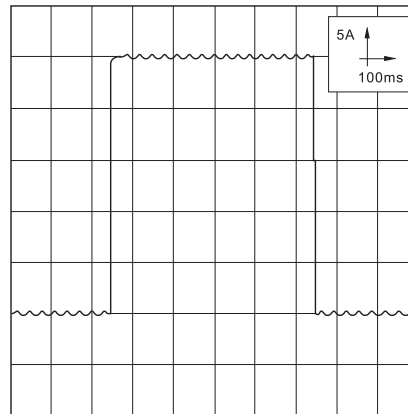
Ambient Temperature: 23°C

Circuit:



Load Current Waveform

Current:25A



Part Number Table

Description	Part Number
Automotive Relay, PCB Type, NC, 0.9W, 10A, 8 Pins	MPCMA252-S-DC12V-BP
Automotive Relay, PCB Type,NO/NC, 0.9W, 10A/5A, 10 Pins	MPHRS5G-S-DC24V-A
Automotive Relay, PCB Type, NC, 0.655W, 10A, 8 Pins	MPHRS5G-S-DC5V-C
Automotive Relay, PCB Type,NO/NC, 0.655W, 10A/5A, 10 Pins	MPHRS5G-S-DC24V-C

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