



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

**RoHS
Compliant**

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

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(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

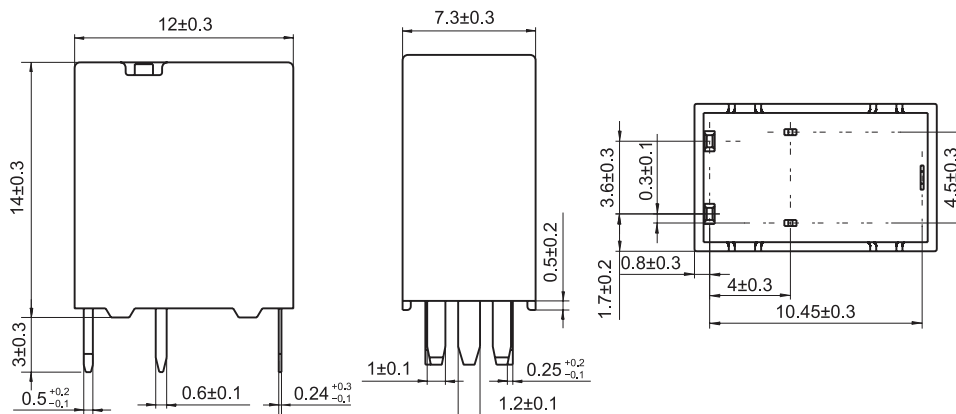
Ambient Temperature: 23°C

Model	Nominal Voltage V DC	Coil Resistance Ω $\pm 10\%$	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

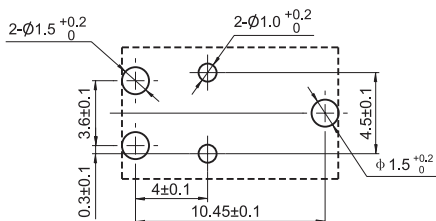
Outline, Wiring Diagram, Mounting Hole Layout

MPCMA25 Single relay

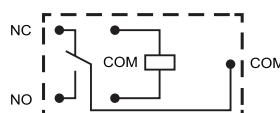
Outline



Mounting Hole Layout
(Bottom View)



Wiring Diagram
(Bottom View)



Dimensions : Millimetres

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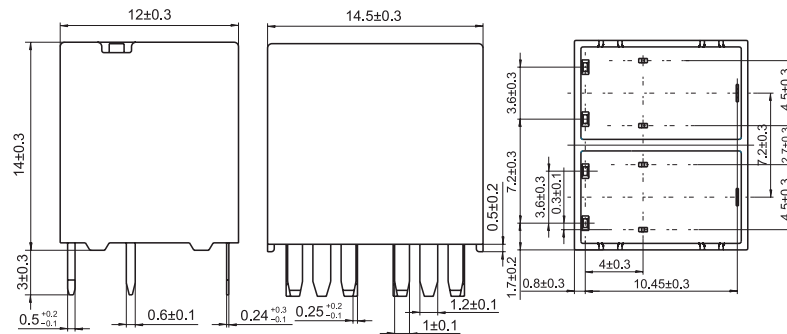
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Automotive Relay

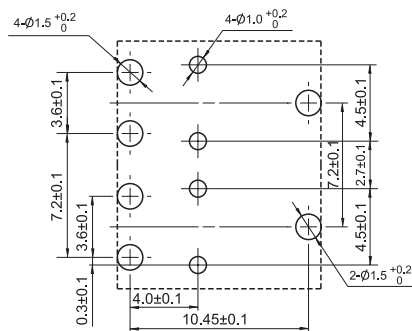
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MP CMA252 Twin relay

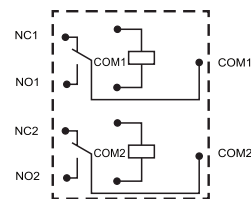
Outline



Mounting Hole Layout
(Bottom View)

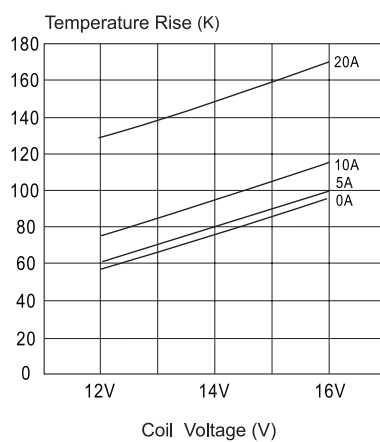


Wiring Diagram
(Bottom View)

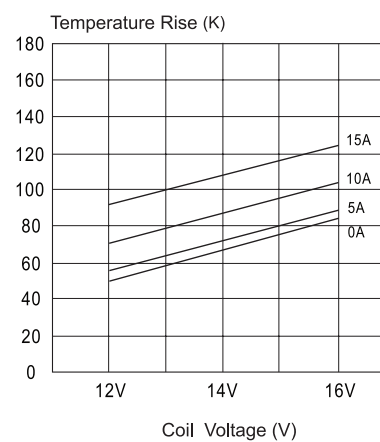


Dimensions : Millimetres

Coil Temperature Rise(23°C)



Coil Temperature Rise(85°C)



Life Test of Motor Locked

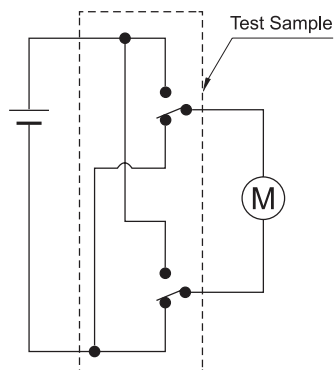
Load:25A 14VDC

Actual load of power window motor (locked state)

Frequency:ON/OFF=0.5s/9.5s

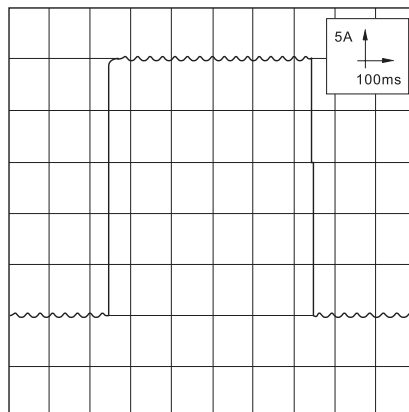
Ambient Temperature: 23°C

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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