Automotive Relay

multicomp PRO

Features

RoHS Compliant

- 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 μ m) , width of each copper foil is 3.76 × (1 ± 5%) mm, length of copper foil is 50mm ± 1mm, 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 μ s. When non-energized, the NC contact opening time shall less than 10 μ s,at the same time, NO contact shall not be closed .

Coil Data

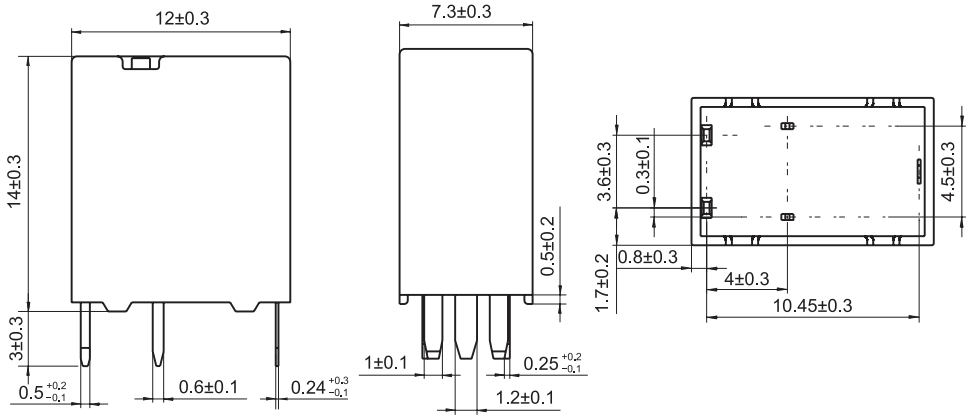
Ambient Temperature: 23°C

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

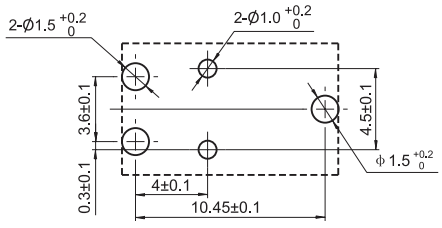
Outline, Wiring Diagram, Mounting Hole Layout

MPCMA25 Single relay

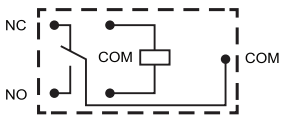
Outline



Mounting Hole Layout
(Bottom View)



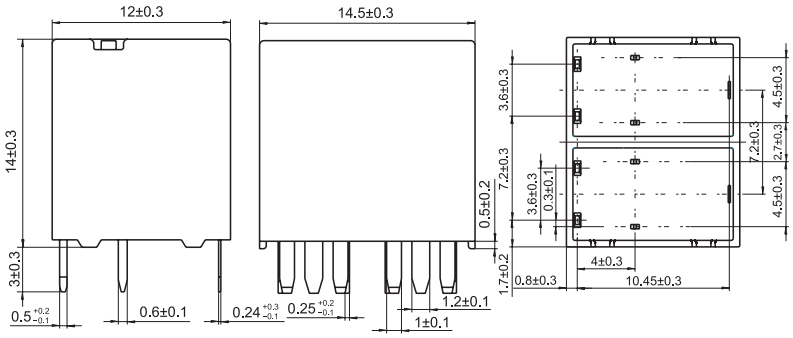
Wiring Diagram
(Bottom View)



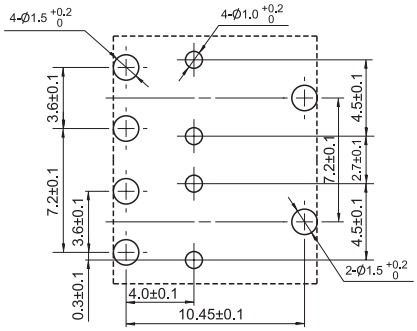
Dimensions : Millimetres

MP CMA252 Twin relay

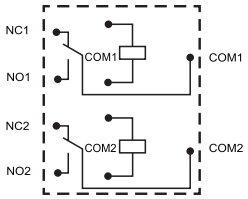
Outline



Mounting Hole Layout
(Bottom View)

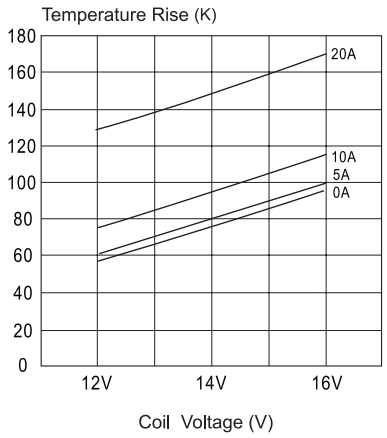


Wiring Diagram
(Bottom View)

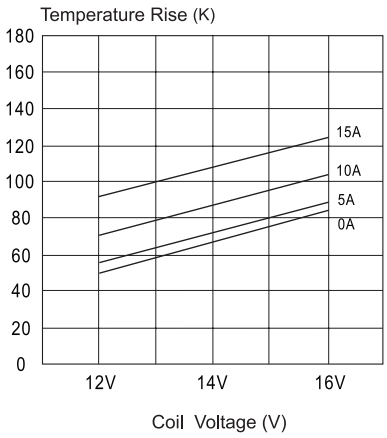


Dimensions : Millimetres

Coil Temperature Rise(23°C)



Coil Temperature Rise(85°C)



Life Test of Motor Locked

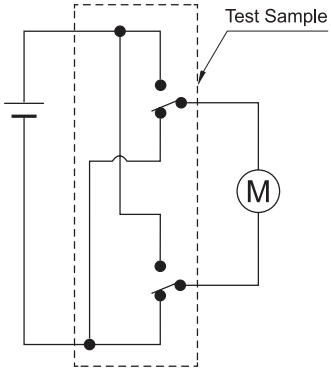
Load:25A 14VDC

Actual load of power window motor (locked state)

Frequency:ON/OFF=0.5s/9.5s

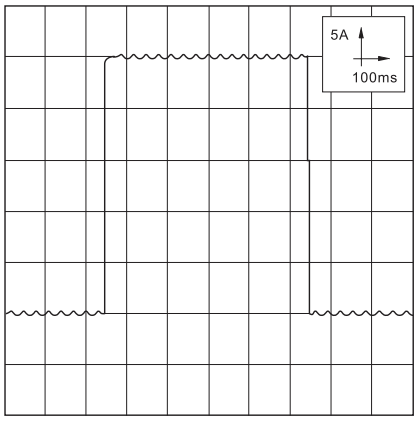
Ambient Temperature: 23°C

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