



## Coil Data

Nominal Voltage	: 12 V dc
Coil Resistance	: Refer to coil data chart
Operate Voltage	: Refer to coil data chart
Release Voltage	: Refer to coil data chart
Coil Power	: 1,600 mW

## Contact Data

Contact Form	: C-1 form C
Contact Material	: Ag Alloy
Contact Rating	: 30 A 14 V dc Resistive (1 Form C)
Maximum Switching Voltage	: 75 V dc
Maximum Switching Current	: 40 A
Maximum Switching Power	: 420 W (1 Form C)
Maximum Load Current	: 14 V dc load voltage

Load	C	
	NO	NC
Contact Rating Current	40 A	30 A
Maximum Make Current	100 A	
Maximum Break Current	40 A	

Contact Resistance	: $\leq 100 \text{ m}\Omega$ (6 V dc 1 A)
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## Life

Electrical	: 100,000 operations
Mechanical	: 10,000,000 operations

## General Data

Minimum Insulation Resistance	: 100 M $\Omega$ 500 V dc
Dielectric Strength	: 500 V ac, 1 min between open contacts
	: 500 V ac, 1 min between coil and contacts
Maximum Operate Time	: 10 ms
Maximum Release Time	: 10 ms
Operate Temperature	: -40 to +85°C

# Automotive Relays



## General Data

### Shock Resistance

Endurance : 1,000 m/s<sup>2</sup>  
 Misoperation : 100 m/s<sup>2</sup>

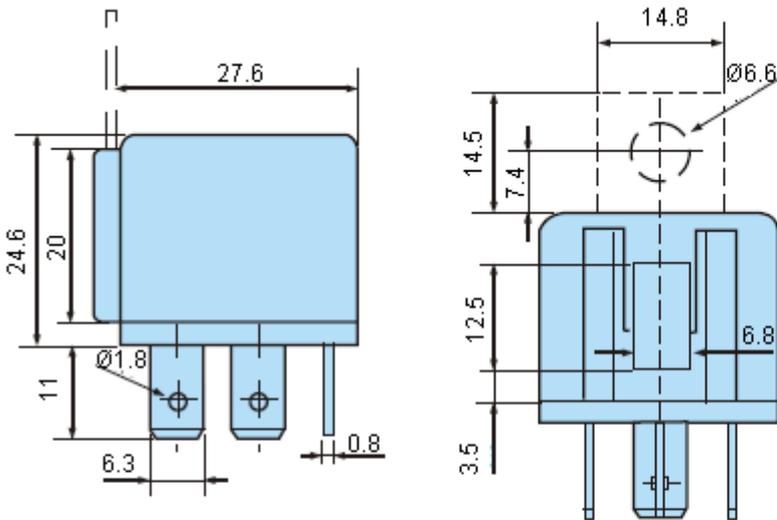
### Vibration Resistance

Endurance : 10-55 Hz, double amplitude 1.5 mm  
 Misoperation : 10-55 Hz, double amplitude 1.5 mm  
 Weight : Approximately 37 g (With Shoulder)  
 : Approximately 32 g (No Shoulder)

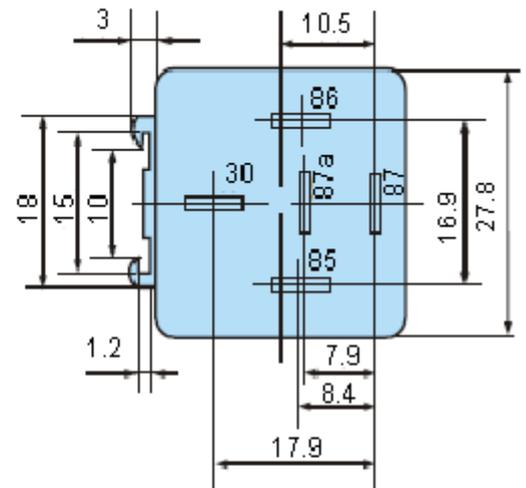
## Coil Data Chart 20°C

Nominal Voltage V dc	Coil Resistance $\Omega \pm 10\%$	Operate Voltage $\leq V$ dc	Release Voltage $\geq V$ dc	Coil Power mW
12	90	8.4	1.2	1,600

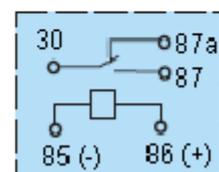
Dimensions



Mounting Hole Layout



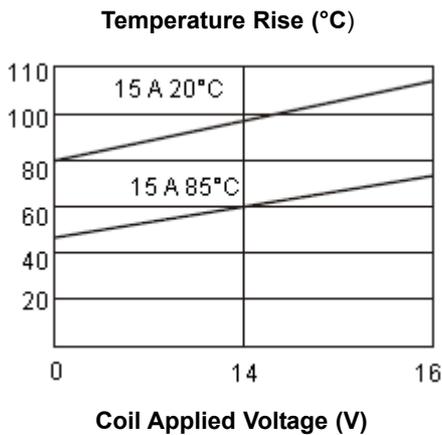
Wiring Diagrams



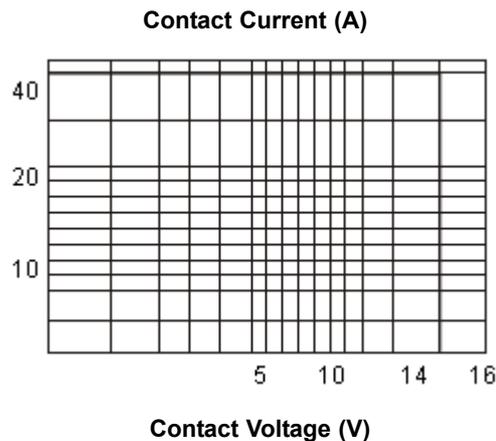
Dimensions : Millimetres

## Characteristic Data

### Temperature Rise



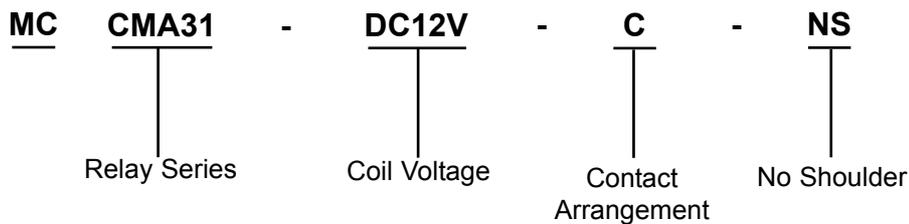
### Maximum Switching Power



## Part Number Table

Description	Part Number
Relay, Auto, SPDT, 12 V dc, 1.6 W	MCCMA31-DC12V-C-NS
Relay, Auto, SPDT, 12 V dc, 1.6 W, Shoulder	MCCMA31-DC12V-C

## Part Number Explanation:



**Contact Arrangement** : C = C-1 Form C

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