

# Subminiature Automotive Relays

## Type CV20

### Monostable



- Subminiature relay
- Switching capacity up to 20 A
- DC coils 6 to 24 VDC
- 1 change over contact/1 double make contact
- High resistance to vibration and shock
- Low power consumption 0.6 W to 1 W
- General purpose, industrial automotives
- Construction sealed

### Product Application

Power antenna  
Tilt lock wheel  
Thief-proof device  
Motor control

Lamp control  
Rear window  
Seat heating

### Ordering Key

**CV20 A 001 12**

Type \_\_\_\_\_  
Contact material \_\_\_\_\_  
Contact code \_\_\_\_\_  
Coil rated voltage \_\_\_\_\_

Contact material: **A**= AgNi - **S**= AgSnO<sub>2</sub>  
**G**= Ag SnOInO (100 P only)

### Type Selection

Contact configuration	Contact rating	Contact code
1 change over contact (SPDT {1-form C})	20 A	001
1 double make contact (SPST {1-form U})	2 x 30 A (2 mm)	100P (only G contact)

### Coil Characteristics, DC (20°C), coil power 0,6 W

CV20 . 001 .					CV20 . 100P .			
Rated voltage VDC	Pick-up voltage 20 °C VDC	Drop-out voltage VDC	Coil resistance Ω ±10%	Max voltage VDC	Rated voltage VDC	Pick-up voltage 20 °C VDC	Drop-out voltage VDC	Coil resistance Ω ±10%
6	3.9	0.5	60	7.8	6	3.6	0.6	60
9	5.85	0.7	135	11.7	9	5.4	0.9	135
12	7.8	1.0	240	15.6	12	7.3	1.2	240
24	15.6	2.2	960	31.2	24	14.4	2.4	960

### Contact Characteristics

	CV20A 001	CV20G 100P		CV20A 001	CV20G 100P
<b>Rating</b>	20 A		<b>Current</b> Max. switch. current Max. carrying current Max. inrush current Min. applicable load	25 A	max 60 A break 30 A
<b>Contact rating</b>	20 A 14 VDC	30 A 16 VDC		20 A	2 x 30 A (2 min.)
Resistive load	20 A 14 VDC			25 A	60 A
Locked motor load	20 A 14 VDC			100 mA 6 VDC	100 mA 12 VDC
<b>Material</b>	AgNi	Ag SnO InO	<b>Life at rated values</b> Electrical life Mechanical life	1 x 10 <sup>5</sup> ops	
<b>Initial contact resistance</b>	100 mΩ max. (0,1 A 6 VDC)			1 x 10 <sup>7</sup> ops	

## Insulation

Test voltage (1 min.)  
Open contacts  
Contacts/coil

500 VAC  
500 VAC

Insulation resistance  
at 500 VAC

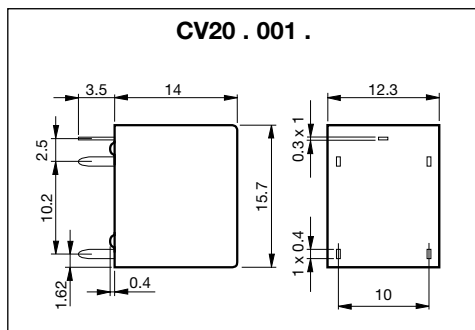
100 MΩ, 500 VDC

## General Data

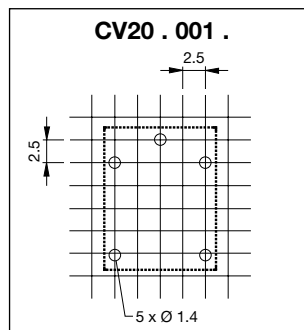
	CV20.001.	CV20.100P.
Operate time at nom. voltage	10 ms	
Release time at nom. voltage	5 ms	
Ambient temperature	-40 °C to +85 °C	-30 °C to +85 °C
Temperature storage	-40 °C to +100 °C	

	CV20.001.	CV20.100P.
Vibration resistance	1.5 mm p.p. 10 to 55 Hz	
Shock resistance		
Malfunction	98 m/s <sup>2</sup> (10 G)	
Destructive	980 m/s <sup>2</sup> (100 G)	
Humidity	35-85% +40 °C	
Weight	~ 6 g	

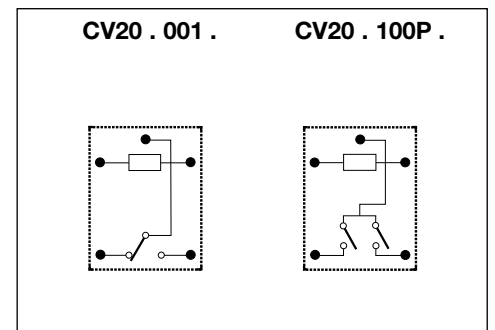
## Dimensions



## Pin View

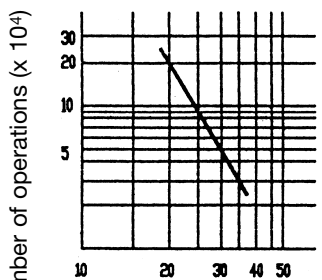


## Wiring Diagram



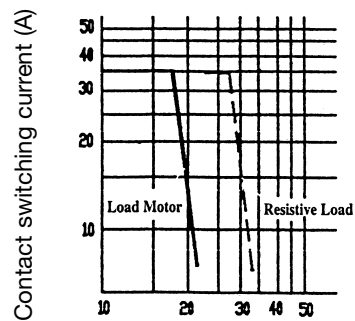
## Diagrams

1 Life curve - CV20 . 001 .



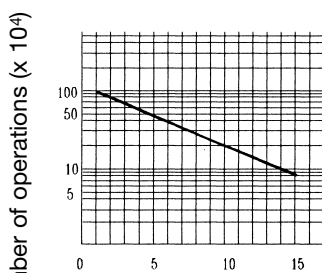
Locked motor current (A)

2 Maximum break capacity - CV20 . 001 .



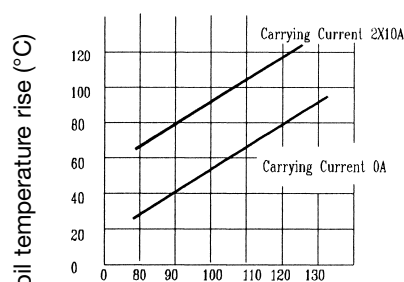
Voltage between contacts (V)

1 Life curve - CV20 . 100P .



Contact current (A) - Resistive load

2 Coil temperature rise - CV20 . 100P .



Coil voltage (%)