

# HR-CR3N23

RoHS 대응품

## 2 Form A exclusive, 5A power relay

### Features

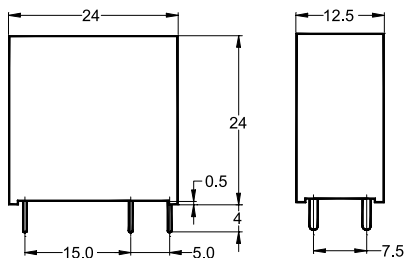
- Economical version of HR-CR323
- 5mm shorter in length than HR-CR323
- Conforms to various safety standard
- Coil sensitivity available in 530mW and 720mW
- Sealed construction standard

### Applications

- Home appliance, Industrial control

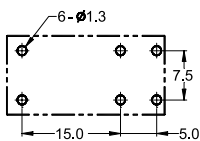
### Dimensions (mm)

To convert into inches, multiply by 0.03937



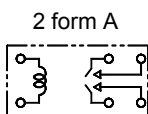
### PC Board Layout

Copper-side view



### Schematic

Copper-side view



### Approvals

 UL

 CUL

 TUV

## Contact data

Arrangement	2 Form A (DPST)	
Contact material	Ag Alloy	
Initial contact resistance	100mΩ max.	
Rated load, resistive	5A 30VDC 5A 250VAC	
Maximum carry current	5A	
Maximum switching capacity	with DC voltage: with AC voltage:	150W 1,250VA
Maximum switching voltage	30VDC 250VAC	
Minimum switching rating <sup>1)</sup>	100mA 5VDC	

<sup>1)</sup>Min. Switching Load mentioned above are reference values. Therefore it is recommended to perform the confirmation test with the actual load before production since reference values may vary according to switching frequencies, environmental conditions and expected reliability levels.

## Coil data

Nominal voltage	5VDC to 48VDC
Nominal power consumption <sup>2)</sup>	530mW, 720mW
Operate voltage <sup>3)</sup>	75% of nominal voltage
Release voltage <sup>4)</sup>	10% of nominal voltage

<sup>2), 3), 4)</sup> The values depend on coil voltage, see Part selection chart

## General data

Operate time	20ms max. at nominal voltage	
Release time	10ms max. at nominal voltage	
Initial insulation resistance	1,000 MΩ min. (500VDC)	
Dielectric strength	Between open contacts: Between contacts and coil:	1,000VAC <sub>rms</sub> for 1 minute 3,000VAC <sub>rms</sub> for 1 minute
Surge strength	Between contacts and coil:	5,000V
Expected life	Mechanical: Electrical:	More than 10,000,000 operations More than 100,000 operations at rated load
Vibration resistance	Functional: Destructive:	10 ~ 55Hz dual amplitude: 1.5mm 10 ~ 55Hz dual amplitude: 1.5mm
Shock resistance	Functional: Destructive:	10G min. 100G min.
Ambient temperature	- 40°C + 70°C (with no icing)	
Humidity	45% to 85% RH	
Weight	13g approx.	

Note: The above figures are initial values

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## Part number description



HR-CR3N23

### Coil voltage

DC05: 5VDC      DC12: 12VDC  
 DC06: 6VDC      DC18: 18VDC  
 DC09: 9VDC      DC24: 24VDC  
                          DC48: 48VDC

### Coil sensitivity

None: Standard (720mW)  
 H: High sensitive (530mW)

Part number description is provided for reference, part number can not be arbitrarily composed. Refer to the part numbers shown in the table below. Special designs to customer specifications are possible; please contact HR.

## Part selection

Part number	Nominal voltage (VDC)	Coil resistance ( $\Omega \pm 10\%$ )	Nominal current (mA)	Must operate voltage (VDC)	Must release voltage (VDC)	Max voltage (VDC)	Nominal power (mW)
<b>Standard coil</b>							
HR-CR3N23DC05	5	35	144	3.75	0.5	6.5	720
HR-CR3N23DC06	6	50	120	4.5	0.6	7.8	
HR-CR3N23DC09	9	112	80	6.75	0.9	11.7	
HR-CR3N23DC12	12	200	60	9.0	1.2	15.6	
HR-CR3N23DC18	18	450	40	13.5	1.8	23.4	
HR-CR3N23DC24	24	800	30	18.0	2.4	31.2	
HR-CR3N23DC48	48	3,200	15	36.0	4.8	62.4	
<b>Sensitive coil</b>							
HR-CR3N23DC05H	5	47	106	3.75	0.5	6.5	530
HR-CR3N23DC06H	6	68	88	4.5	0.6	7.8	
HR-CR3N23DC09H	9	153	59	6.75	0.9	11.7	
HR-CR3N23DC12H	12	273	44	9.0	1.2	15.6	
HR-CR3N23DC18H	18	620	29	13.5	1.8	23.4	
HR-CR3N23DC24H	24	1,085	22.1	18.0	2.4	31.2	
HR-CR3N23DC48H	48	4,350	11.0	36.0	4.8	62.4	

Note: All values in the chart are measured at 23°C