

HR702

10A-15A 1-pole power relay

Features

- Low profile version of HR703H
- Clearance and creepage distances of the basic insulation conforms to VDE0435 and VDE0700
- Sealed immersion cleanable type

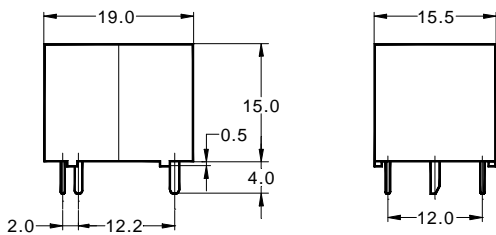


Applications

- Home appliance, Heater control, Industrial control emergency lighting

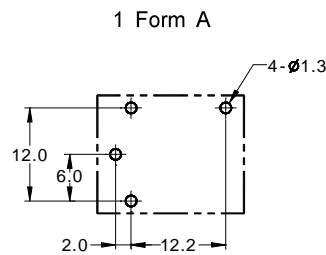
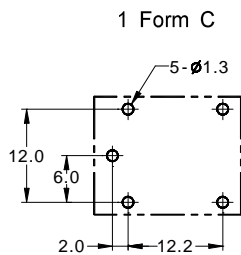
Dimensions (mm)

To convert into inches, multiply by 0.03937



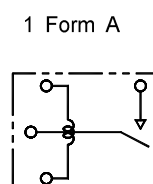
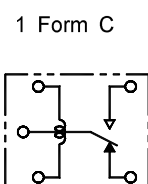
PC Board Layout

Copper-side view



Schematic

Copper-side view



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Contact data

Arrangement	1 Form A (SPST), 1 Form C (SPDT)	
Contact material	Ag Alloy	
Initial contact resistance	100m Ω max.	
Rated load, resistive	Standard (NH type)	High capacity (HH type)
	10A 24VDC 10A 120VAC	15A 24VDC 15A 120VAC TV-5
Maximum carry current	10A	15A
Maximum switching capacity	with DC voltage: with AC voltage:	240W 1,200VA 360W 1,800VA
Maximum switching voltage	110VDC 240VAC	

Coil data

Nominal voltage	3VDC to 48VDC
Nominal power consumption ¹⁾	360mW
Operate voltage ²⁾	75% of nominal voltage
Release voltage ³⁾	10% of nominal voltage

^{1), 2), 3)}The values depend on coil voltage, see Part selection chart

General data

Operate time	10ms max. at nominal voltage	
Release time	5ms max. at nominal voltage	
Initial insulation resistance	100 M Ω min. (500VDC)	
Dielectric strength	Between open contacts:	750VAC _{rms} for 1 minute
	Between contacts and coil:	1,500VAC _{rms} for 1 minute
Expected life	Mechanical:	More than 10,000,000 operations
	Electrical:	More than 100,000 operations at rated load
Vibration resistance	Functional:	10~55Hz dual amplitude: 1.5mm
	Destructive:	10~55Hz dual amplitude: 1.5mm
Shock resistance	Functional:	10G min.
	Destructive:	100G min.
Ambient temperature	-40°C to +85°C (with no icing)	
Humidity	35% to 85% RH	
Weight	9.5g approx.	

Note: The above figures are initial values

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Part number description



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Contact arrangement

None: 1 Form C
A: 1 Form A

Contact ratings

NH: 10A 120VAC
HH: 15A 120VAC

Coil voltage

DC03V: 3VDC DC09V: 9VDC
DC05V: 5VDC DC12V: 12VDC
DC06V: 6VDC DC24V: 24VDC
DC48V: 48VDC

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)
Contact rating NH type, 1 Form C							
HR702NHDC03V	3	25	120	2.25	0.3	3.9	360
HR702NHDC05V	5	70	72	3.75	0.5	6.5	
HR702NHDC06V	6	100	60	4.50	0.6	7.8	
HR702NHDC09V	9	225	40	6.75	0.9	11.7	
HR702NHDC12V	12	400	30	9.00	1.2	15.6	
HR702NHDC24V	24	1,600	15	18.00	2.4	31.2	
HR702NHDC48V	48	6,400	7.5	36.00	4.8	62.4	
Contact rating NH type, 1 Form A							
HR702ANHDC03V	3	25	120	2.25	0.3	3.9	360
HR702ANHDC05V	5	70	72	3.75	0.5	6.5	
HR702ANHDC06V	6	100	60	4.50	0.6	7.8	
HR702ANHDC09V	9	225	40	6.75	0.9	11.7	
HR702ANHDC12V	12	400	30	9.00	1.2	15.6	
HR702ANHDC24V	24	1,600	15	18.00	2.4	31.2	
HR702ANHDC48V	48	6,400	7.5	36.00	4.8	62.4	

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

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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)
Contact rating HH type, 1 Form C							
HR702HHDC03V	3	25	120	2.25	0.3	3.9	360
HR702HHDC05V	5	70	72	3.75	0.5	6.5	
HR702HHDC06V	6	100	60	4.50	0.6	7.8	
HR702HHDC09V	9	225	40	6.75	0.9	11.7	
HR702HHDC12V	12	400	30	9.00	1.2	15.6	
HR702HHDC24V	24	1,600	15	18.00	2.4	31.2	
HR702HHDC48V	48	6,400	7.5	36.00	4.8	62.4	
Contact rating HH type, 1 Form A							
HR702AHHDC03V	3	25	120	2.25	0.3	3.9	360
HR702AHHDC05V	5	70	72	3.75	0.5	6.5	
HR702AHHDC06V	6	100	60	4.50	0.6	7.8	
HR702AHHDC09V	9	225	40	6.75	0.9	11.7	
HR702AHHDC12V	12	400	30	9.00	1.2	15.6	
HR702AHHDC24V	24	1,600	15	18.00	2.4	31.2	
HR702AHHDC48V	48	6,400	7.5	36.00	4.8	62.4	

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