HR80

Flat 10A to 16A power relay

Features

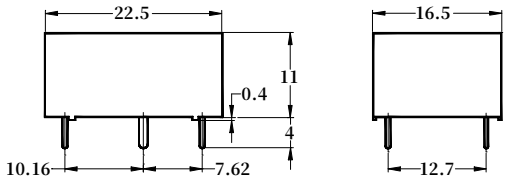
- Only 11mm in height
- High switching capacity up to 16A
- Plastic sealed type standard

Applications

- Home appliance, Industrial control

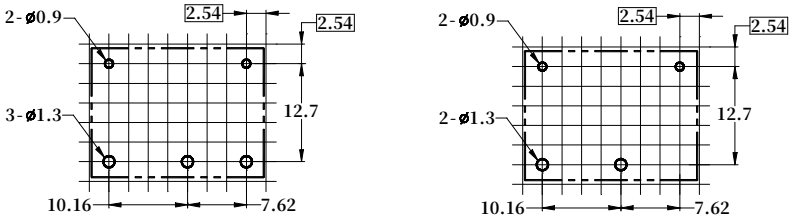
Dimensions (mm)

To convert into inches, multiply by 0.03937



PC Board Layout

Copper-side view



Schematic

Copper-side view

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Contact data

Arrangement	1 Form A (SPST)	1 Form C (SPDT)
Contact material	Ag Alloy	
Initial contact resistance	100mΩ max.	
Rated load, resistive	16A 30VDC 16A 250VAC	10A 30VDC 10A 250VAC
Maximum carry current	16A	10A
Maximum switching capacity with DC voltage: with AC voltage:	300W 2,500VA	
Maximum switching voltage	110VDC 380VAC	

Coil data

Nominal voltage	5VDC to 48VDC
Nominal power consumption[1)]	200mW, 450mW
Operate voltage[2)]	80% of nominal voltage
Release voltage[3)]	5% 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 MΩ min. (500VDC)
Dielectric strength	Between open contacts: Between contacts and coil:	750VAC$_{rms}$ for 1 minute 1,500VAC$_{rms}$ for 1 minute
Expected life	Mechanical: Electrical:	More than 5,000,000 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℃ to +85℃ (with no icing)
Humidity		35% to 85% RH
Weight		10g approx.

Note: The above figures are initial values

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Part number description

HR80 □ □ □

Contact Form
A: 1 Form A, SPST
C: 1 Form C, SPDT

Coil voltage
DC05: 5VDC
DC06: 6VDC
DC09: 9VDC
DC12: 12VDC
DC18: 18VDC
DC24: 24VDC
DC48: 48VDC (600mW)

Coil sensitivity
None: Standard (0.45W)
H: High sensitive (0.2W)

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 (Ω ±10%)	Nominal current (mA)	Must operate voltage (VDC)	Must release voltage (VDC)	Max voltage (VDC)	Nominal power (mW)
Standard coil, 1 Form A							
HR80A DC05	5	55.5	90	4.0	0.25	6.5	450
HR80A DC06	6	80	75	4.8	0.30	7.8	
HR80A DC09	9	180	50	7.2	0.45	11.7	
HR80A DC12	12	320	37.5	9.6	0.60	15.6	
HR80A DC18	18	720	25	14.4	0.90	23.4	
HR80A DC24	24	1,280	18.75	19.2	1.20	31.2	
HR80A DC48	48	3,840	12.5	38.4	2.40	62.4	600
Sensitive coil, 1 Form A							
HR80A DC05H	5	125	40	4.0	0.25	6.5	200
HR80A DC06H	6	180	33.3	4.8	0.30	7.8	
HR80A DC09H	9	405	22.2	7.2	0.45	11.7	
HR80A DC12H	12	720	16.7	9.6	0.60	15.6	
HR80A DC18H	18	1,620	11.1	14.4	0.90	23.4	
HR80A DC24H	24	2,880	8.33	19.2	1.20	31.2	

Note: All values in the chart are measured at 23℃

Part number	Nominal voltage (VDC)	Coil resistance (Ω ±10%)	Nominal current (mA)	Must operate voltage (VDC)	Must release voltage (VDC)	Max voltage (VDC)	Nominal power (mW)
Standard coil, 1 Form C							
HR80C DC05	5	55.5	90	4.0	0.25	6.5	450
HR80C DC06	6	80	75	4.8	0.30	7.8	
HR80C DC09	9	180	50	7.2	0.45	11.7	
HR80C DC12	12	320	37.5	9.6	0.60	15.6	
HR80C DC18	18	720	25	14.4	0.90	23.4	
HR80C DC24	24	1,280	18.75	19.2	1.20	31.2	
HR80C DC48	48	3,840	12.5	38.4	2.40	62.4	600
Sensitive coil, 1 Form C							
HR80C DC05H	5	125	40	4.0	0.25	6.5	200
HR80C DC06H	6	180	33.3	4.8	0.30	7.8	
HR80C DC09H	9	405	22.2	7.2	0.45	11.7	
HR80C DC12H	12	720	16.7	9.6	0.60	15.6	
HR80C DC18H	18	1,620	11.1	14.4	0.90	23.4	
HR80C DC24H	24	2,880	8.33	19.2	1.20	31.2	

Note: All values in the chart are measured at 23℃