

Miniature Reed Relays with Magnetic Shield

DESCRIPTION

The NP series offers a wide range of switch and pin out options in a package of only 10.2 x 22 mm.



FEATURES

- High resistance coil up to 3000 Ω at 4 VDC
- Contact Forms 1A, 2A, 1C
- Various standard switch options
- Plastic case available

CHARACTERISTICS

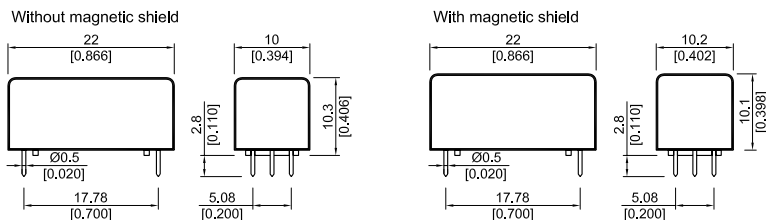
- Magnetic shield
- Small size
- UL approved
- Approval according to EN60950

APPLICATIONS

- Alarm systems
- Computer peripherals
- Measuring equipment

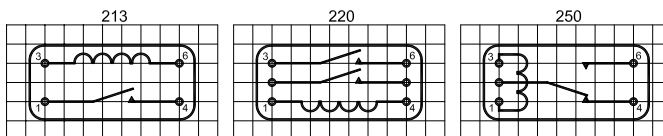
DIMENSIONS

All dimensions in mm [inches]



PIN OUT

View from top of component
2.54mm [0.10"] pitch grid



ORDER INFORMATION

Series	Nominal Voltage	Contact form	Contact Model	Coil Resistance	Pin Out
NP	XX	XX	XX -	XXXxx -	XXX
Options	05	1A	66	500	213
	12			2500	
	24			5000	
	04	1A	81	3000	213
	12			10000	
	05	2A	66	500	220
	12			1500	
	24			3000	
	05	1C	90	500	250
	12			2500	
	24			3500	

Part Number Example

NP12 - 1A66 - 2500 - 213

12 is the nominal voltage
1A is the contact form
66 is the switch model
2500 is the coil resistance
213 is the pin out

COIL DATA

Contact	Contact Model	Coil Voltage		Coil Resistance			Pull-in Voltage	Drop-out Voltage	Nominal Coil Power
All Data at 20 °C		VDC		Ω			VDC	VDC	mW
		Nom.	Max.	Min.	Typ.	Max.	Max.	Min.	Typ.
1A	66	5	7.5	450	500	500	3.5	0.75	50
		12	16	2250	2500	2750	8.4	1.8	60
		24	30	4500	5000	5500	16.8	3.6	115
	81	4	6	2700	3000	3300	2.8	0.6	10
		12	16	9000	10000	11000	8.4	1.8	15
2A	66	5	7.5	450	500	550	3.5	0.75	50
		5	16	1350	1500	1650	8.4	1.8	95
		24	30	2700	3000	3300	16.8	3.6	190
1C	90	5	7.5	450	500	550	3.5	0.75	50
		12	16	2250	2500	2750	8.4	1.8	60
		24	30	4500	5000	5500	16.8	3.6	115

* The pull-in / drop-out voltages and coil resistance will change at the rate of 0,4 % per °C.

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with Magnetic Shield**
RELAY DATA

All Data at 20° C	Switch Model --> Contact Form -->	Switch 66 Form A			Switch 81 Form A			Switch 90 Form C			
Contact Ratings	Conditions	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Ein.
Switching Power	Any DC combination of V & A not to exceed their individual max.'s			10			5			3	W
Switching Voltage	DC or peak AC			200			90			175	V
Switching Current	DC or peak AC			0.5			0.5			0.25	A
Carry Current	DC or peak AC			1.25			1.0			1.2	A
Static Contact Resistance	w/ 0.5 V & 10mA			150			200			150	mΩ
Dynamic Contact Resistance	Measured w/ 0.5 V & 50mA , 1.5 ms after closure			200			200			250	mΩ
Insulation Resistance across Contacts	Across Contact Coil - Contact	10 ¹⁰ 10 ¹⁰			10 ⁹ 10 ¹⁰			10 ⁹ 10 ¹⁰			Ω
Breakdown Voltage across Contact	Across Contact Coil - Contact	225 2.0 1.5			100 2.0 1.5			200 2.0 1.5			VDC kVCD kV/RMS
Operation Time incl. Bounce	100 % Overdrive			0.5			0.5			0.7	ms
Release Time	with no coil suppression			0.1			0.1			1.5	ms
Capacitance	Across Contact Coil - Contact		0.2 4.0			0.4 5.0			1.0 5.0		pF
Life Expectance											
Switch Voltage 5V - 10 mA	DC <10 pF stray cap.		1000			100			100		10 ⁶ Cycles
For other load requirements, see test section on Page 152.											
Environmental Data											
Shock Resistance	1/2 sinus wave duration 11 ms			50			50			50	g
Vibration Resistance	From 10 - 2000 Hz			20			10			20	g
Ambient Temperature	10°C/ minute max. allowable	-20		70	-20		70	-20		70	°C
Stock Temperature	10°C/ minute max. allowable	-25		85	-25		85	-25		85	°C
Soldering Temperature	5 sec.			260			260			260	°C