

*Products for tomorrow...*



### Description

Miniature Reed Relays  
with magnetic shield

### Applications

Alarm systems  
Computer peripherals

### Features

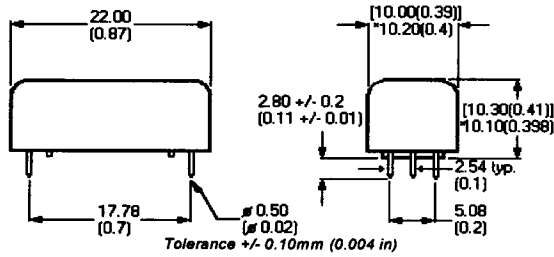
High resistance coils up to 11.000 Ohm at 12V  
Contact forms 1A, 1C  
Compatible pin configurations  
Various standard switch options  
Package size of only 10.2x22 mm

### Ordering Information

Series	Nominal Voltage	Contact Type	Coil Resistance	Diagram
NP	XX-	XXXX-	XX-	XXX
5	12	1A71	500	210
5	12	1A71	1300	210
5	12	1A84	500	210
5	12	1A84	2500	210
5	12	1C90	500	250
5	12	1C90	2500	250

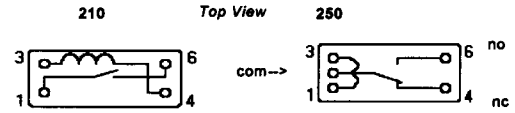
### Approvals and Certifications

UL  
EN60950



\* Dimensions are valid for plastic case versions

### Schematic Diagrams



All data at 20 °C

Contact type  
Contact form

Contact 71			Contact 84			Contact 90		
Standard			High Dielectric			Standard Form C		
Form 1A			Form 1A			Form 1C		

Parameter	Conditions	Sym.	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Units
<b>Coil Characteristics**</b>												
5 Volt coil drive	Operating voltage			5	7.5		5	7.5		5	7.5	Volts
	Coil resistance		450	500	550	450	500	550	450	500	550	Ω
	Must Operate Voltage		0.75		3.5	0.75		3.5	0.75		3.5	Volts
12 Volt coil drive	Must Reset voltage		0.75		3.5	0.75		3.5	0.75		3.5	Volts
	Operating voltage			12			12			12		Volts
	Coil resistance		1170	1300	1430	2250	2500	2750	2250	2500	2750	Ω
	Must Operate Voltage		1.8		8.4	1.8		8.4	1.8		8.4	Volts
	Must Reset voltage		1.8		8.4	1.8		8.4	1.8		8.4	Volts
<b>Contact Ratings</b>												
Rated Power	DC/peak AC Resistive	W			10			10			3	Watts
Switching Voltage	DC/peak AC Resistive	V			200			250			175	Volts
Switching Current	DC/peak AC Resistive	A			0.5			0.5			0.25	Amps
Carry Current	DC/peak AC Resistive	A			1.5			1.5			1.2	Amps
Static Contact Res.	50mV @ 10mA @ nom. volt.	CR			150			150			150	mΩ
Dynamic Contact Res.	0.5V@50mA, 100 Hz and after 1.5ms @ nom. volt.	DCR			200			200			na	mΩ
Life expectancy	Switching 1.0 V with 10ma Rated Loads (consult factory)	10 <sup>9</sup>	1000			1000			200			ops
Contact material				Ru			Rh			Rh		ops
<b>Relay Specifications</b>												
Dielectric Strength	Across contact	I/O	250			700			200			DCV
	Contact to coil		1500			1500			1500			DCV
Capacitance	Across switch			0.2			0.2			0.3		pf
	Switch to coil			2			2			2.5		pf
Operating time	Including bounce	Top			500			700			1000	μs
Release time	No supression	Trel			50			50			2000	μs
	Diode supressed	Trel			300			350			1500	μs
Insulation Resistance	Diode and 24V zener	Trel			100			150			1500	μs
	Across switch	IR	10 <sup>10</sup>	10 <sup>12</sup>		10 <sup>10</sup>	10 <sup>11</sup>		10 <sup>9</sup>	10 <sup>11</sup>		Ω
	Switch to coil	IR	10 <sup>12</sup>	10 <sup>14</sup>		10 <sup>12</sup>	10 <sup>14</sup>		10 <sup>12</sup>	10 <sup>14</sup>		Ω
<b>Environmental Ratings</b>												
Operating temperature		To	-40		70	-40		70	-40		70	°C
Storage temperature		Ta	-40		85	-40		85	-40		85	°C
Soldering time					5			5			5	sec
Solder temperature					260			260			260	°C
Cleaning				Fully Sealed		Fully Sealed		Fully Sealed		Fully Sealed		
Shock	At 11 ms +/-1ms; 1/2 sine wave	S			50			50			50	Gs
Vibration	10Hz to 2000Hz	G			10			10			10	Gs

\*\* The coil resistance, Operate and reset characteristics will all change at the rate of 0.4% /°C

Note: Higher coil resistances available