Single-In-Line
Reed Relays

DESCRIPTION

Single-In-Line Reed Relays reduce the required space to a minimum. Requiring only half the PCB area of the DIP or DIL series, the SIL relays offer all the advantages of Reed Technology.

CHARACTERISTICS

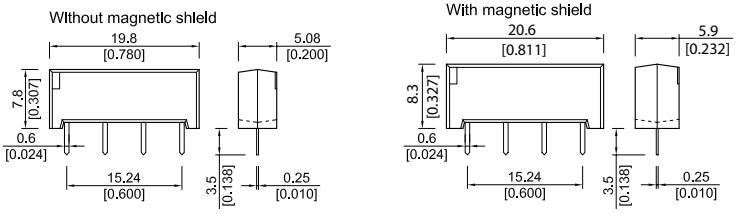
- High resistance coils of up to 2000 Ω at 12 VDC
- Breakdown voltage coil / contact of up to 4.25 kVDC
- Contact form 1A, 1B or 1C

FEATURES

- Magnetic shield available
- High resistance version
- Other coil resistances available
- Option with coax screen for Z=50 Ohm Impedance

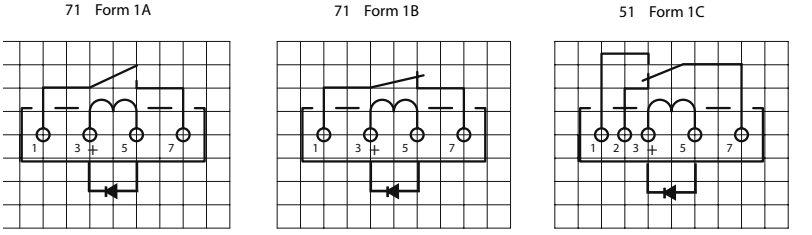
DIMENSIONS

All dimensions in mm [inch]



PIN OUT

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



"+" by option with diode

RELAY DATA

All Data at 20° C	Switch Model → Contact Form →	Switch 31 Form A			Switch 72 Form A			
Contact Ratings	**Conditions**	**Min.**	**Typ.**	**Max.**	**Min.**	**Typ.**	**Max.**	**Units**
Switching Power	Any DC combination of V & A not to exceed their individual max.'s			50		15		W
Switching Voltage	DC or peak AC			500		200		V
Switching Current	DC or peak AC			2		1.0		A
Carry Current	DC or peak AC			2		1.25		A
Static Contact Resistance	w/ 0.5 V & 10mA			80		150		mΩ
Dynamic Contact Resistance	Measured w/ 0.5 V & 50mA , 1.5 ms after closure					200		mΩ
Insulation Resistance across Contacts	Across Contact Coil - Contact	10^{11}			10^{13}			Ω
Breakdown Voltage across Contact	Across Contact Coil - Contact	1500 2000			250 1500			VDC
Operate Time incl. Bounce	Nominal voltage		1.2			0.7		ms
Release Time	with no coil suppression		1.0			0.1		ms
Capacitance	Across Contact Coil - Contact			0.3			0.2 2.0	pF
Life Expectance								
Switch Voltage 5V - 10 mA	DC <10 pF stray cap.			100		1000		10^6 Cycles
For other load requirements, see the life test section on P. 120.								
Environmental Data								
Shock Resistance	1/2 sinus wave duration 11 ms			50			50	g
Vibration Resistance	From 10 - 2000 Hz			10			20	g
Ambient Temperature	10°C/ minute max. allowable	-20		70	-20		70	°C
Stock Temperature	10°C/ minute max. allowable	-35		95	-35		95	°C
Soldering Temperature	5 sec.			260		260		°C

* 600 VDC with 5V coil, 1000 VDC with 12V coil.

RELAY DATA

All Data at 20° C	Switch Model → Contact Form →	Switch 75 Form A			Switch 90 Form B/C			
Contact Ratings	**Conditions**	**Min.**	**Typ.**	**Max.**	**Min.**	**Typ.**	**Max.**	**Units**
Switching Power	Any DC combination of V & A not to exceed their individual max.'s			10			3	W
Switching Voltage	DC or peak AC			500			175	V
Switching Current	DC or peak AC			0.5			0.25	A
Carry Current	DC or peak AC			1.0			1.2	A
Static Contact Resistance	w/ 0.5 V & 10mA			200			150	mΩ
Dynamic Contact Resistance	Measured w/ 0.5 V & 50mA , 1.5 ms after closure			200			250	mΩ
Insulation Resistance across Contacts	Across Contact Coil - Contact	10^{13}			10^{9} 10^{12}			Ω
Breakdown Voltage across Contact	Across Contact Coil - Contact	1500* 1500			200 1500			VDC
Operate Time incl. Bounce	Nominal voltage			0.5			0.7	ms
Release Time	with no coil suppression			0.1			1.5	ms
Capacitance	Across Contact Coil - Contact			0.4 2.0		1.0 4.0		pF
Life Expectance								
Switch Voltage 5V - 10 mA	DC <10 pF stray cap.		500			100		10^{6} Cycles
For other load requirements, see the life test section.								
Environmental Data								
Shock Resistance	1/2 sinus wave duration 11 ms			30			50	g
Vibration Resistance	From 10 - 2000 Hz			10			20	g
Ambient Temperature	10°C/ minute max. allowable	-20		70	-20		70	°C
Stock Temperature	10°C/ minute max. allowable	-35		95	-35		95	°C
Soldering Temperature	5 sec.			260			260	°C

* 600 VDC with 5V coil, 1000 VDC with 12V coil.

COIL DATA

Contact Form	Switch 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	31	5	7.5	72	80	88	3.5	0.75	312
		12	16	450	500	550	8.4	1.8	288
	72 75	5	7.5	450 (180)**	500 (200)	550 (220)	3.5	0.75	50 (125)
		12	16	900	1000	1100	8.4	1.8	145
		15	7.5	1800	2000	2200	10.5	2.2	110
		24	30	1800	2000	2200	16.8	3.6	290
	72	5 HR	7.5	900	1000	1100	3.5	0.75	25
		12 HR	16	1800	2000	2200	8.4	1.8	70
		3	4.5	450	500	550	2.1	0.45	18
1B	90	5	7.5	180	200	220	3.5	0.75	125
		12	12	900	1000	1100	8.4	1.8	145
1C	90	5	7.5	180	200	220	3.5	0.75	125

* The pull-in / drop out voltages and coil resistance will change at the rate of 0,4 % / °C.
** Data in () are valid for switch models 75 and 84.

ORDER INFORMATION

Part Number Example

SIL12 - 1A72 - 71L

12 is the nominal voltage
1A is the contact form
72 is the switch model
L is the option

OPTIONS

L = No option
M = With magnetic shield
D = With diode and no magnetic shield
Q = With diode and with magnetic shield

Series	Nominal Voltage	Contact Form	Switch Model	Pin Out	Options	High Resistance Version
SIL	XX -	1 X	XX -	XX	X	XX
Options	03, 05, 12, 15, 24*	1 A	31, 72, 75	71	L, M, D, Q	
	05, 12	1A	72	71	L, M, D, Q	HR
	05	1B	90	71	L, M, D, Q	
	05	1C	90	51	L, M, D, Q	

* Other coil resistance available. Please consult factory.