

## DESCRIPTION

The DIP series is a very compact design having a low profile package and a high profile package. This series is compatible with all DIP relays.



## FEATURES

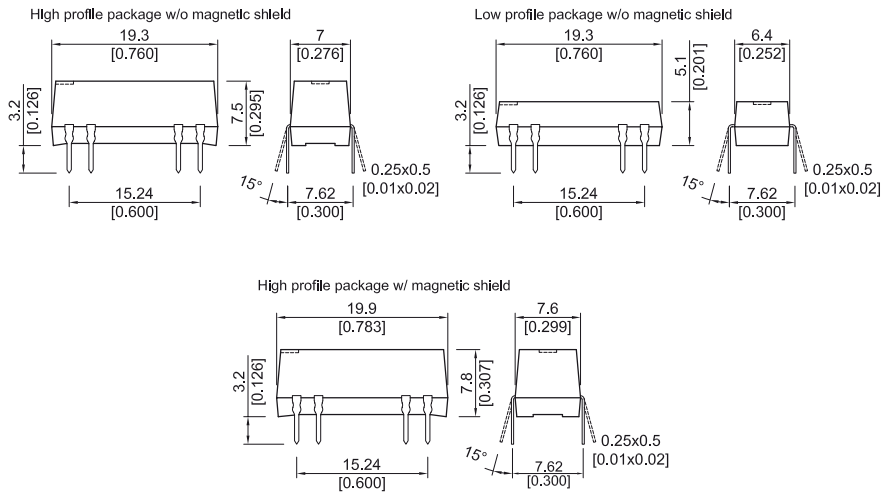
- High resistance option available
- Diode option available

## CHARACTERISTICS

- Low profile package
- Standard pin configurations
- IC-pin compatible
- 4.25 kVDC breakdown voltage for pin out 13
- UL approval

## DIMENSIONS

All dimensions in mm [inches]



**Molded DIP  
Reed Relays**

**ORDER INFORMATION**

**Part Number Example**

DIP12 - 1A75 - 13L

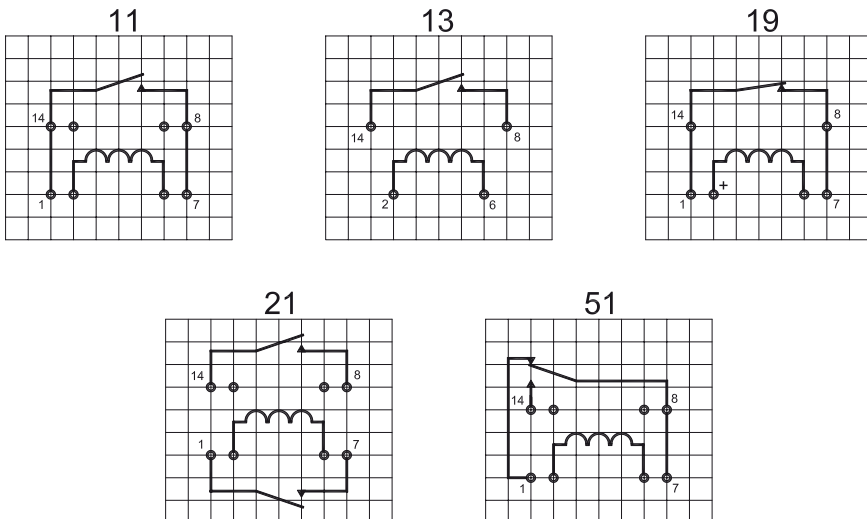
12 is the nominal voltage  
1A is the contact form  
75 is the switch model  
13 is the pin out  
L is the option

Series	Nominal Voltage	Contact Form	Switch Model	Pin Out	Option ( ) Version with magn. Shield
DIP	XX -	XX	XX -	XX	X
Options	05, 12, 15, 24	1A	72, 75	11, 13*	L(M), D(Q),E(R), F(S)
		1B	72	19	
		2A	72	21	
	05, 12,15, 24	1C	90	51	

\*Selects 4-25 (3.0 kVRMS) breakdown voltage contact to coil.

**PIN OUT**

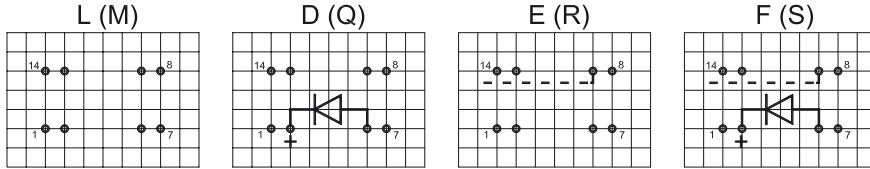
View from top of component  
2.54mm [0.10"] pitch grid



**OPTIONS**

( ) Versions with magnetic shield

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



**OPTIONS DEPENDENCE ON CASE SIZES**

Contact Form	Package Size	Pin Out	Options							
			L	D	E	F	M	Q	R	S
<b>1A</b>	Low Profile	11	x		x					
		13	x							
	High Profile	11		x		x	x	x		x
		13		x			x	x		
<b>1B</b>	High Profile	19	x	x			x	x		
<b>2A</b>	High Profile	21	x	x	x	x	x	x	x	x
<b>1C</b>	Low Profile	51	x							
	High Profile			x	x	x	x	x	x	x

- L = No option
- D = With Diode between pin 2 and 6 (Pin 2 is positive)
- E = Internal shield on pin 9
- F = With Diode between pin 2 and 6 (Pin 2 is positive) and Internal shield on pin 9
- M = External magnetic shield
- Q = External magnetic shield and diode between pin 2 and 6 (Pin 2 is positive)
- R = External magnetic shield and internal shield on pin 9
- S = External magnetic shield and with diode between pin 2 and 6 (Pin 2 is positive) and internal shield on pin 9

**Molded DIP  
Reed Relays**

**RELAY DATA**

All Data at 20° C	Switch Model → Contact Form →	Switch 72 Form A / B			Switch 75 Form A			Switch 90 Form C			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
<b>Contact Ratings</b>	<b>Conditions</b>										
Switching Power	Any DC combination of V & A not to exceed their individual max.'s			15			10			3	W
Switching Voltage	DC or peak AC			200			500			175	V
Switching Current	DC or peak AC			1.0			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	100 volts applied	10 <sup>12</sup> 10 <sup>12</sup>			10 <sup>12</sup> 10 <sup>12</sup>			10 <sup>9</sup> 10 <sup>12</sup>			Ω
Breakdown Voltage across Contact	Voltage applied for 60 sec. min.	250 1500*			1500 1500*			200 1500			VDC
Operation Time incl. Bounce	Measured w/ 100 % overdrive			0.5			0.5			0.7	ms
Release Time	Measured w/ no coil suppression			0.1			0.1			1.0	ms
Capacitance	at 10 kHz cross contact		0.2 2.0			0.4 2.0			1.0 3.0		pF
<b>Life Expectancies</b>											
Switching 5 V - 10 mA	DC only & <10 pF stray cap.		1000			500			100		10 <sup>6</sup> Cycles
For other load requirements please see our life test section on P. 112.											
<b>Environmental Data</b>											
Shock Resistance	1/2 sinus wave duration 11 ms			50			50			30	g
Vibration Resistance	From 10 - 2000 Hz			20			20			10	g
Ambient Temperature	10°C/ minute max. allowable	-20		130	-20		70	-20		70	°C
Stock Temperature	10°C/ minute max. allowable	-55		130	-35		95	-35		95	°C
Soldering Temperature	5 sec.			260			260			260	°C
* Selects Pin out 13 and 425 kVDC (3.0 kVRMS) breakdown voltage contact to 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	72 75	5	7.5	450 (180)	500 (200)	550 (220)	3.5	0.75	50
		12	16	900	1000	1100	8.4	1.8	145
		15	20	1800	2000	2200	10.5	2.2	115
		24	30	1800	2000	2200	16.8	3.6	290
1B **	72	5	7.5	450	500	550	3.5	0.75	50
		12	16	900	1000	1100	8.4	1.8	145
		15	20	1800	2000	2200	10.5	2.2	115
		24	30	1800	2000	2200	16.8	3.6	290
2A	72	5	7.5	180	200	220	3.5	0.75	125
		12	16	450	500	550	8.4	1.8	290
		15	20	1800	2000	2200	10.5	2.2	115
		24	30	1800	2000	2200	16.8	3.6	290
1C	90	5	7.5	180	200	220	3.5	0.75	125
		12	16	450	500	550	8.4	1.8	290
		15	20	1800	2000	2200	10.5	2.2	115
		24	30	1800	2000	2200	16.8	3.6	290

( ) For Switch 75.  
 \* The pull-in / drop-out voltage and coil resistance will change at rate of 0.4% per °C.  
 \*\* Re-closure of Form B may occur if the max. coil voltage is exceeded. Coil polarity on Form B must be observed. Pin 2 is positive.