

### DESCRIPTION

- Large assortment of pin out schemes
- High life expectancy
- Low thermal versions available



### FEATURES

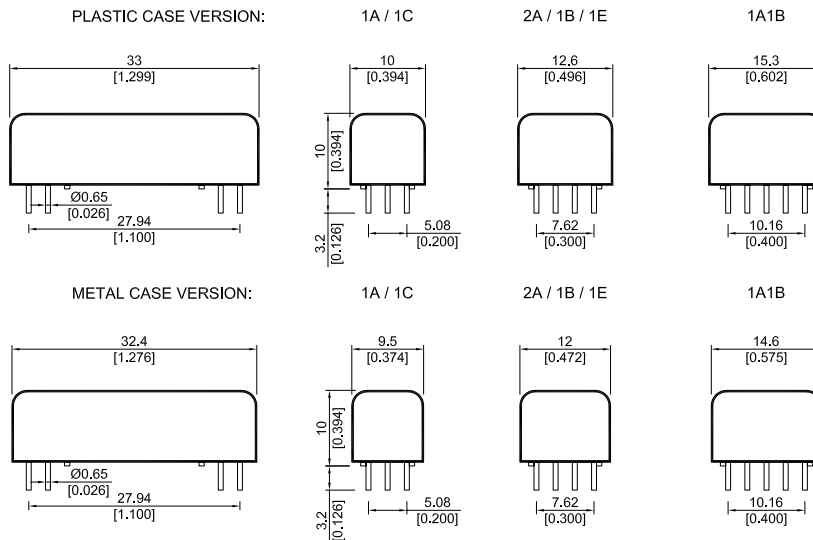
- 6 Volt coil option
- Up to 5 switches in a package (Consult factory)
- Normally closed option
- Insulation resistance up to  $10^{14} \Omega$  available
- Metal and Plastic casings available
- Mercury wetted switch available
- Latching version available
- EX approved version (Intrinsically safe)
- 4.5 kVDC (3.0 kVRMS) contact to coil option
- High contact to coil voltage

### APPLICATIONS

- Telecommunications
- Medical equipment
- Test and Measurement
- General applications

### DIMENSIONS

All dimensions in mm [inches]



## All Purpose Reed Relays

### ORDER INFORMATION

Series	Nominal Voltage	Contact Form	Switch Model	Pin Out	Casing option (p, m, v) *	High ** Insulation resistance
<b>BE</b>	<b>XX -</b>	<b>XX</b>	<b>XX -</b>	<b>XX</b>	<b>X</b>	<b>XX</b>
<b>Options</b>	05, 12, 24	1A	66, 85, 88 66	10 11	P, M V	HI
	05, 12, 24	1B	66 66	10 11	M V	
	05, 12, 24	1C	90	15	P, M	
	05, 12	1E	66	14	P, M	
	05, 12, 24	2A	66	20	M	
	05, 12, 24		66, 85, 88	20	P, M	
	05, 12, 24	1A1B	66	23	M	

\* P = plastic, M = metal, V = High isolation voltage  
 Please note: Selecting option V offers 4,5 kV breakdown voltage contact to coil, but only for pin out 11.  
 \*\* Selects the 10<sup>14</sup> Ω option between contact to coil and plastic case.

### Part Number Example

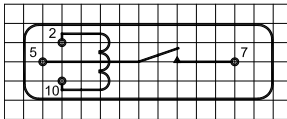
BE05 - 1A85 - P

**05** is the nominal voltage  
**1A** is the contact form  
**85** is the switch model  
**P** is the casing

### PIN OUT

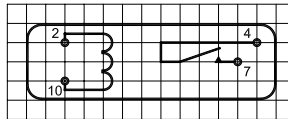
View from top of component  
 2.54mm [0.10"] pitch grid

10



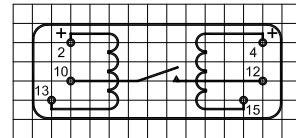
UP  
 ONLY WHEN USING THE  
 MERCURY WETTED (88) SWITCH

11



4,5 kVDC

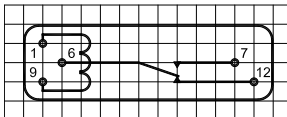
14



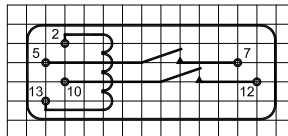
Coil 1

Coil 2

15

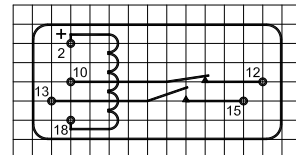


20



UP  
 ONLY WHEN USING THE  
 MERCURY WETTED (88) SWITCH

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**RELAY DATA**

<b>All Data at 20° C</b>	<b>Switch Model --&gt; Contact Form --&gt;</b>	<b>Switch 66 Form A / B</b>			<b>Switch 85 Form A</b>			<b>Units</b>
		<b>Min.</b>	<b>Typ.</b>	<b>Max.</b>	<b>Min.</b>	<b>Typ.</b>	<b>Max.</b>	
<b>Contact Ratings</b>	<b>Conditions</b>							
Switching Power *	Any DC combination of V & A not to exceed their individual max.'s			10			100	W
Switching Voltage	DC or peak AC			200			1000	V
Switching Current	DC or peak AC			0.5			1.0	A
Carry Current	DC or peak AC			1.25			2.5	A
Static Contact Resistance	w/ 0.5 V & 10 mA			150			150	mΩ
Dynamic Contact Resistance	Measured w/ 0.5 V & 50 mA , 1.5 ms after closure			200			200	mΩ
Insulation Resistance (100 Volts applied)	Across contacts Contact to coil	10 <sup>10</sup> 10 <sup>12</sup>			10 <sup>12</sup> 10 <sup>12</sup>			Ω
Breakdown Voltage	Across contacts Contact to coil	225 2.0 *			4000 2.0			VDC kVDC
Operate Time incl. Bounce	Measured w/ 100 % overdrive			0.5			1.0	ms
Reset Time	Measured w/ no coil suppression			0.1			0.1	ms
Capacitance	Across contacts Contact to coil		0.2 5.0			0.2 5.0		pF
<b>Life Expectancies</b>								
Switching 5V & 10 mA	DC only & <10 pF stray cap.		1000			500		10 <sup>6</sup> Cycles
For other load requirements, see the life test section on P. 151.								
<b>Environmental Data</b>								
Shock Resistance	1/2 Sine wave duration 11ms			50			50	g
Vibration Resistance	10 - 2000 Hz			20			20	g
Ambient Temperature	10°C/minute max. allowable	-20		70	-20		70	°C
Storage Temperature	10°C/minute max. allowable	-40		105	-40		105	°C
Soldering Temperature	5 sec. dwell			260			260	°C
* 4.5 kVDC / 3.0 kVRMS when the V option is selected.								

**All Purpose  
Reed Relays**

**RELAY DATA**

All Data at 20° C	Switch Model --> Contact Form -->	Switch 88 Form A / Hg wetted			Switch 90 Form C			Units
		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			35			100	W
Switching Voltage	DC or peak AC			1000			175	V
Switching Current	DC or peak AC			1.0			0.25	A
Carry Current	DC or peak AC			2.0			1.2	A
Static Contact Resistance	w/ 0.5 V & 50 mA			60			150	mΩ
Dynamic Contact Resistance	Measured w/ 0.5 V & 50 mA , 1.5 ms after closure			200			250	mΩ
Insulation Resistance (100 Volts applied)	Across contacts Contact to coil	10 <sup>10</sup> 10 <sup>12</sup>			10 <sup>9</sup> 10 <sup>12</sup>			Ω
Breakdown Voltage	Across contacts Contact to coil	1500 2000			200 2000			VDC
Operate Time incl. Bounce	Measured w/ 100 % overdrive			2.5			0.7	ms
Reset Time	Measured w/ no coil suppression			2.0			1.5	ms
Capacitance	Across contacts Contact to coil		0.4 5.0			1.0 5.0		pF
<b>Life Expectancies</b>								
Switching 5V & 10 mA	DC only & <10 pF stray cap.		1000			100		10 <sup>6</sup> Cycles
For other load requirements, see the life test section on P. 151.								
<b>Environmental Data</b>								
Shock Resistance	1/2 Sine wave duration 11ms			50			50	g
Vibration Resistance	10 - 2000 Hz			20			20	g
Ambient Temperature	10°C/minute max. allowable	-20		55	-20		70	°C
Storage Temperature	10°C/minute max. allowable	-40		105	-40		105	°C
Soldering Temperature	5 sec. dwell			260			260	°C

**COIL DATA**

Contact Form	Switch Model	Coil Voltage		Coil Resistance			Pull-In Voltage	Drop-Out Voltage	Nominal Coil Power
<b>All Data at 20 °C</b>		VDC		Ω			VDC	VDC	mW
		Nom.	Max.	Min.	Typ.	Max.	Max.	Min.	Typ.
<b>1A</b>	<b>66</b>	5	7.5	450	500	550	3.5	0.75	50
		12	16	1080	1200	1320	8.4	1.8	120
		24	30	2700	3000	3300	16.8	3.6	190
	<b>88 85</b>	5	7.5	126	140	154	3.5	0.75	180
		12	16	675	750	825	8.4	1.8	190
		24	30	2700	3000	3300	16.8	3.6	190
<b>1B **</b>	<b>66</b>	5	7.5	450	500	550	3.5	0.75	50
		12	16	1080	1200	1320	8.4	1.8	120
		24	30	2700	3000	3300	16.8	3.6	190
<b>1C</b>	<b>90</b>	5	7.5	450	500	550	3.5	0.75	50
		12	16	1080	1200	1320	8.4	1.8	120
		24	30	2700	3000	3300	16.8	3.6	190
<b>1E ***</b>	<b>66</b>	5	7.5	450	500	550	3.5	0.75	50
		12	16	1080	1200	1320	8.4	1.8	120
		24	30	2700	3000	3300	16.8	3.6	190
<b>2A</b>	<b>66</b>	5	7.5	180	200	220	3.5	0.75	125
		12	16	720	800	880	8.4	1.8	180
		24	30	1800	2000	2200	16.8	3.6	290
	<b>88 85</b>	5	7.5	90	100	110	3.5	0.75	250
		12	16	450	500	550	8.4	1.8	290
		24	30	1440	1600	1760	16.8	3.6	360
<b>1A1B**</b>	<b>66</b>	5	7.5	90	100	110	3.5	0.75	250
		12	16	450	500	550	8.4	1.8	290
		24	30	1440	1600	1760	16.8	3.6	360

\* The pull-in / drop-out voltage and coil resistance will change at the rate of 0,4 % per degrees C.  
 \*\* Reclosure of Form B may occur if the max. voltage is exceeded. Coil polarity on Form B must be observed. Pin 2 is positive.  
 \*\*\* Coil polarity must be observed. Applying a 2 ms pulse to Coil No. 1 with nominal voltage will latch teh contacts.  
 Applying a 2 ms pulse to Coil No. 2 will unlatch the contacts.