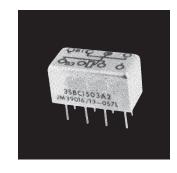


# Double Pole, Electrically Held, 2 Amps and Less (Continued)

.150 Grid-space Relays Type 3SBC (2PDT) Standard 135 mW 2PDT 50 mW (Form AB) 1 PNC-1 PNO

#### **Product Facts**

- Low profile... only 0.32 inches high
- Internal diode for coil transient suppression and transistor driven models available
- Qualified to MIL-R-39016/13
- RF designs available



The .150 Grid-space relay - only 0.32 inches high saves space in electronic packaging. The pin spacing allows you to insert the relay with no intermediate pin spreaders as well as meet applicable military specifications.

### **Electrical Characteristics** Contact Ratings -

DC resistive — 2 amps at 28 volts (50,000 operations)

1 Amp @ 28 V (100,000 operations) DC inductive — 0.5 amps at 28 volts,

AC resistive - 0.5 amps at 115 volts AC — 0.125 amps at 115 volts (case grounded)

Low-level — 50 µA at 50 mV Peak AC or DC

#### Contact Resistance —

0.050 ohms max.; 0.150 ohms after life

Life — 100,000 operations at rated loads listed; 1,000,000 operations at low-level loads

### Operating Characteristics

Operate Time — 4 ms max. Release Time — 4 ms max.

Contact Bounce — 1.5 ms

### Dielectric Strength —

500 volts rms at sea level; 350 volts rms at 70,000 feet and above

Insulation Resistance — 1,000 megohm min. over temperature range

#### **Environmental Characteristics**

Vibration — 30G, to 3000 Hz

**Shock** — 100 G at 11 ms

Temperature — -65°C to +125°C

See page 1-44 for Mounting Forms, Terminals and Circuit Diagrams.

# Coil Table Type 3SBC (All Values DC)\*2PDT, 135 mW Sensitivity: (Code 1)

Coil Code Letter	Coil Resistance @ 25C (ohms)		Current Calibrated, Code 6						
		Suggested	Max. Operate Volts @ 25C	Release Voltage Range @ 25C		Max. Continuous	Max. Operate	Release Current Range @ 25C (mA)	
		Source Volts†		Max.	Min.	Current @ 125C (mA)	Current @ 25C (mA)	Max.	Min.
A B	44 ± 10% 56 ± 10%	3.5-6.2 4.0-7.0	2.4 2.7	1.45 1.6	0.26 0.3	87.0 77.0	54.5 48.3	32.7 28.6	6.00 5.30
D	$140 \pm 10\%$	6.4-12.0	4.4	2.6	0.5	50.3	31.4	18.5	3.60
E	210 ± 10%	8.0-16.0	5.4	3.2	0.6	40.0	25.7	15.4	2.80
L	650 ± 10%	13.6-24.0	9.5	5.6	1.0	22.9	14.3	8.6	1.54
K N	$1350 \pm 10\%$ $2245 \pm 10\%$	20.0-35.0 26.0-46.0	13.5 17.1	8.1 10.5	1.5 1.9	15.5 12.0	10.0 7.6	6.0 4.7	1.10 0.84

# Coil-Data (All Values DC)\* Type 3SBC Form AB 50 mW Sensitivity non mil spec: (Code 2)

		Voltage Calibrated, Code 5 Current						Calibrated, Code 6		
Coil	Coil Resistance @ 25C (ohms)	Suggested Source Volts†	Max. Operate Volts @ 25C	Release Voltage Range @ 25C		Max. Continuous	Max. Operate	Release Current Range @ 25C (mA)		
Code Letter				Max.	Min.	Current @ 125C (mA)	Current @ 25C (mA)	Max.	Min.	
В	56 ± 10%	2.6-7.0	1.8	1.1	0.16	46.5	29.1	18.2	3.30	
C	85 ± 10%	3.3-9.5	2.3	1.4	0.20	38.7	24.2	15.1	2.70	
.D	140 ± 10%	4.3-12.0	2.9	1.8	0.27	30.4	19.0	11.9	2.10	
E	210 ± 10%	5.3-14.0	3.6	2.2	0.33	24.8	15.5	9.7	1.75	
F	360 ± 10%	6.7-19.0	4.5	2.8	0.41	18.9	11.8	7.2	1.30	
G	510 ± 10%	8.2-23.0	5.6	3.5	0.51	15.8	9.9	6.2	1.10	
Н	775 ± 10%	10.0-26.0	6.8	4.2	0.62	12.8	8.0	5.0	0.90	
K	1350 ± 10%	13.2-35.0	9.0	5.6	0.82	9.8	6.1	3.8	0.68	
N	2245 ± 10%	16.8-46.0	11.4	7.1	1.00	7.4	4.6	2.9	0.52	

<sup>\*</sup>Values listed are factory test and inspection data. User should allow for meter variations.

See Page 1-42 for ordering instructions.

<sup>†</sup>At nominal resistance plus 10%. ‡Applicable over the operating temperature range in circulating air.

<sup>\*</sup> The part number example shown on this page is for catalog items. For a list of specific QPL part numbers, please see the index in Section 15.

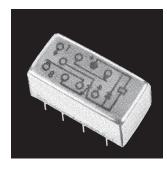


# Double Pole, Electrically Held, 2 Amps and Less (Continued)

.150 Grid-space Hybrid Relays Single Diode, Dual Diode Type 3SBC (2PDT) 135 mW

#### **Product Facts**

- Low profile... only 0.32 inches high
- 50 milliwatt forms available
- Qualified to MIL-R-39016/37
- Qualified to MIL-R-39016/38
- RF designs available



The hybrid .150 Grid-space relay — only 0.32 inches high — saves space in electronic packaging. The pin spacing allows you to insert the relay with no intermediate pin spreader.

### Electrical Characteristics Contact Ratings —

DC resistive — 2 amps at 28 volts (50,000 operations)

1 Amp @ 28 V (100,000 operations) DC inductive — 0.5 amps at 28 volts,

AC resistive — 0.5 amps at 115 volts AC — 0.125 amps at 115 volts (case grounded)

Low-level — 50 µA at 50 mV Peak AC or DC

#### Contact Resistance —

0.050 ohms max.; 0.150 ohms after life test

**Life** — 100,000 operations at rated loads listed; 1,000,000 operations at low-level loads

### **Operating Characteristics**

Operate Time — 4 ms max.

Release Time — 6 ms max.

Contact Bounce — 1.5 ms

## Dielectric Strength (Note 1) —

500 volts rms at sea level;

350 volts rms at 70,000 feet and above

Insulation Resistance (Note 1) — 1,000 megohm min. over temperature

### **Environmental Characteristics**

Vibration — 30G, to 3000 Hz

**Shock** — 100 G at 11 ms

**Temperature** —  $-65^{\circ}$ C to  $+125^{\circ}$ C

# Semiconductor Characteristics at 25°C

#### Diode -

Max. Negative Transient — 1.0 volt Breakdown Voltage — 100 VDC @ 10 μA Max. Leakage Current — 1 μA @ 50 VDC

See page 1-44 for Mounting Forms, Terminals and Circuit Diagrams.

# Coil Table Single Diode (All Values DC)\*(2DPT), 135 mW Sensitivity: (Code 5)

	Coil Resistance @ 25C (ohms)	\	oltage Calibrat	ed, Code 5		Current Calibrated, Code 6			
Coil Code Letter		Suggested Source Volts†	Max. Operate Volts @ 25C	Release Voltage Range @ 25C		Max. Contin- uous Current	Max. Operate	Release Current Range @ 25C (mA)	
				Max.	Min.	@ 125C (mA)	25C (mA)	Max.	Min.
Α	44 ± 10%	3.5- 6.2	2.4	1.45	0.26	87.0	54.5	32.7	6.00
В	56 ± 10%	4.0- 7.0	2.7	1.6	0.3	77.0	48.3	28.6	5.30
D	140 ± 10%	6.4-12.0	4.4	2.6	0.5	50.3	31.4	18.5	3.60
E	210 ± 10%	8.0-16.0	5.4	3.2	0.6	40.0	25.7	15.4	2.80
L	650 ± 10%	13.6-24.0	9.5	5.6	1.0	22.9	14.3	8.6	1.54
K	1350 ± 10%	20.0-35.0	13.5	8.1	1.5	15.5	10.0	6.0	1.10
N	2245 ± 10%	26.0-46.0	17.1	10.5	1.9	12.0	7.6	4.7	0.84

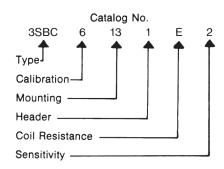
# Coil Table Dual Diode (All Values DC)\*(2DPT), 135 mW Sensitivity: (Code 6)

	**	00.70	0.4						
l A	44 ± 10%	3.9- 7.0	3.4	2.0	0.37	98.2	77.3	45.5	8.4
В	56 ± 10%	4.6- 8.0	3.7	2.2	0.41	89.8	66.1	39.3	7.1
D	140 ± 10%	7.8-12.0	5.4	3.2	0.6	52.4	38.6	22.9	4.3
E	210 ± 10%	9.3-16.0	6.4	3.8	0.7	41.4	30.5	18.1	3.3
L	$650 \pm 10\%$	15.0-24.0	10.5	6.2	1.1	23.6	16.2	9.5	1.7
K	1350 ± 10%	21.0-35.0	14.5	8.7	1.6	16.0	10.7	6.4	1.2
N	2245 ± 10%	27.0-46.0	18.1	10.9	2.0	12.1	8.1	4.9	0.9

### **Ordering Instructions**

**Example:** The relay selected in the example is a FORM AB .150-grid relay, current calibrated, end bracket mounting with 0.13-inch solder hook header, 210 ohms coil resistance, and 50 mW sensitivity. By choosing the proper code for each of these relay characteristics, the catalog number is 3SBC6131E2. The letter R following sensitivity code indicates relay received 5000 operation miss-test. Ex. 3SBC6131E2R.

**Note:** Relays specified by catalog numbers (per above directions) are general use items controlled by catalog specifications. Relays to be controlled by customer drawings — or relays having requirements not covered in this publication — will be assigned special catalog numbers upon request.



<sup>\*</sup> The part number example shown on this page is for catalog items. For a list of specific QPL part numbers, please see the index in Section 15.

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