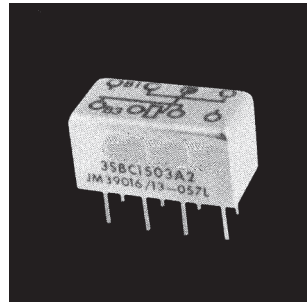


## Double Pole, Electrically Held, 2 Amps and Less (Continued)

**.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, 200 mH  
 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 —** 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)	Voltage Calibrated, Code 5				Current Calibrated, Code 6			
		Suggested Source Volts†	Max. Operate Volts @ 25C	Release Voltage Range @ 25C		Max. Continuous Current @ 125C (mA)	Max. Operate Current @ 25C (mA)	Release Current Range @ 25C (mA)	
				Max.	Min.			Max.	Min.
A	44 ± 10%	3.5-6.2	2.4	1.45	0.26	87.0	54.5	32.7	6.00
B	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-Data (All Values DC)\* Type 3SBC Form AB 50 mW Sensitivity non mil spec: (Code 2)**

Coil Code Letter	Coil Resistance @ 25C (ohms)	Voltage Calibrated, Code 5				Current Calibrated, Code 6			
		Suggested Source Volts†	Max. Operate Volts @ 25C	Release Voltage Range @ 25C		Max. Continuous Current @ 125C (mA)	Max. Operate Current @ 25C (mA)	Release Current Range @ 25C (mA)	
				Max.	Min.			Max.	Min.
B	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
H	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

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

†At nominal resistance plus 10%.

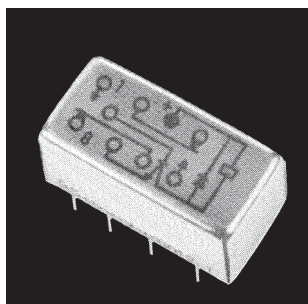
‡Applicable over the operating temperature range in circulating air.

See Page 1-42 for ordering instructions.

\* 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, 200 mH  
 AC resistive — 0.5 amps at 115 volts  
 AC — 0.125 amps at 115 volts (case grounded)  
 Low-level — 50  $\mu$ A 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 range

**Environmental Characteristics**

**Vibration** — 30G, to 3000 Hz  
**Shock** — 100 G at 11 ms  
**Temperature** — -65°C to +125°C

**Semiconductor Characteristics at 25°C**

**Diode** —  
 Max. Negative Transient — 1.0 volt  
 Breakdown Voltage — 100 VDC @ 10  $\mu$ A  
 Max. Leakage Current — 1  $\mu$ A @ 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 Code Letter	Coil Resistance (@ 25C (ohms))	Voltage Calibrated, Code 5				Current Calibrated, Code 6			
		Suggested Source Volts†	Max. Operate Volts (@ 25C)	Release Voltage Range (@ 25C)		Max. Continuous Current (@ 125C (mA))	Max. Operate Current (@ 25C (mA))	Release Current Range (@ 25C (mA))	
				Max.	Min.			Max.	Min.
A	44 ± 10%	3.5- 6.2	2.4	1.45	0.26	87.0	54.5	32.7	6.00
B	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

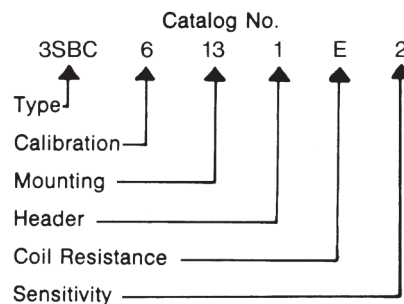
**Coil Table Dual Diode (All Values DC)\*(2DPT), 135 mW Sensitivity: (Code 6)**

Coil Code Letter	Coil Resistance (@ 25C (ohms))	Suggested Source Volts†	Max. Operate Volts (@ 25C)	Release Voltage Range (@ 25C)	Max. Continuous Current (@ 125C (mA))	Max. Operate Current (@ 25C (mA))	Release Current Range (@ 25C (mA))
A	44 ± 10%	3.9- 7.0	3.4	2.0	0.37	98.2	77.3
B	56 ± 10%	4.6- 8.0	3.7	2.2	0.41	89.8	66.1
D	140 ± 10%	7.8-12.0	5.4	3.2	0.6	52.4	38.6
E	210 ± 10%	9.3-16.0	6.4	3.8	0.7	41.4	30.5
L	650 ± 10%	15.0-24.0	10.5	6.2	1.1	23.6	16.2
K	1350 ± 10%	21.0-35.0	14.5	8.7	1.6	16.0	10.7
N	2245 ± 10%	27.0-46.0	18.1	10.9	2.0	12.1	8.1

**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.



\* 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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