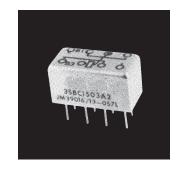


Double Pole, Electrically Held, 2 Amps and Less (Continued)

.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 | |

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

See Page 1-42 for ordering instructions.

[†]At nominal resistance plus 10%. ‡Applicable over the operating temperature range in circulating air.

^{*} 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.

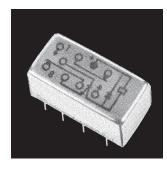


Double Pole, Electrically Held, 2 Amps and Less (Continued)

.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° 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 |

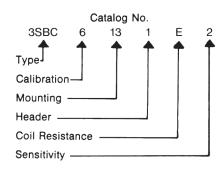
Coil Table Dual Diode (All Values DC)*(2DPT), 135 mW Sensitivity: (Code 6)

| | ** | 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.



^{*} 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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