

REVISIONS

P	LTR	DESCRIPTION	DATE	DWN	APVD
	A	INITIAL DRAWN	19NOV2019	RV	MB

### 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

### 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.

### .150 Grid-space Relays Type 3SBC (2PDT) Standard

135 mW 2PDT  
 50 mW (Form AB)  
 1 PNC-1 PNO

#### Product Facts

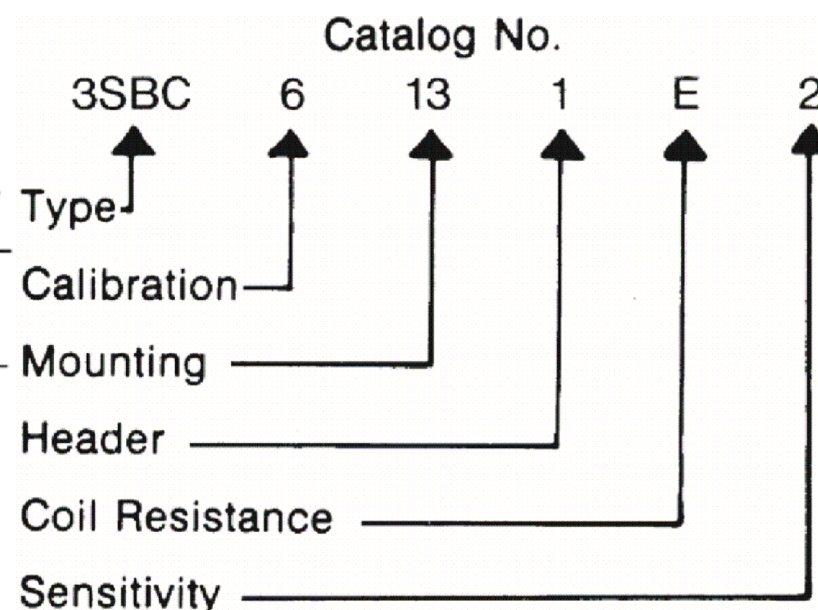
- Low profile... only 0.32 inches high
- Internal diode for coil transient suppression and transistor driven models available
- Qualified to MIL-R-39016/13
- RF designs available


### .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



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DIMENSIONS: INCHES		CHK RV 19NOV2019			
TOLERANCES UNLESS OTHERWISE SPECIFIED:		APVD MB 19NOV2019	NAME 3SBC-SERIES		
0 PLC ± -		PRODUCT SPEC	-		
1 PLC ± -		APPLICATION SPEC	-		
2 PLC ± -		WEIGHT	SIZE A3	CAGE CODE -	DRAWING NO. 3SBC-SERIES
3 PLC ± -		MATERIAL -	RESTRICTED TO -		
4 PLC ± -			CUSTOMER DRAWING		
ANGLES ± -		FINISH -	SCALE NTS	SHEET 1 OF 3	REV A

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REVISIONS				
P	LTR	DESCRIPTION	DATE	APVD
-	-	SEE SHEET 1	-	-

**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 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

**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.


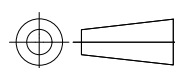
\*Values listed are factory test and inspection data. User should allow for meter variations.  
 †At nominal resistance plus 10%. ‡Applicable over the operating temperature range in circulating air.

**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)**

A	44 ± 10%	3.9- 7.0	3.4	2.0	0.37	98.2	77.3	45.5	8.4
B	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 ± 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

THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN RV 19NOV2019	 TE Connectivity	
		CHK RV 19NOV2019		
DIMENSIONS: INCHES		APVD MB 19NOV2019	NAME 3SBC-SERIES	
		PRODUCT SPEC	-	
MATERIAL		APPLICATION SPEC	-	
FINISH		WEIGHT	SIZE A3	CAGE CODE -
		CUSTOMER DRAWING	DRAWING NO C-3SBC-SERIES	RESTRICTED TO -
		SCALE NTS	SHEET 2 OF 3	REV A

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REVISIONS

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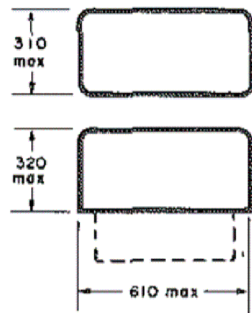
P	LTR	DESCRIPTION	DATE	DWN	APVD
-	-	SEE SHEET 1	-	-	-

### Mounting Forms (3SBC, 3SCC)

(Vibration note with each form is acceleration from 55 to 3000 Hz)

All dimensions in inches

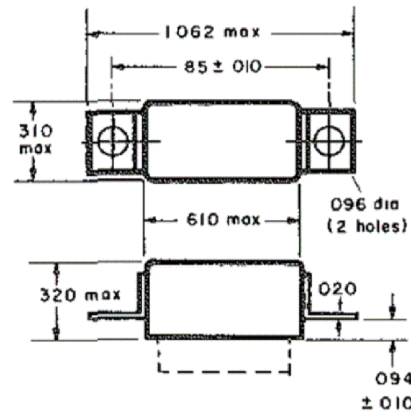
TOLERANCES (Unless otherwise specified)	
Hundredths	± 0.020
Thousandths	± 0.005



No Mount

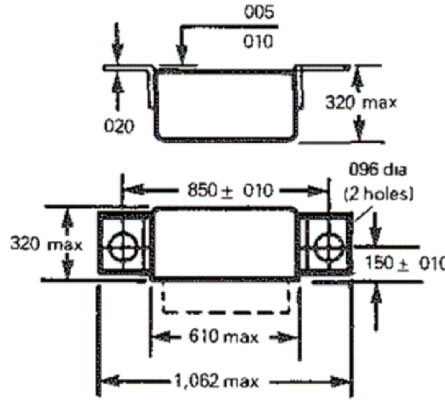
Mounting Code	Vibration
00	30g

\*Assumes relay held securely by potting or other means



End Bracket

Mounting Code	Vibration
13	30g



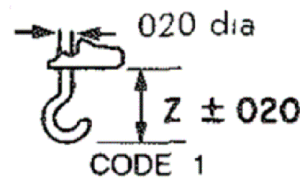
Side Bracket

Mounting Code	Vibration
25	30g

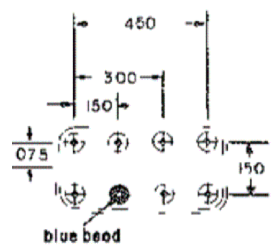
### Header and Connection Diagrams

#### Header Types

TYPE	Z DIMENSION	HEADER CODE
Solder hook	0.13	1

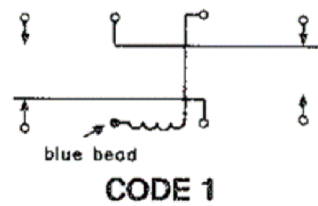
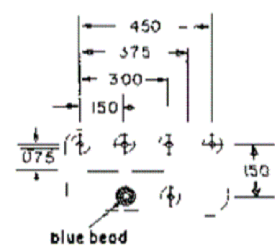


#### CODE 1, 5, & 6

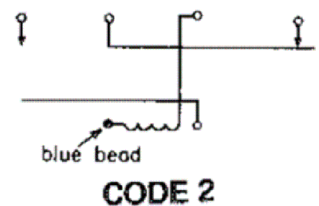


Terminal View

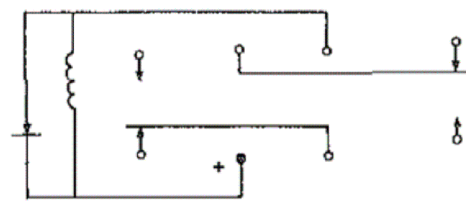
#### CODE 2



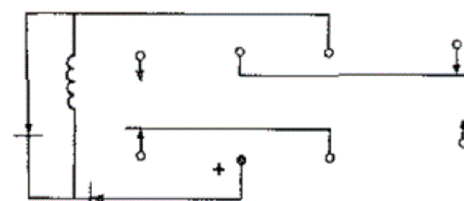
CODE 1



CODE 2



CODE 5  
SINGLE DIODE



CODE 6  
DUAL DIODE

### 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

### .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

### 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


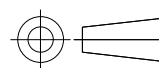
Diode —

Max. Negative Transient — 1.0 volt

Breakdown Voltage — 100 VDC @ 10 µA

Max. Leakage Current — 1 µA @ 50 VDC

ALL DIMENSIONS ARE IN INCHES

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DIMENSIONS: INCHES		CHK RV 19NOV2019				NAME 3SBC-SERIES	
TOLERANCES UNLESS OTHERWISE SPECIFIED:		APVD MB 19NOV2019	PRODUCT SPEC				
		PRODUCT SPEC	APPLICATION SPEC				
MATERIAL		FINISH	WEIGHT	SIZE A3	CAGE CODE	DRAWING NO	RESTRICTED TO
-		-	-	-	-	3SBC-SERIES	-
CUSTOMER DRAWING			SCALE NTS	SHEET 3 OF 3	REV A		