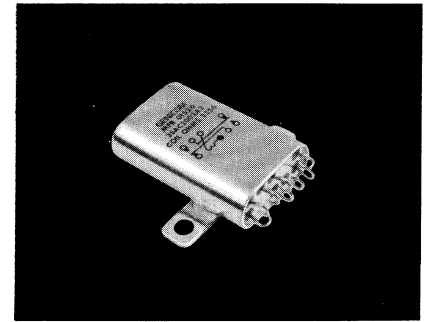




Code
Location
Guide

Crystal-can Micro-miniature Relays



A

Type 3SAE (2PDT) Type 3SAC (2PDT)

Features

- Small lightweight crystal can type
- 0.25 cubic inch, 0.60 ounces
- Power or low-level switching
- 20G to 2000 Hz vibration capability

Description

CIIT's line of micro-miniature crystal can relays is backed by years of experience and millions of relays operating in the field.

Other Specifications

Contact Ratings:

DC resistive — 2 amps at 28 volts
DC inductive — 1 amp at 28 volts,
L/R < .025

Low-level — 50 μ A at 50 mV
Peak AC or DC
AC resistive — 1.0 amp at 115 volts,
case not grounded
AC resistive — 0.25 amps at 115 volts,
case grounded

Contact Resistance:

0.050 ohms max. initial
0.100 ohms max. after life test

Life:

100,000 operations at rated load
1,000,000 at low-level

Operate Time:

6 ms max.

Release Time:

5 ms max.

Bounce:

2.5 ms

Dielectric Strength:

1,000 VRMS at sea level;
700 VRMS across contact gaps;
350 VRMS at 70,000 feet

Insulation Resistance:

1,000 megohms minimum except coil
to case 500 minimum at 125C

Vibration:

Depends upon mounting forms

Shock:

50G at 11 ms

Temperature:

-65C to +125C

See page 39 for Mounting Forms,
Terminals and Circuit Diagrams.

F

Coil Table (All Values DC)*
Type 3SAE 330 mW Sensitivity: (Code 1)

| Coil Code Letter | Voltage Calibrated, CODE: 5 | | | | |
|------------------|-------------------------------|-------------------------|------------------------------|------------------------|------|
| | Coil Resistance at 25C (Ohms) | Suggested Source Volts† | Maximum Operate Volts at 25C | Release Voltage at 25C | |
| | | | | Max | Min |
| A | 22 \pm 10% | 3.9- 5.9 | 2.7 | 1.4 | 0.29 |
| B | 34 \pm 10% | 4.8- 7.4 | 3.3 | 1.7 | 0.36 |
| C | 53 \pm 10% | 6.2- 9.2 | 4.2 | 2.2 | 0.46 |
| D | 92 \pm 10% | 8.0-12.0 | 5.4 | 2.8 | 0.60 |
| E | 146 \pm 10% | 10.2-15.0 | 6.9 | 3.6 | 0.76 |
| F | 215 \pm 10% | 12.3-18.5 | 8.3 | 4.3 | 0.92 |
| H | 342 \pm 10% | 15.4-23.0 | 10.4 | 5.4 | 1.16 |
| K | 552 \pm 10% | 20.0-29.5 | 13.5 | 7.0 | 1.50 |
| L | 814 \pm 10% | 25.0-36.0 | 16.9 | 8.8 | 1.88 |
| M | 1180 \pm 10% | 30.0-43.0 | 20.5 | 10.6 | 2.28 |
| N | 1278 \pm 15% | 31.0-41.5 | 21.3 | 11.0 | 2.36 |
| P | 1800 \pm 15% | 38.0-49.0 | 25.8 | 13.3 | 2.86 |
| R | 2530 \pm 15% | 43.0-58.5 | 29.0 | 15.0 | 3.22 |
| S | 2950 \pm 15% | 50.0-63.0 | 34.0 | 17.5 | 3.77 |
| T | 5000 \pm 20% | 62.0-75.0 | 41.8 | 21.6 | 4.64 |
| V | 5170 \pm 20% | 68.0-76.0 | 46.0 | 25.4 | 5.12 |

Coil Table (All Values DC)*
Type 3SAC 200 mW Sensitivity: (Code 2)

| Coil Code Letter | Current Calibrated, CODE: 6 | | | | |
|------------------|-------------------------------|-------------------------------------|---|-----------------------------|------|
| | Coil Resistance at 25C (Ohms) | Maximum Operate Current at 25C (mA) | Maximum Continuous Current at 125C (mA) | Release Current at 25C (mA) | |
| | | | | Max | Min |
| A | 184 \pm 10% | 32.0 | 65.0 | 16.5 | 3.53 |
| B | 292 \pm 10% | 25.6 | 51.5 | 13.3 | 2.84 |
| C | 430 \pm 10% | 20.8 | 42.5 | 10.8 | 2.31 |
| D | 684 \pm 10% | 16.4 | 33.5 | 8.5 | 1.80 |
| E | 1104 \pm 10% | 13.2 | 26.5 | 6.9 | 1.46 |
| F | 1628 \pm 10% | 11.2 | 21.7 | 5.8 | 1.24 |
| H | 2360 \pm 15% | 9.4 | 16.8 | 4.9 | 1.04 |
| K | 2556 \pm 15% | 9.0 | 16.2 | 4.7 | 0.99 |
| L | 3600 \pm 15% | 7.7 | 13.5 | 4.1 | 0.86 |
| M | 5060 \pm 15% | 6.2 | 11.5 | 3.3 | 0.69 |
| N | 5900 \pm 15% | 6.2 | 10.5 | 3.3 | 0.71 |
| P | 10000 \pm 20% | 4.5 | 7.5 | 2.4 | 0.50 |
| R | 10340 \pm 20% | 4.8 | 7.4 | 2.5 | 0.54 |

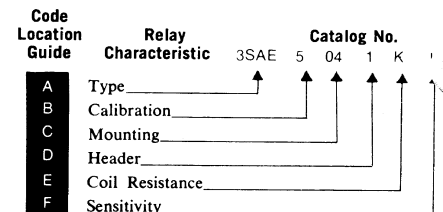
* Values listed are factory test and inspection values. User should allow for meter variations.

† Applicable over the operating temperature range in circulating air.

ORDERING INSTRUCTIONS

Example: The relay selected in this example is a 2PDT crystal can relay, voltage calibrated, two-hole side bracket mount-

ing, solder hook header, 552 ohms coil resistance, and 330 mW sensitivity. By choosing the proper code for each of these relay characteristics, the catalog number is identified as 3SAE5041K1. The letter R following sensitivity code indicates relay received 5000 operations miss-test. Ex. 3SAE5041K1R.



Mounting Forms (3SAC, 3SAE)

(Vibration note with each form is acceleration from 55 to 2000 Hz)

All dimensions in inches

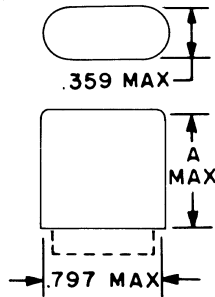
| TOLERANCES (unless otherwise specified) | |
|--|--------|
| Hundredths | ±0.020 |
| Thousandths | ±0.005 |

Code Location Guide

No Mount

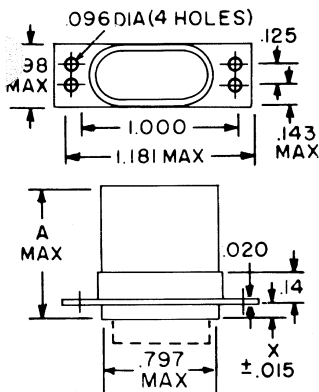
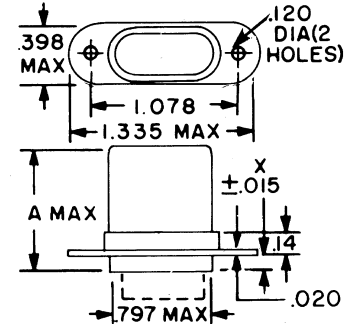
| Mounting Code | A Dim. (Max) | Vibration* | Relay Type |
|---------------|--------------|------------|------------|
| 00 | 0.875 | 20g | 3SAE |
| 00 | 1.187 | 15g | 3SAC |

* Assumes relay securely held by potting or other means.



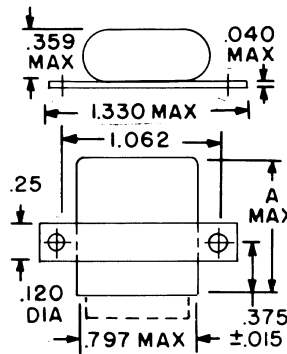
Flange Mount, 2 in-line holes

| Mounting Code | A Dim. (Max) | X Dim. | Vibration | Relay Type |
|---------------|--------------|--------|-----------|------------|
| 13 | 0.875 | 0.125 | 15g | 3SAE |
| 13 | 1.187 | 0.125 | 10g | 3SAC |
| 14 | 0.875 | 0.375 | 20g | 3SAE |
| 14 | 1.187 | 0.455 | 15g | 3SAC |



Four-hole Flange

| Mounting Code | A Dim. (Max) | X Dim. | Vibration | Relay Type |
|---------------|--------------|--------|-----------|------------|
| 01 | 0.875 | 0.125 | 15g | 3SAE |
| 01 | 1.187 | 0.125 | 10g | 3SAC |
| 02 | 0.875 | 0.375 | 20g | 3SAE |
| 02 | 1.187 | 0.455 | 15g | 3SAC |

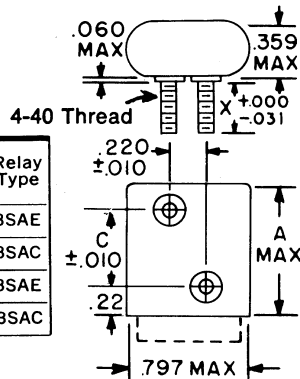


Two-hole Side Bracket

| Mounting Code | A Dim. (Max) | Vibration | Relay Type |
|---------------|--------------|-----------|------------|
| 04 | 0.875 | 20g | 3SAE |
| 04 | 1.187 | 15g | 3SAC |

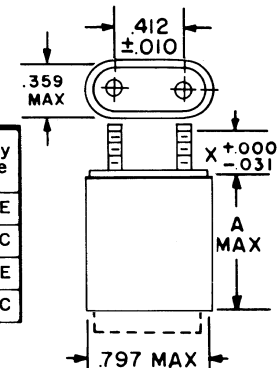
Side Studs

| Mounting Code | A Dim. (Max) | C Dim. | X Dim. | Vibration | Relay Type |
|---------------|--------------|--------|--------|-----------|------------|
| 07 | 0.875 | 0.488 | 0.375 | 20g | 3SAE |
| 07 | 1.187 | 0.800 | 0.375 | 15g | 3SAC |
| 08 | 0.875 | 0.488 | 0.250 | 20g | 3SAE |
| 08 | 1.187 | 0.800 | 0.250 | 15g | 3SAC |

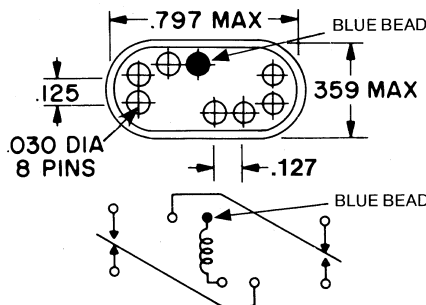


Top Studs

| Mounting Code | A Dim. (Max) | X Dim. | Vibration | Relay Type |
|---------------|--------------|--------|-----------|------------|
| 10 | 0.940 | 0.375 | 20g | 3SAE |
| 10 | 1.252 | 0.375 | 15g | 3SAC |
| 11 | 0.940 | 0.250 | 20g | 3SAE |
| 11 | 1.252 | 0.250 | 15g | 3SAC |



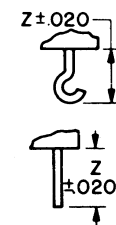
Header and Connection Diagrams



Header Types

| Type | Z Dim. | Header Code |
|-----------------------------------|--------|-------------|
| Solder hook | 0.19 | 3 |
| Straight pin (socket or PCB type) | 0.19 | 4 |
| Straight pin | 2.99 | 8 |

CODE: 3



CODES: 4, 8

C

D