

Magnetic-latching, Grid-space, Micro-miniature Relays

Type 3SAM (2PDT)

Features

- Special shock designs up to 700G, 1 ms
- Suitable for pulse operation
- No hang up feature on low power pulses
- MIL-R-39016/32
- Special wiring is available

Description

This relay has 'memory' in that the contact positions do not change when coil power is removed. Switching is accomplished by applying power to the applicable coil (dual coil) or with the applicable polarity (single coil). The low switching power requirements are further enhanced by its ability to operate from capacitor discharge or other pulses or through its own contacts for batteries or similarly limited supplies.

Other Specifications

Contact Ratings:

DC resistive — 2 amps at 28 volts
DC inductive — 0.5 amps at 28 volts, 200 mH
AC resistive — 1 amp at 115 volts, (single coil) case not grounded
AC resistive — .25 amp at 115 volts, (dual coil) cast not grounded
Low-level — 50 μ A at 50 mV
Peak AC or DC

Contact Resistance:

0.050 ohms initial
0.100 ohms after life test

Life:

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

Operate Time:

4 ms

Reset Time:

4 ms

Bounce:

2 ms

Dielectric Strength:

1,000 volts RMS at sea level; 700 volts RMS across contact gap

Insulation Resistance:

1,000 megohms minimum

Vibration:

30G, to 3000 Hz

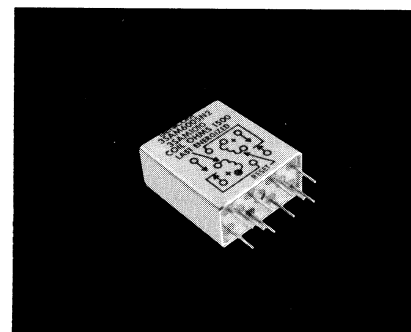
Shock:

150G at 11 ms

Temperature:

—65C to +125C

See page 35 for Mounting Forms, Terminals and Circuit Diagrams.



**Coil Table (All Values DC) Single Coil
50 mW Sensitivity: (Code: 1)**

Coil Code Letter	Current Calibrated, CODE: 6		
	Coil Resistance @25C (Ohms)	Max Operate and Reset Current (mA) ‡	Suggested Source Voltage†
A	16.4 $\pm$ 10%	55.2	1.8–4.8
B	40 $\pm$ 10%	35.3	2.7–7.5
C	96 $\pm$ 10%	22.8	4.2–11.0
D	164 $\pm$ 10%	17.4	5.5–15.0
E	260 $\pm$ 10%	13.9	7.0–19.0
F	400 $\pm$ 10%	11.2	8.5–23.0
H	600 $\pm$ 10%	9.2	11.0–29.0
K	960 $\pm$ 10%	7.2	13.0–37.0
L	1350 $\pm$ 10%	6.1	16.0–43.0
M	1950 $\pm$ 10%	5.1	19.0–52.0
N	3000 $\pm$ 15%	4.1	25.0–64.0
P	4800 $\pm$ 15%	3.3	32.0–81.0
R	8200 $\pm$ 20%	2.5	43.0–99.0

† Applicable over the operating temperature range in circulating air.
‡ Initial or inspection value. Allow 20% increase in value of maximum pickup during rated life.

**Coil Table (All Values DC) Dual Coil
75 mW Sensitivity: (Code: 2)**

Coil Code Letter	Current Calibrated, CODE: 6		
	Coil Resistance @25C For Each Coil (Ohms)	Max† Operate Current For Each Coil (mA)	Suggested Source Voltage For Each Coil†
A	8.2 $\pm$ 10%	95.8	1.5–2.6
B	20 $\pm$ 10%	61.2	2.3–4.1
C	48 $\pm$ 10%	39.5	3.6–6.3
D	82 $\pm$ 10%	30.2	4.7–8.3
E	130 $\pm$ 10%	24.0	6.0–10.0
F	200 $\pm$ 10%	19.4	7.4–13.0
H	300 $\pm$ 10%	15.8	9.0–16.0
K	480 $\pm$ 10%	12.5	12.0–20.0
L	675 $\pm$ 10%	10.6	14.0–24.0
M	975 $\pm$ 10%	8.8	16.0–29.0
N	1500 $\pm$ 15%	7.1	21.0–35.0
P	2400 $\pm$ 15%	5.6	27.0–44.0
R	4100 $\pm$ 20%	4.3	37.0–55.0

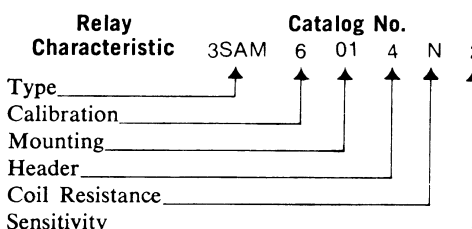
† Applicable over the operating temperature range in circulating air.
‡ Initial or inspection value. Allow 20% increase in value of maximum operate and reset during rated life.

ORDERING INSTRUCTIONS

Example: The relay selected in this example is a 2PDT magnetic latching relay, current calibrated, four-hole end bracket mounting, solder hook header, 1500 ohms coil resistance, and 75 mW sensitivity. By choosing the proper code for each of these relay characteristics, the catalog number is identified as 3SAM6014N2. The letter R following sensitivity code indicates relay received 5000 operation miss-test. Ex. 3SAM6014N2R.

Code Location Guide

A
B
C
D
E
F



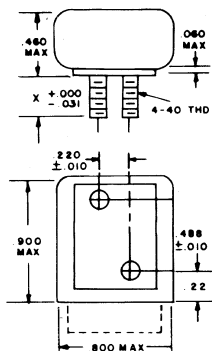
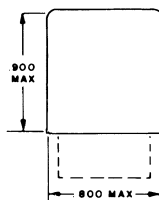
Mounting Forms (3SAM)

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

No Mount

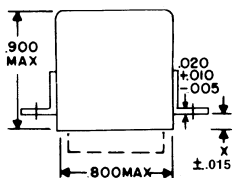
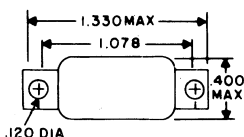
Mounting Code	Vibration*
00	30g

* Assumes relay securely held by potting or other means.



Side Studs

Mounting Code	X Dim.	Vibration
07	0.250	30g
08	0.375	30g



Two-hole End Bracket

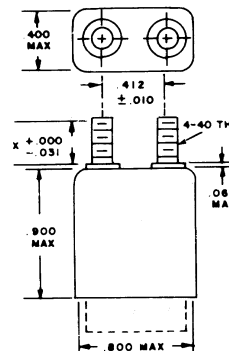
Mounting Code	X Dim.	Vibration
13	0.125	30g
14	0.250	30g
15	0.450	30g

All dimensions in inches

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

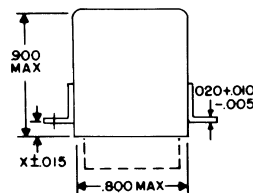
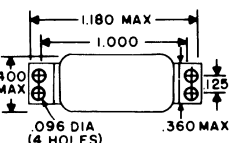
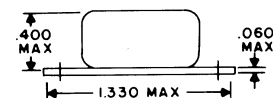
Top Studs

Mounting Code	X Dim.	Vibration
10	0.250	30g
11	0.375	30g



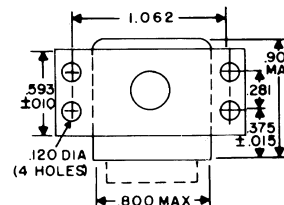
Four-hole End Bracket

Mounting Code	X Dim.	Vibration
01	0.125	30g
02	0.250	30g
03	0.450	30g



Four-hole Side Bracket

Mounting Code	Vibration
06	30g

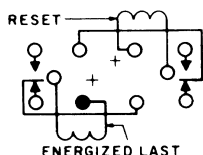
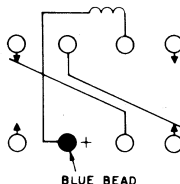
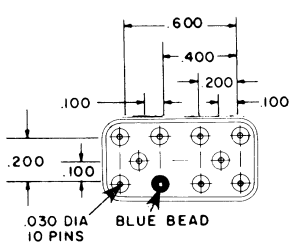
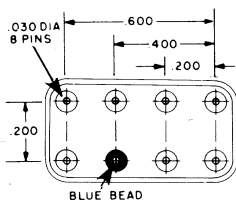


Header and Connection Diagrams

Single Coil

(Terminal View)

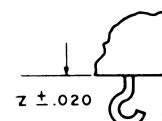
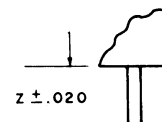
(+ on blue bead closes as shown)



Header Types

Type	Z Dimension	Header Code	
		Single	Dual
Solder hook	0.16	1	4
Straight pin (socket or PCB type)	0.19	2	5

CODES: 2, 5



CODES: 1, 4