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**AMERICAN NATIONAL
STANDARD**

ANSI/EIA-520CAAC-A-1992
APPROVED: February 7, 1992

EIA-520CAAC-A

EIA SPECIFICATION

Detail Specification for Sensitive Switches, Single Break Contacts, Subminiature Size 5 A

EIA-520CAAC-A

(Revision of EIA-520CAAC)

APRIL 1992

ELECTRONIC INDUSTRIES ASSOCIATION
ENGINEERING DEPARTMENT



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(From Standards Proposal No. 2235-A formulated under the cognizance of P-13.3 Subcommittee on Sensitive, Pushbutton and Keyboard Switches)

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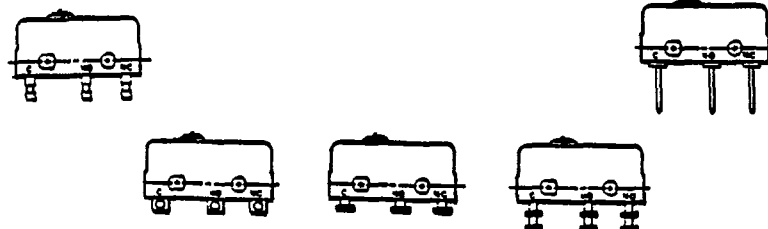
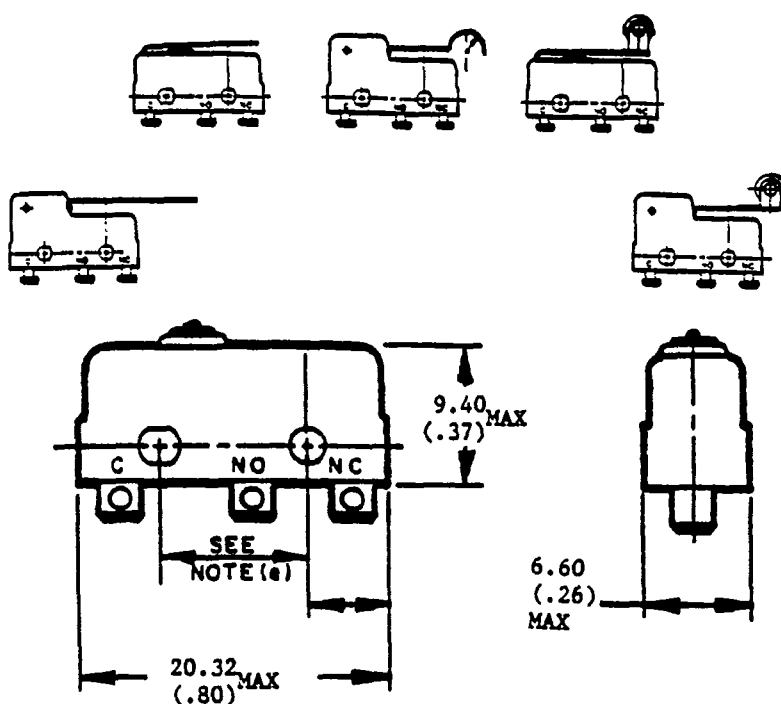
Detail Specification Number

EIA 520CAAC-A

Generic Specification Number
Electronic components of assessed
quality in accordance with
 EIA-5200000

Blank Detail Specification Number

EIA520CA00

Outline Drawing - Maximum envelope dimensions

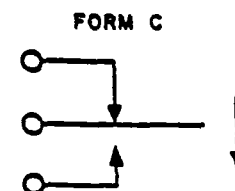
SEE FIGURES 1 THRU 3 FOR DETAIL DIMENSIONS

Product Description

- Sensitive switches
- single break contacts
- subminiature size
- single pole
- 5 A max. current rating
- 250 Vac max. voltage rating
- logic level ratings
- 6 types of actuators
- 5 types of terminals

Electrical Circuit - Momentary

Form C: double throw contacts

**Typical Construction**

Plastic housing
 Plastic pin plunger actuator
 Metal leaf and lever actuators

Application/Assessment Level

Electrical or electronic equipment

Information on the availability of components
 qualified to this specification is given in
 the Qualified Products List.

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SECTION ONE - GENERAL DATA**1.0 General****1.1 Dimensional Parameters****1.1.1 Mounting Dimensions**

The mounting dimensions shall be in accordance with Figure 1 and are common to all switches covered by this detail specification. The configuration is optional within the specified dimensions. The original dimensions are in inches.

1.1.2 Actuator Dimensions

The actuator dimensions shall be in accordance with Figure 1 for pin plunger actuators and Figure 2 for other integral actuator styles. The free position dimensions are based upon the switch being oriented such that the switch terminals are on the bottom side of the switch.

1.1.3 Terminal Dimensions

The terminal dimensions shall be in accordance with Figure 3. The dashed lines represent the maximum dimensions within which the terminals must be located. The terminal location within the specified envelope is optional.

1.2 Ratings and Characteristics**1.2.1 Ratings**

Electrical - power
- logic level
- low level

See Table I.
Applicable for rating code G.
Not applicable.

TABLE I - ELECTRICAL RATING CODES

Rating Code	sea level			50,000 ft
	125 V ac 60 Hz	250 V ac 60 Hz	28 V dc Resistive	28 V dc Resistive
M	5 A	---	5 A	5 A
S	5 A	5 A	5 A	---
G	1 A	---	1 A	1 A

1.2.2 Environmental ratings

Altitude
Corrosive gases
Fluid resistance
Fungus resistance
Icing
Moisture Resistance
Random vibration
Salt spray
Sand and dust
Shock

- For Environmental Category "E"
 - Actuator Type 1
 - all other actuators

- For Environmental Category "F"
 - Actuator Type 1
 - all other actuators

Temperature (operating)

- For Environmental Category "E"
 - Actuator Types 1 thru 4
 - Actuator Types 5 and 6
- For Environmental Category "F"

Thermal Shock

Vibration

- For Environmental Category "E"
 - Actuator Type 1
 - all other actuators

- For Environmental Category "F"
 - Actuator Type 1
 - all other actuators

50,000 feet.
Not applicable.
Not applicable.
Applicable.
Not applicable.
Applicable.
Not applicable.
96 hours.
Not applicable.

100 G's, half-sine.
50 G's, half-sine. When tested with the leaf or lever actuator in the free position, a mechanical stop shall be used to prevent the actuator from exceeding its free position.

100 G's, sawtooth.
Not applicable.

-55°C to +125°C.
-55°C to +85°C.
-55°C to +85°C.
-55°C to +85°C.

20 G's, 10-2000 Hz.
10 G's, 10-500 Hz. When tested with the leaf or lever actuator in the free position, a mechanical stop shall be used to prevent the actuator from exceeding its free position.

10 G's, 10-500 Hz.
Not applicable.

1.2.3 Mechanical characteristics

Flammability
Immersion in solvents
Low temperature operation
Mass
Operating characteristics
Sealing

Applicable.
Not applicable.
Applicable.
.045 kg (0.1 lb) maximum.
See Table VI.
Not applicable.

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Strength of

- actuator

Type 1

4.5 kg (10 lb).

Types 2 through 6

.23 kg (0.5 lb).

- mounting bushing

Not applicable.

- screw mounting

0.1 Nm (0.9 lb-in).

- termination

Types 1 and 2

4.0 kg (8.8 lb). Both Type I and II tests apply.

Types 3, 4 and 5

4.0 kg (8.8 lb).

Resistance to soldering heat

Applicable to terminal types 1, 2 and 3 only.

Solderability

Applicable to solder terminals (Type 1, 2 and 3) only.

1.2.4 Electrical characteristics

Actuator grounding

Not applicable.

Altitude voltage proof

400 V rms at 50,000 ft.

Capacitance

Not applicable.

Contact bounce

6 ms max. for rating code G.

Endurance

- electrical

- electrical rating code M

25,000 cycles at maximum rated temperature with no sticks or misses permitted.

- other electrical rating codes

25,000 cycles at atmospheric conditions with no sticks or misses permitted.

- logic level

5 V, 10 mA.

- low level

Not applicable.

- mechanical

500,000 cycles.

Insulation resistance

1,000 megohms.

Overload

Applicable.

Switch resistance

- specified current

.050 ohm maximum for electrical rating code G. Applicable for electrical rating codes M and S.

- at rated load

30°C maximum.

Temperature rise

Voltage proof

1000 V ac



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