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EIA-520CAAB-A

EIA SPECIFICATION

Detail Specification for Sensitive Switches, Single Break Contacts, Miniature Size

EIA-520CAAB-A

MARCH 1992

ELECTRONIC INDUSTRIES ASSOCIATION
ENGINEERING DEPARTMENT



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(From Standards Proposal No. 2234-A formulated under the cognizance of the P-13.3 Subcommittee on Sensitive, Pushbutton and Keyboard Switches)

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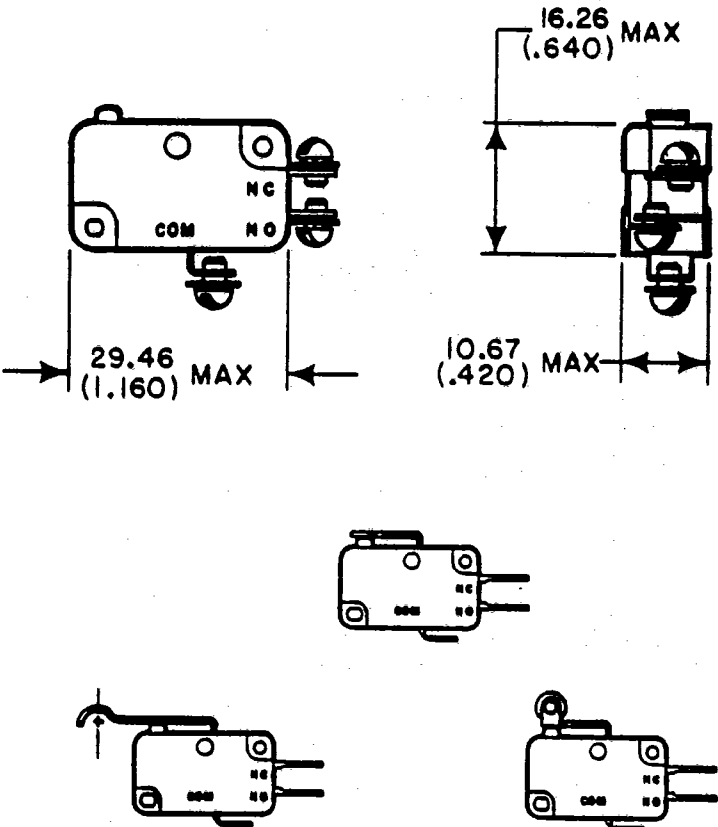
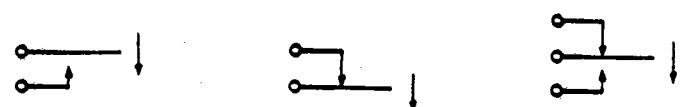
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NATIONAL STANDARDS ORGANIZATION - Electronic Industries Association 2001 Pennsylvania Ave., N.W. Washington, D.C. 20006	Detail Specification Number EIA-520CAAB-A
Generic Specification Number Electronic Components of Assessed Quality in Accordance with EIA-5200000	Blank Detail Specification EIA-520CAOO
Outline Drawing - Maximum envelope Dimensions  SEE FIGURES 1 THRU 3 FOR DETAIL DIMENSIONS	Product Description - sensitive switches - single break contacts - miniature size - single pole - 15 A max. current rating - 277 Vac Max. voltage rating - 6 types of actuators - 4 types of terminals Electrical Circuit - momentary action Form A: normally open Form B: normally Closed Form C: double throw  Form A Form B Form C Typical Construction housing plunger - plastic leaf & lever - metal 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 data

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	See Table I.
- logic level	5 V, 10 mA for rating code G.
- low level	Not applicable.

TABLE I - ELECTRICAL RATING CODES

Rating Codes	Sea Level Ratings					50,000 feet	
	125 V ac 60 Hz	250 V ac 60 Hz	28 V dc	125 V dc	250 V dc	28 V dc	115 V ac 60 Hz
A	10 A 1/3 hp	10 A	---	0.5 A	0.25 A	---	---
B	15 A 1/2 hp	15 A 1/2 hp	---	0.5 A	0.25 A	---	---
G	1 A	---	1 A	---	---	1 A	1 A
M	10 A	---	10 A	---	---	10 A	10 A

1.2.2 Environmental ratings

Altitude	50,000 feet
Corrosive gases	Not applicable.
Fluid resistance	Not applicable.
Fungus resistance	Not applicable.
Icing	Not applicable.
Moisture Resistance	Applicable.
Random vibration	Not applicable.
Salt spray	96 hours.
Sand and dust	Not applicable.
Shock	
- discrete number 01	50 G's, sawtooth.
- all others	Not applicable.
Temperature	-55°C to +85°C (operating),
Thermal Shock	-55°C to +85°C
Vibration	
- discrete numbers 01 and 40	10 G's, 10-500 Hz.
- all others	Not applicable.

1.2.3 Mechanical characteristics

Flammability	Applicable.
Immersion in solvents	Not applicable.
Low temperature operation	Applicable.
Mass	
- Type 1 actuator (pin plunger)	10 grams maximum.
- other type actuators	25 grams maximum.
Operating characteristics	See Table V.
Sealing	Not applicable.
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	0.4 Nm (3.5 lb-in).
- termination	2.0 kg (4.4 lb).
Solderability	Applicable to solder terminals (Types 5 and 6) only.

1.2.3 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 +85°C with no sticks or misses permitted.
- other electrical rating codes	100,000 cycles at atmospheric conditions with no sticks or misses permitted.



- logic level	100,000 cycles.
- low level	Not applicable.
- mechanical	1,000,000 cycles.
Insulation resistance	1,000 megohms.
Overload	Applicable.
Switch resistance	
- specified current	.050 ohm maximum for
	electrical rating code G.
- at rated load	Not applicable.
Temperature rise	30 °C maximum.
Voltage proof	1000 V ac

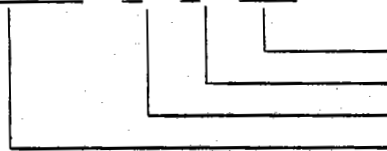
1.3 Type Designation

Switches covered by this detail specification shall be described by the following in the order shown:

- a) The number for the detail specification.
- b) The type of contact arrangement.
A = normally open
B = normally closed
C = double throw
- c) The style of the terminals per Figure 3.
1 = 187 Series quick connect (Type 1)
2 = 250 Series quick connect (Type 2)
3 = screw (Type 3)
4 = screw (Type 4)
5 = solder (Type 5)
6 = solder (Type 6)
- d) The discrete switch identification per Table V.

Example of Type Designation: EIA520CAABC1001

EIA520CAAB C 1 001



discrete switch identification
terminal style
contact arrangement
number for the detail specification

1.4 Marking

The marking of the switch and package shall be in accordance with the requirements of EIA 5200000, paragraph 2.5. The switches shall be marked with the following information:

- a) Terminal identification as follows:
C for common terminal
NO for normally open terminal
NC for normally closed terminal
- b) EIA part number
- c) Manufacturer's name