8500 Series
Subminiature Pushbutton Switches

Features/Benefits
- *Pre-travel or over-travel models available*
- *Ratings up to 3 AMPS*
- *Reliable contact design*
- *RoHS compliant*

Typical Applications
- *Detection*
- *Telecommunications and networking equipment*
- *Computers and peripherals*

Models Available

Specifications

CONTACT RATING: Q contact material (853X Models): 1 AMP @ 120 V AC or 28 V DC; (855X Models): 3 AMPS @ 120 V AC or 28 V DC. See page A-65 for additional ratings.

ELECTRICAL LIFE:
853X MODELS: 250,000 actuations at full load.
855X MODELS: 10,000 actuations at full load.

CONTACT RESISTANCE: Below 30 mΩ typ. initial @ 2-4 V DC, 100 mA, for both silver and gold plated contacts.

INSULATION RESISTANCE: $10^9 \Omega$ min.

DIELECTRIC STRENGTH: 1,000 Vrms min. @ sea level.

OPERATING TEMPERATURE: –30ºC to 65ºC.

NOTE: Any models supplied with Q, B or G contact material are RoHS compliant.

NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service Center.

Materials

CASE: Glass filled phenolic or diallyl phthalate (DAP) (UL 94V-0).

PLUNGER: Phenolic or glass filled polyester, black standard(UL94V-0).

CAP & FRAME: Nylon, black, standard.

BUSHING: Brass, nickel plated.

CONTACTS: Q contact material: Coin silver, silver plated. See page A-65 for additional contact materials.
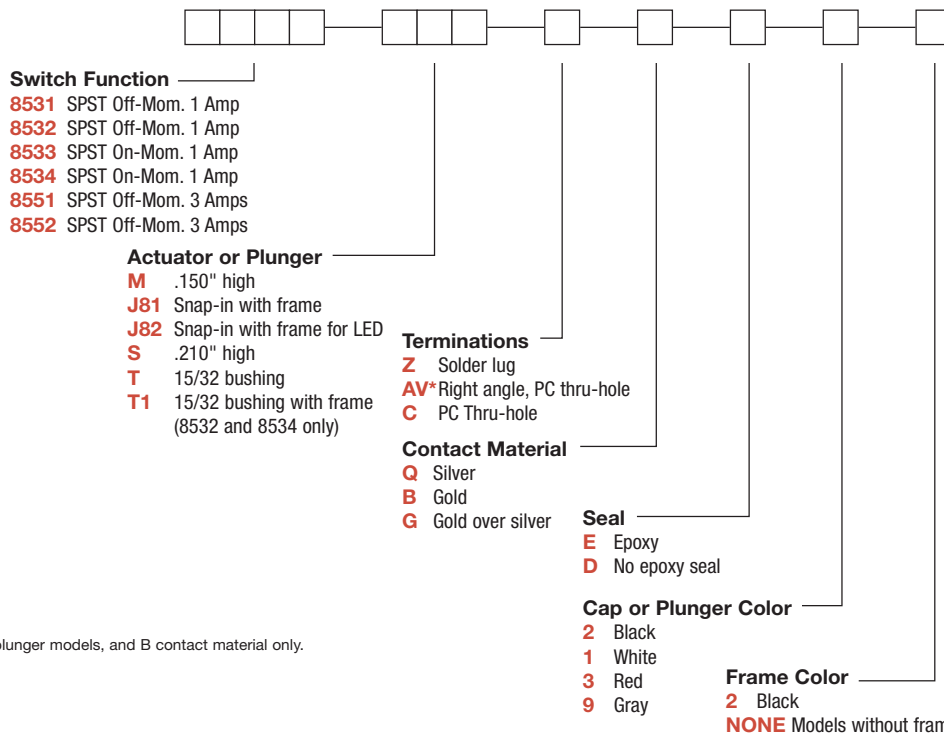
TERMINALS: Q contact material: Copper alloy, silver plated. See page A-65 for additional contact materials.

TERMINAL SEAL: Epoxy.

HARDWARE: Nut: Brass, nickel plated; Lockwasher: Steel, bright nickel plated.

Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages A-63 thru A-66. For additional options not shown in catalog, consult Customer Service Center. All models have epoxy terminal seal and are compatible with all "bottom-wash" PCB cleaning methods.

Switch Function
8531 SPST Off-Mom. 1 Amp
8532 SPST Off-Mom. 1 Amp
8533 SPST On-Mom. 1 Amp
8534 SPST On-Mom. 1 Amp
8551 SPST Off-Mom. 3 Amps
8552 SPST Off-Mom. 3 Amps

Actuator or Plunger
M .150" high
J81 Snap-in with frame
J82 Snap-in with frame for LED
S .210" high
T 15/32 bushing
T1 15/32 bushing with frame (8532 and 8534 only)

Terminations
Z Solder lug
AV* Right angle, PC thru-hole
C PC Thru-hole

Contact Material
Q Silver
B Gold
G Gold over silver

Seal
E Epoxy
D No epoxy seal

Cap or Plunger Color
2 Black
1 White
3 Red
9 Gray

Frame Color
2 Black
NONE Models without frame

* Available with M or S plunger models, and B contact material only.

Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change

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SWITCH FUNCTION

NO. POLES	MODEL NO.	RATING	SWITCH FUNCTION		TOTAL TRAVEL		ACTUATION FORCE	SCHEMATIC
			POS. 1	POS. 2				
SP	**8531**	1 AMP	OFF	MOM.	.095 (2,41) TYP.	with overtravel .042 (1,07) TYP.	7.7 oz (220g) TYP.	N.O. with overtravel
	8551	3 AMPS						

SPST

.173 (4,39)
1/4-40 UNS-2A
EPOXY SEAL
.209 (5,31)
.157 DIA. (3,990)
.227 (5,77) .427 (10,85) .220 (5,59)
.375 DIA. (9,530)
.015 TYP. (0,38)
.100 (2,54)

Part number shown: 8531MZQE2
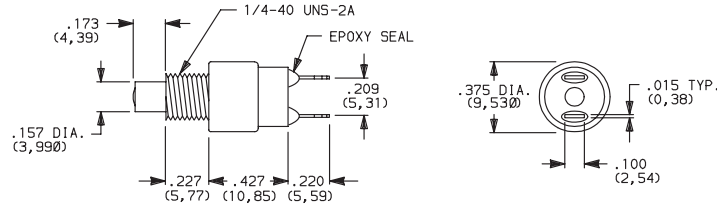
NO. POLES	MODEL NO.	RATING	POS. 1	POS. 2	TOTAL TRAVEL		ACTUATION FORCE	SCHEMATIC
SP	**8532**	1 AMP	OFF	MOM.	.050 (1,27) TYP.		6 oz (170g) TYP.	N.O.
	8552	3 AMPS						

SPST

.150 (3,81)
1/4-40 UNS-2A
EPOXY SEAL
.209 (5,31)
.157 DIA. (3,990)
.250 (6,35) .315 (8,00) .220 (5,59)
.375 DIA. (9,530)
.015 TYP. (0,38)
.100 (2,54)

Part number shown: 8532MZQE2
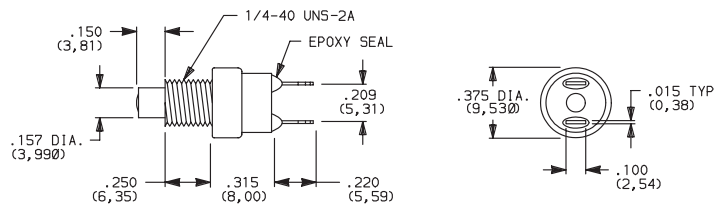
NO. POLES	MODEL NO.	RATING	POS. 1	POS. 2	TOTAL TRAVEL		ACTUATION FORCE	SCHEMATIC
SP	**8533**	1 AMP	ON	MOM.	.080 (2,03) TYP.	with pretravel .057 (1,45) TYP.	11.5 oz (456 g) TYP.	N.C. with pretravel
	8534	1 AMP	ON	MOM.	.032 (0,81) TYP.	with overtravel .028 (0,71) TYP.	10.3 oz (282g) TYP.	N.C. woth overtravel

SPST

.150 (3,81)
1/4-40 UNS-2A
EPOXY SEAL
.209 (5,31)
.157 DIA. (3,990)
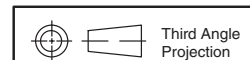.250 (6,35) .427 (10,85) .220 (5,59)
.375 DIA. (9,530)
.015 TYP. (0,38)
.100 (2,54)
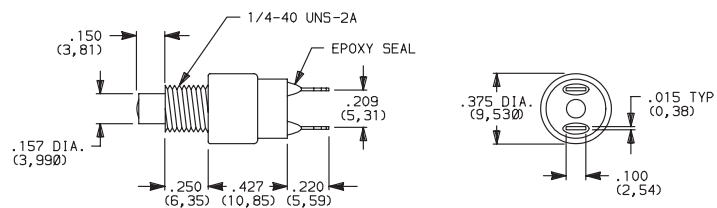
Part number shown: 8533MZQE2

MOM. = Momentary

All models ® with all options when ordered with G or Q contact material.

Third Angle Projection

Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change

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C&K

8500 Series
Subminiature Pushbutton Switches

PLUNGER

ACTUATOR OR PLUNGER — PLUNGER COLOR

M .150" HIGH PLUNGER

.157 DIA.
(3,990)

.150
(3,81)

.173 FOR 8531
(4,39)

S .210" HIGH PLUNGER

.157 DIA.
(3,990)

.210
(5,33)

.233 FOR 8531
(5,92)

PANEL MOUNTING
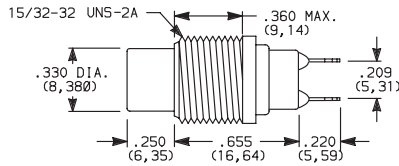
.250 DIA.
(6,350)
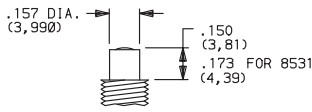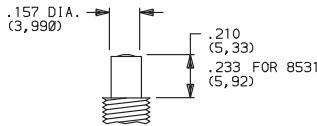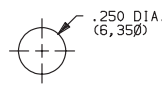
OPTION CODE	PLUNGER COLOR
2	BLACK
3	RED

NOTE: One mounting nut and lockwasher supplied with all actuators (except T actuator: two nuts supplied).
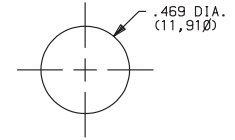
ACTUATOR

ACTUATOR OR PLUNGER — CAP COLOR

T 15/32 BUSHING

15/32-32 UNS-2A

.360 MAX.
(9,14)

.330 DIA.
(8,380)

.209
(5,31)

.250
(6,35)

.655
(16,64)

.220
(5,59)

NOTE: No frame color choice required.

T1 15/32 BUSHING WITH FRAME

.040
(1,02)

.230 MAX.
(5,84)

15/32-32 UNS-2A

.530 DIA.
(13,460)

.330 DIA.
(8,380)

.209
(5,31)

.147
(3,73)

.660
(16,76)

.220
(5,59)
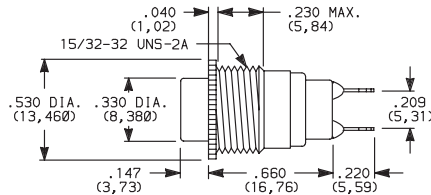
NOTE: No frame color choice required.
Available with 8532 and 8534 models only.

PANEL MOUNTING

.469 DIA.
(11,910)

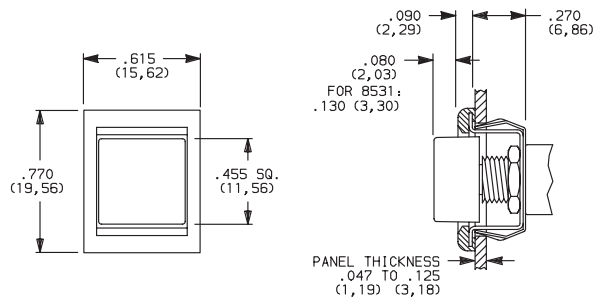| OPTION CODE	CAP COLOR
2	BLACK
1	WHITE
3	RED
9	GRAY

Cap Finish: gloss. Other colors available, consult Customer Service Center.

One mounting nut and lockwasher supplied with all actuators (except T actuator: two nuts supplied).

NOTE: Caps available for plunger options, see page A-65.

ACTUATOR—SNAP-IN FRONT MOUNT

ACTUATOR OR PLUNGER — CAP COLOR — FRAME COLOR

J81 SNAP-IN WITH FRAME

.615
(15,62)

.770
(19,56)

.455 SQ.
(11,56)

.090
(2,29)

.270
(6,86)

.080
(2,03)
FOR 8531:
.130 (3,30)

PANEL THICKNESS
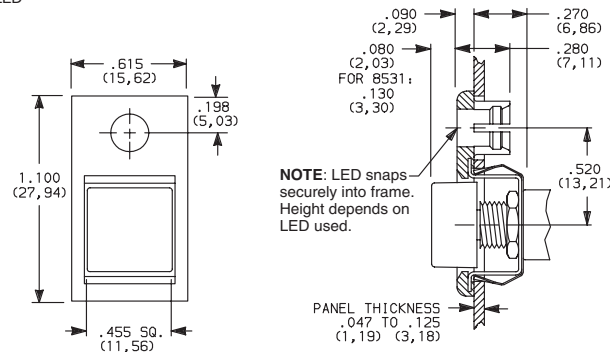.047 TO .125
(1,19) (3,18)

OPTION CODE	CAP AND FRAME COLOR
2	BLACK

Cap and Frame Finish: matte.
Other colors available,
consult Customer Service Center.

One mounting nut and lockwasher supplied with all actuators.

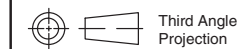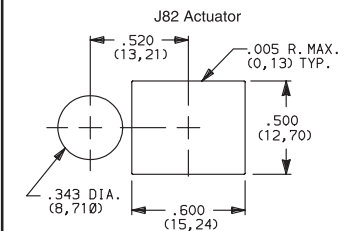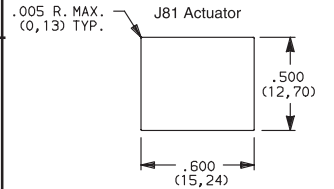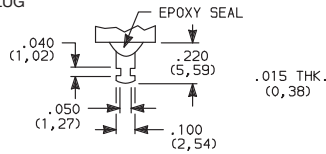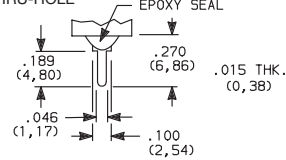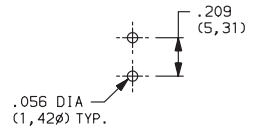**NOTE:** Caps & frames available separately, see pages A-65 and A-66.

J82 SNAP-IN WITH FRAME FOR LED

.615
(15,62)

.198
(5,03)

1.100
(27,94)

.455 SQ.
(11,56)

.090
(2,29)

.270
(6,86)

.080
(2,03)
FOR 8531:
.130
(3,30)

.280
(7,11)

.520
(13,21)

NOTE: LED snaps securely into frame. Height depends on LED used.

PANEL THICKNESS
.047 TO .125
(1,19) (3,18)

LED not included.
For LED information, see page A-66.

PANEL MOUNTING

.005 R. MAX.
(0,13) TYP.

J81 Actuator

.500
(12,70)

.600
(15,24)

J82 Actuator

.520
(13,21)

.005 R. MAX.
(0,13) TYP.

.500
(12,70)

.343 DIA.
(8,710)

.600
(15,24)

Third Angle Projection

Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change

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TERMINATIONS

Z   SOLDER LUG

EPOXY SEAL
.040 (1,02)
.220 (5,59)
.015 THK. (0,38)
.050 (1,27)
.100 (2,54)

C   PC THRU-HOLE

EPOXY SEAL
.189 (4,80)
.270 (6,86)
.015 THK. (0,38)
.046 (1,17)
.100 (2,54)

PC MOUNTING
.209 (5,31)
.056 DIA (1,42∅) TYP.

AV   RIGHT ANGLE, PC THRU-HOLE

.378 (9,60)
.130 TYP. (3,30)
.189 (4,80)
.030 TYP. (0,76)
8531, 8551
All others are .242 (6,15)
.200 (5,08)
.030 TYP. (0,76)
.219 (5,56)
.150 (3,81) DIM. "X"

NUT
.209 (5,31)
.032 (0,81)
.015 TYP. (0,38)

PC MOUNTING
.043 DIA. (1,09∅) TYP.
.100 TYP. (2,54)
.150 (3,81)
DIM. "X"
.200 (5,08)
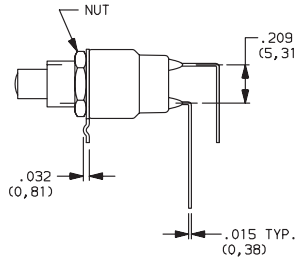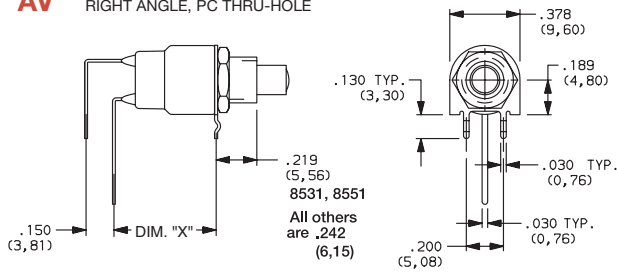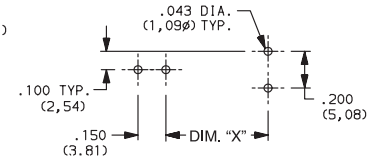
Available with

MODEL NO.	DIM "X"
8531, 8533	0.550
8532, 8534	0.438

NOTE: Available with M or S plunger models, and B contact material only.

CONTACT MATERIAL

OPTION CODE	RoHS COMPLIANT *	RoHS COMPATIBLE *	TERMINAL PLATING	CONTACT MATERIAL	RATINGS	
B	YES	YES	GOLD [1]	GOLD	LOW LEVEL/DRY CIRCUIT	0.4 VA MAX. @ 20 V AC OR DC MAX.
Q	YES	YES	SILVER [4]	SILVER [5]	POWER	853X MODELS: 1 AMP @ 120 V AC OR 28 V DC. 855X MODELS: 3 AMPS @ 120 V AC OR 28 V DC.
G	YES	YES	GOLD OVER SILVER [2]	GOLD [3]	LOW LEVEL/DRY CIRCUIT OR POWER	0.4 V MAX @20 V AC OR DC MAX. OR 853X MODELS: 1 AMP @ 120 V AC OR 28 V DC. 855X MODELS: 3 AMPS @120 V AC OR 28 V DC.

* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.

[1] CONTACTS & TERMINALS: Copper alloy, with gold plate over nickel plate.
[2] CONTACTS: Coin silver, with gold plate over nickel plate.
[3] TERMINALS: Copper alloy, with gold plate over nickel plate.
[4] CONTACTS: Coin silver, silver plated.
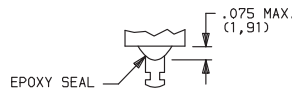[5] TERMINALS: Copper alloy, silver plated.

NOTE: Any models supplied with Q, B or G contact material are RoHS compliant.

All models ® 🔲 with all options when ordered with G or Q contact material.

Q contact material standard with C, Z terminations.
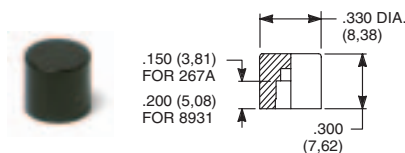
8551 & 8552 available with Q contact material only.

SEAL

E   EPOXY SEAL

.075 MAX. (1,91)
EPOXY SEAL

REPLACEMENT HARDWARE

Cap for 0.157" dia. plungers

.330 DIA. (8,38)
.150 (3,81) FOR 267A
.200 (5,08) FOR 8931
.300 (7,62)

PART NO.		PART NO.	
267A01000	WHITE	893101000	WHITE
267A02000	BLACK	893102000	BLACK
267A03000	RED	893103000	RED
267A09000	GRAY	893109000	GRAY

85X2T, 8534T models only

85X1T, 8532T1, 8533T, 8534T1 models only

Material: Nylon
Finish: Gloss

Material: Nylon
Finish: Gloss

Cap, J80, J81 & J 82 options only

.195 (4,95)
.450 SQ.
.240 (6,10)
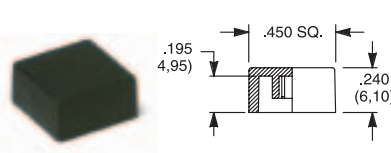
PART NO.
448901000   WHITE
448902000   BLACK
448903000   RED
448909000   GRAY

Material: Nylon
Finish: Gloss or matte

Frame

PART NO.
613302263   BLACK

Material: Nylon
Finish: Matte

Other colors available, consult Customer Service Center.

Third Angle Projection

Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change

AVAILABLE HARDWARE

Frame
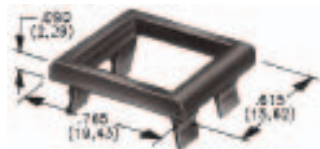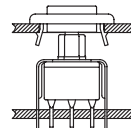
PART NO.
615602263 BLACK

Material: Nylon
Finish: Matte

NOTE: Additional nuts, locking rings and lockwashers available separately, see section "Technical Data and Additional Hardware". Other colors available, consult Customer Service Center.

Frames snap into panel opening and are independent from switch mounting. Accurate positioning of the PC mounted switch relative to the panel opening is necessary to provide proper clearance between actuator and frame. Available in two basic styles and four panel thicknesses .047-.125 in. Material: Nylon. Finish: Matte.

TYPICAL APPLICATION

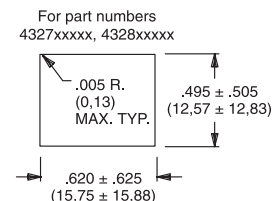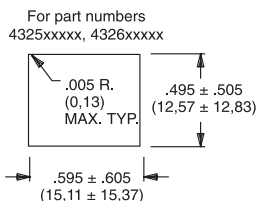| .047" (1,19) PANEL THK.	.062" (1,57) PANEL THK.	.090" (2,29) PANEL THK.	.125" (3,18) PANEL THK.
PART NO.	PART NO.	PART NO.	PART NO.
432502263	432602263	432702263	432802263 BLACK

PANEL MOUNTING

For part numbers 4325xxxxx, 4326xxxxx
.005 R. (0,13) MAX. TYP.
.495 ± .505 (12,57 ± 12,83)
.595 ± .605 (15,11 ± 15,37)

For part numbers 4327xxxxx, 4328xxxxx
.005 R. (0,13) MAX. TYP.
.495 ± .505 (12,57 ± 12,83)
.620 ± .625 (15,75 ± 15,88)
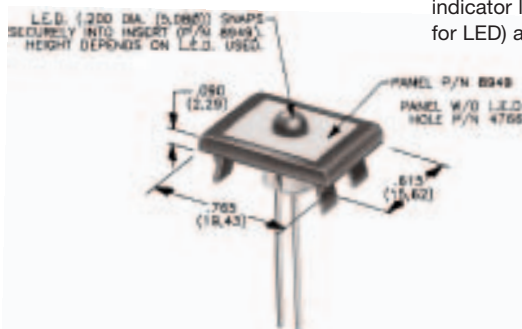
Panel Inserts

Above frames (part nos. 432XXXXXX) are also available with insert which accepts LED for indicator light assembly. Order insert separately from frame. Blank insert panel (without hole for LED) also available. **LED not included.**

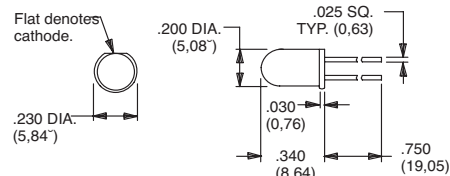| PANEL INSERT WITH HOLE FOR LED	BLANK PANEL INSERT WITHOUT HOLE FOR LED
PART NO.	PART NO.
894902000	476602000 BLACK

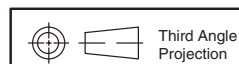Special colors, custom markings available, consult Customer Service Center.

LED INFORMATION
Process Information: Soldering to LED leads must be completed within 5 seconds at 500°F (260°C) maximum.
LEDs are not supplied with J82 option. LED snaps into switch frame surrounding actuator and is wired externally.

Flat denotes cathode.
.230 DIA. (5,84˝)
.200 DIA. (5,08˝)
.025 SQ. TYP. (0,63)
.030 (0,76)
.340 (8,64)
.750 (19,05)

Suggested LED for J82 option. Dimensions for reference only.

Third Angle Projection

Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change

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