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: –30°C to 65°C.

TORQUE SPECS: T, T1 15/32" bushings - 50 in. lbs max. All other 1/4 -40 bushing types 12 in. lbs max.

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.

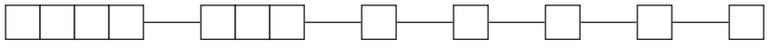
HARDWARE: Nut: Brass, nickel plated; Lockwasher: Steel, bright nickel plated.

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.

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

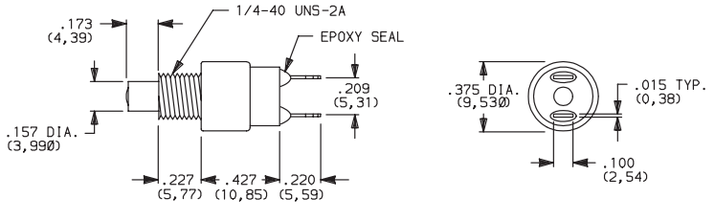
* Available with M or S plunger models, and B contact material only.

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

SWITCH FUNCTION

NO. POLES	MODEL NO.	RATING	SWITCH FUNCTION POS. 1	SWITCH FUNCTION POS. 2	TOTAL TRAVEL	ACTUATION FORCE	SCHEMATIC
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					

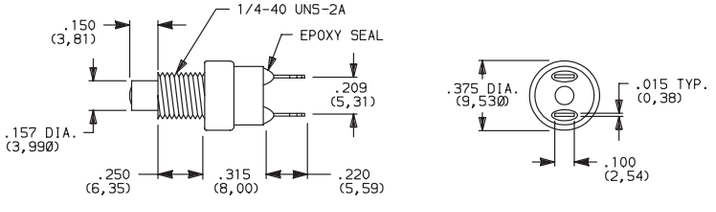
SPST



Part number shown: 8531MZQE2

NO. POLES	MODEL NO.	RATING	SWITCH FUNCTION POS. 1	SWITCH FUNCTION 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					

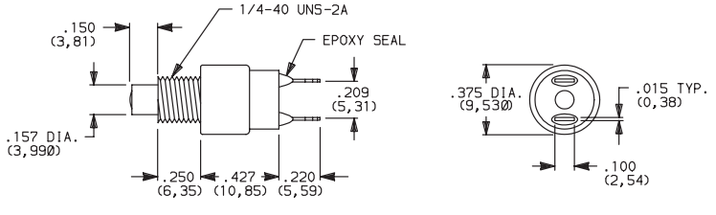
SPST



Part number shown: 8532MZQE2

NO. POLES	MODEL NO.	RATING	SWITCH FUNCTION POS. 1	SWITCH FUNCTION 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. with overtravel

SPST



Part number shown: 8533MZQE2

MOM. = Momentary

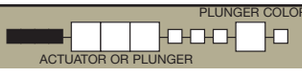
All models with all options when ordered with G or Q contact material.

Third Angle Projection

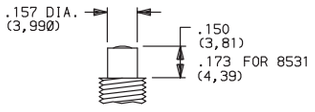
Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change

8500 Series
Subminiature Pushbutton Switches

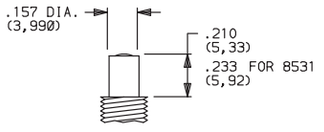
PLUNGER



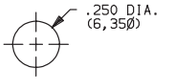
M .150" HIGH PLUNGER



S .210" HIGH PLUNGER



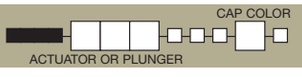
PANEL MOUNTING



OPTION CODE	PLUNGER COLOR
2	BLACK
3	RED

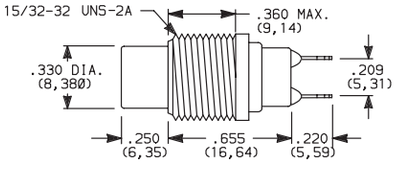
NOTE: One mounting nut and lockwasher supplied with all actuators (except T actuator: two nuts supplied).

ACTUATOR



T 15/32 BUSHING

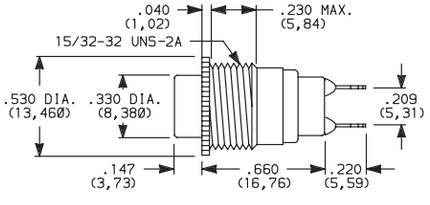




NOTE: No frame color choice required.

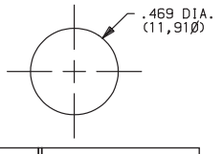
T1 15/32 BUSHING WITH FRAME





NOTE: No frame color choice required.
Available with 8532 and 8534 models only.

PANEL MOUNTING



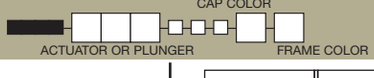
OPTION CODE	CAP COLOR
2	BLACK
1	WHITE
3	RED
9	GRAY

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).

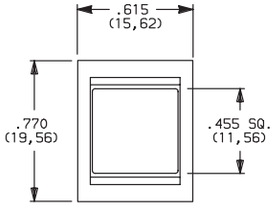
NOTE: Caps available for plunger options, see page A-65.

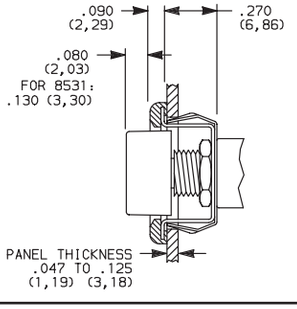
ACTUATOR—SNAP-IN FRONT MOUNT



J81 SNAP-IN WITH FRAME







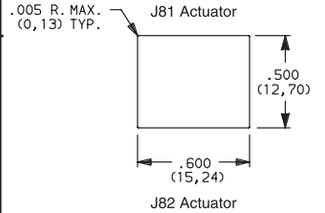
OPTION CODE	CAP AND FRAME COLOR
2	BLACK

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

One mounting nut and lockwasher supplied with all actuators.

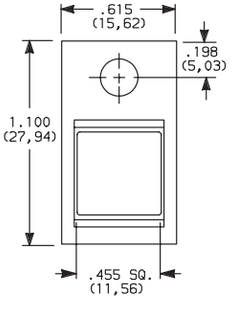
NOTE: Caps & frames available separately, see pages A-65 and A-66.

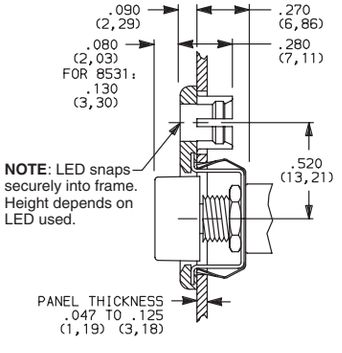
PANEL MOUNTING



J82 SNAP-IN WITH FRAME FOR LED

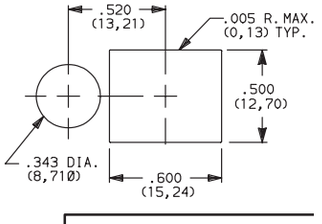






LED not included.
For LED information, see page A-66.

J82 Actuator

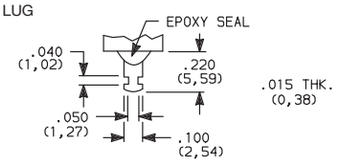


Third Angle Projection

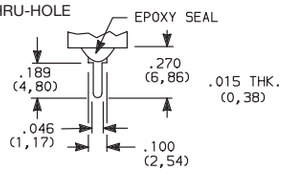
Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change

TERMINATIONS

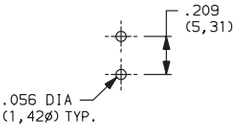
Z SOLDER LUG



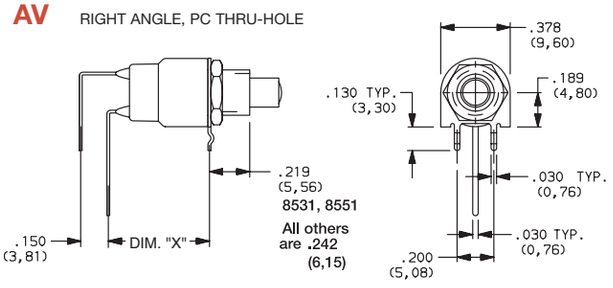
C PC THRU-HOLE



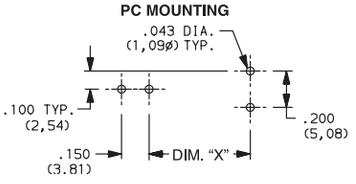
PC MOUNTING



AV RIGHT ANGLE, PC THRU-HOLE



PC MOUNTING



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.

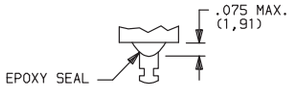
* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.

[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.

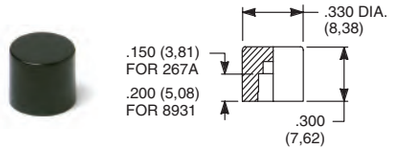
SEAL

E EPOXY SEAL



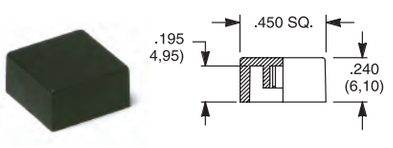
REPLACEMENT HARDWARE

Cap for 0.157" dia. plungers



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



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

8500 Series
Subminiature Pushbutton Switches

AVAILABLE HARDWARE

Frame



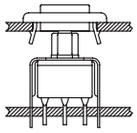
PART NO.
615602263 BLACK

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

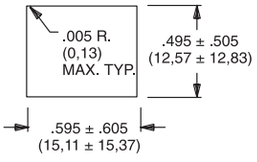




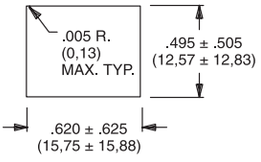
.047" (1,19) PANEL THK.	.062" (1,57) PANEL THK.	.090" (2,29) PANEL THK.	.125" (3,18) PANEL THK.
PART NO.	**PART NO.**	**PART NO.**	**PART NO.**
432502263	432602263	432702263	432802263 BLACK

PANEL MOUNTING

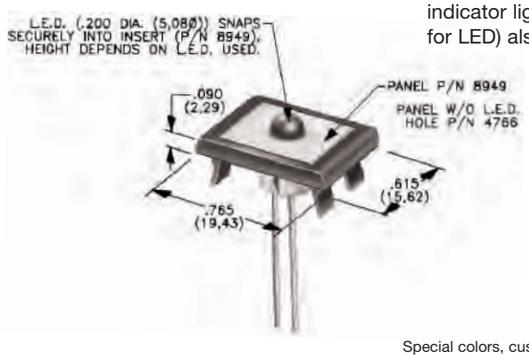
For part numbers
4325xxxxx, 4326xxxxx



For part numbers
4327xxxxx, 4328xxxxx



Panel Inserts



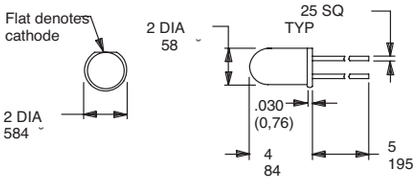
Above frames (part nos. 432XXXXXX) are also available with insert which accepts LED for indicator light assembly. Order insert separately from frame. Blank insert panel (without hole for LED) also available. **LED not included.**

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.



Suggested LED for J82 option
Dimensions for reference only

Third Angle Projection

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