

## Part Number Change for RoHS Compliance

E-Switch is continuing to pursue compliance with the environmental protection initiatives adopted by the European Union, known in the industry as RoHS and WEEE. E-Switch believes it is important to provide our customers and distributor partners with switch products that meet the requirements of these environmental regulations.

RoHS is the directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (2002/95/EC) which states that from July 1, 2006 new electrical and electronic equipment put on the market do not contain each of the 6 substances above the RoHS thresholds: Lead <1000 PPM, Mercury <1000PPM, Hexavalent Chromium <1000PPM, PBB< 1000PPM, PBDE <1000PPM, Cadmium <100PPM

WEEE is the Directive on Waste Electrical and Electronic Equipment (2002/96/EC). WEEE defines the recovery of waste electrical and electronic equipment and compliments the RoHS directive.

We have been certifying our switches by submitting the individual components for analysis.

**Note: In order to satisfy the RoHS compliance process, E-Switch has invested in new material and tooling on 3 product families. Due to these changes, we have created 3 new product series.**

The **MS Snap Switch** Series replaced the SM line (pneumonic memory tip: MS= Medium Snap)

The **LS Snap Switch** Series replaced the VM line (pneumonic memory tip: LS=Large Snap)

The **PBH Pushbutton** Series replaced the MTH line (pneumonic memory tip: PB= Push Button)

The plastic materials, the electrical contacts and terminals of these switches now comply with the RoHS directives. We tried to maintain form, fit, and function. In most cases, the options are the same. There are a few differences in some of the specs that are indicated in the engineering drawings.

Included with this memo are the corresponding RoHS certificates and a representative engineering drawing of each series.

Please continue to check the E-Switch Web site for the growing list of certificates for products that we have tested to meet the RoHS standard. We've got over 85% of our products listed and we will be pushing for 100% compliance by January 2006.

Best wishes

John Benson  
VP of Marketing & Product Development  
E-Switch

## RoHS Product Series Certification

### Series LS Snap Switches



E-Switch certifies that all Series LS Snap Switches meet the 2002/95/EC (ROHS) requirements.

**Level 1:** • RoHS Compliance Certification •

E-Switch states the above switch and any of its homogenous materials, do not contain each of the 6 substances above the RoHS thresholds.

Lead	< 1000 PPM
Mercury	< 1000 PPM
Hexavalent Chromium	< 1000 PPM
PBB	< 1000 PPM
PBDE	< 1000 PPM
Cadmium	< 100 PPM

## RoHS Product Series Certification

### Series MS Miniature Snap Switches



E-Switch certifies that all Series MS Snap Switches meet the 2002/95/EC (ROHS) requirements.

**Level 1:** • RoHS Compliance Certification •

E-Switch states the above switch and any of its homogenous materials, do not contain each of the 6 substances above the RoHS thresholds.

Lead	< 1000 PPM
Mercury	< 1000 PPM
Hexavalent Chromium	< 1000 PPM
PBB	< 1000 PPM
PBDE	< 1000 PPM
Cadmium	< 100 PPM

## RoHS Product Series Certification

### Series PBH Miniature Pushbutton Switches



E-Switch certifies that all Series PBH Switches meet the 2002/95/EC (ROHS) requirements.

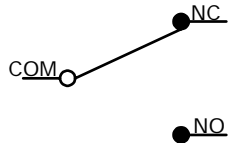
**Level 1:** • RoHS Compliance Certification •

E-Switch states the above switch and any of its homogenous materials, do not contain each of the 6 substances above the RoHS thresholds.

Lead	< 1000 PPM
Mercury	< 1000 PPM
Hexavalent Chromium	< 1000 PPM
PBB	< 1000 PPM
PBDE	< 1000 PPM
Cadmium	< 100 PPM

C	O.P. (MM)	P.T. (MM)
	14.7 ± 0.5	2.0 MAX.

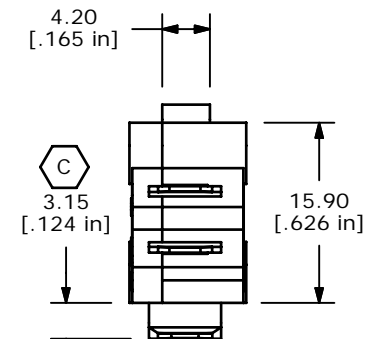
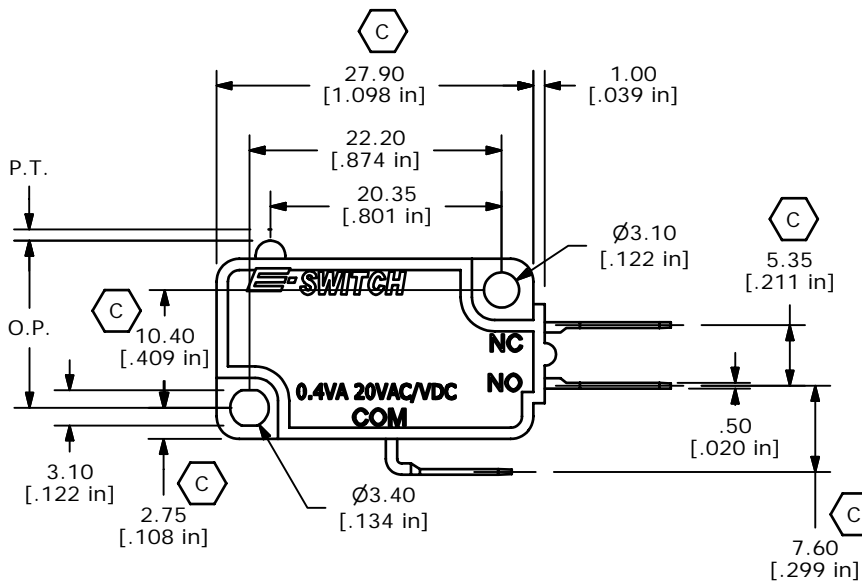
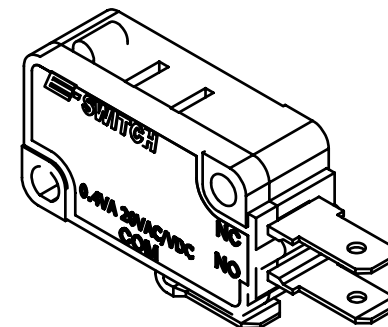
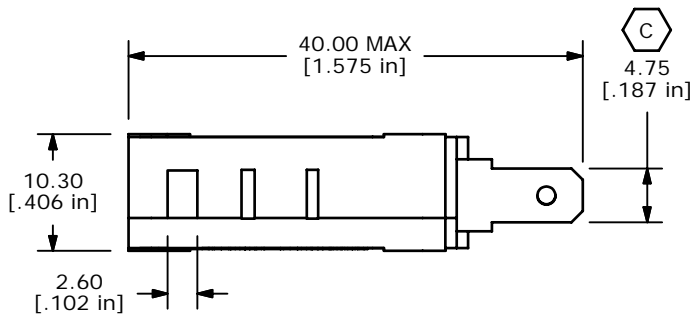
O.P. = OPERATING POINT  
P.T. = PRE-TRAVEL



CIRCUIT: SPDT

NOTES:

1. ALL DIMENSIONS IN MM [INCH]
2. GENERAL TOLERANCE: X.X ± 0.4  
X.XX ± 0.25
3. RATING: 0.4VA @20VAC OR DC
- ▲ 4. OPERATING FORCE: 160 ± 40 GRAMS
5. OPERATING TEMP: -25°C TO 85°C
6. ELECTRICAL LIFE: 50,000 CYCLES MIN.
7. MECHANICAL LIFE: 500,000 CYCLES TYP.
8. INSULATION RESISTANCE: 100 MEGA-OHMS MIN.
9. DIELECTRIC STRENGTH: 1500VAC 1 MINUTE (INITIAL VALUE)
10. CONTACT RESISTANCE: 100 MILLI -OHMS MAX.
11. ▲ DENOTES CRITICAL PARAMETER.
- ▲ 12. CONTACTS: 10 MICRO INCHES MINIMUM GOLD PLATING (P/N Q990000)



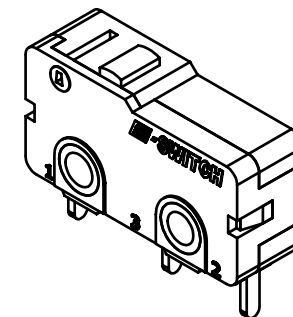
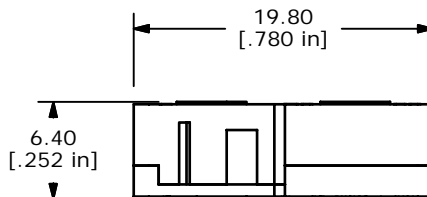
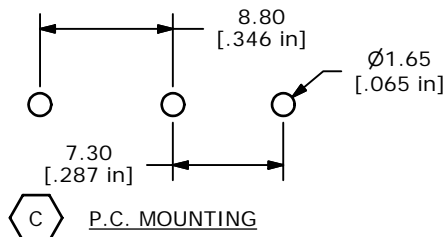
D	15115	REMOVE UL, CUL, AND VDE	7/27/05	BK
C	14890	CHANGED DIMMENSIONS AND NOTES	5/2/05	JB
B	14765	ADD NOTE 12	3/22/05	BK
A	14712	RELEASED FOR PRODUCTION	3/9/05	AR
REV	PCR NO	DESCRIPTION	DATE	BY

**E-SWITCH®**

TITLE LS085R100F160C1A

SCALE	DATE	DR	DWG	REV
1.5:1	02/25/05	AR	Q950006	D

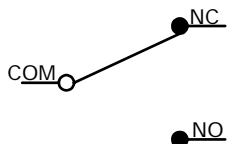
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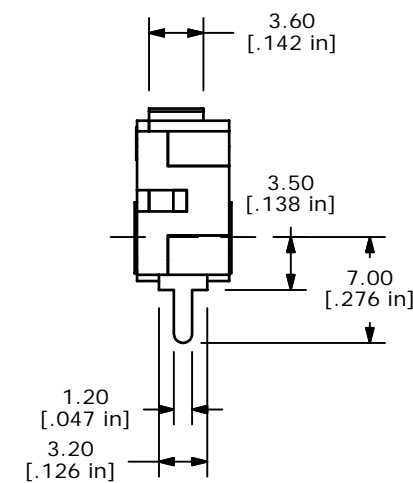
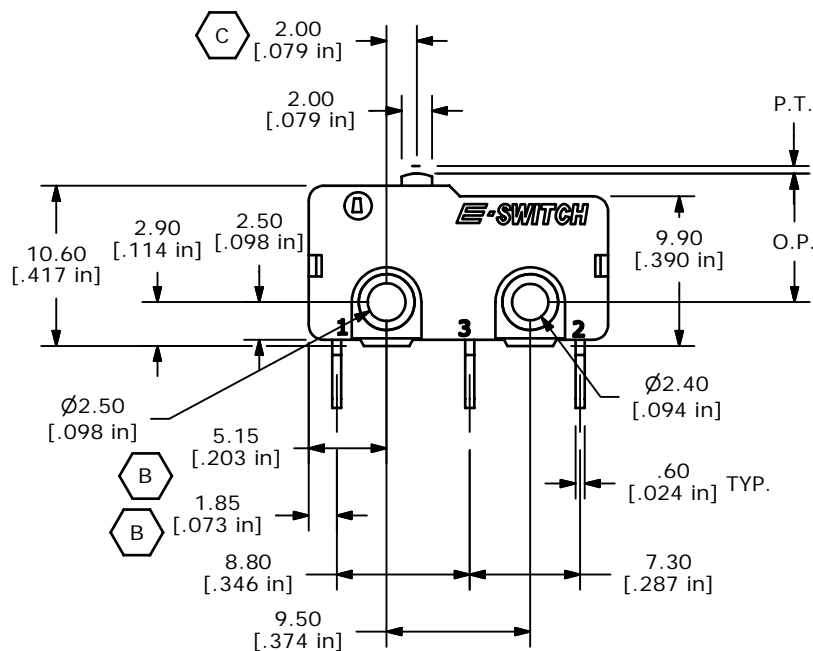
ISOMETRIC

O.P. (MM)	P.T. (MM)
8.5 ±0.3	1.1 MAX

O.P. = OPERATING POINT  
P.T. = PRE-TRAVEL



CIRCUIT: SPDT



- NOTES:
1. ALL DIMENSIONS IN MM [INCH]
  2. GENERAL TOLERANCE: X.X=±0.4  
X.XX=±0.25
  3. RATING: 5A @125/250VAC UL, CUL, VDE APPROVED
  - ▲ 4. OPERATING FORCE: 130±40 GRAMS
  5. OPERATING TEMP: -25°C TO 85°C
  6. ELECTRICAL LIFE: 10,000 CYCLES MIN.
  7. MECHANICAL LIFE: 100,000 CYCLES TYP.
  8. INSULATION RESISTANCE: 100 MEGA-OHMS
  9. DIELECTRIC STRENGTH: 1000VAC 1 MINUTE (INITIAL VALUE)
  10. CONTACT RESISTANCE: 100 MILLI -OHMS MAX.
  11. ▲ DENOTES CRITICAL PARAMETER.
  12. 2002/95/EC (ROHS) COMPLIANT

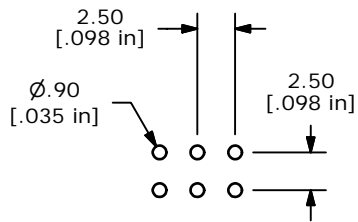
REV	PCR NO	DESCRIPTION	DATE	BY
D	15283	PC MOUNT. DIM., ADD ROHS NOTE	9/15/05	PH
C	14969	CHANGED DIMENSION & ADDED LAYOUT	6/1/05	JB
B	14888	CHANGED NOTES AND DIMENSIONS	4/29/05	JB
A	14962	RELEASED FOR PRODUCTION	2/15/05	AR



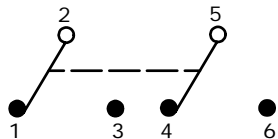
TITLE MS0850500F130P1A

SCALE	DATE	DR	DWG	REV
2:1	1/17/2005	AR	Q970000	D

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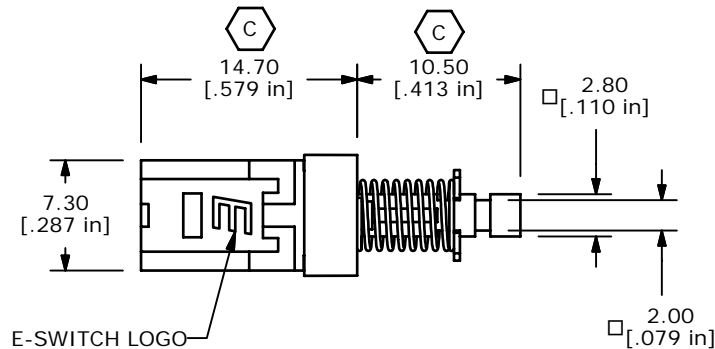
P.C. MOUNTING



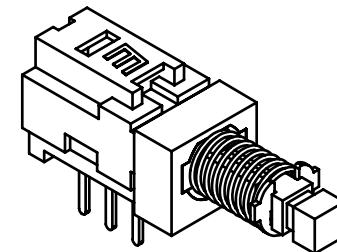
CIRCUIT: 2PDT

NOTES:

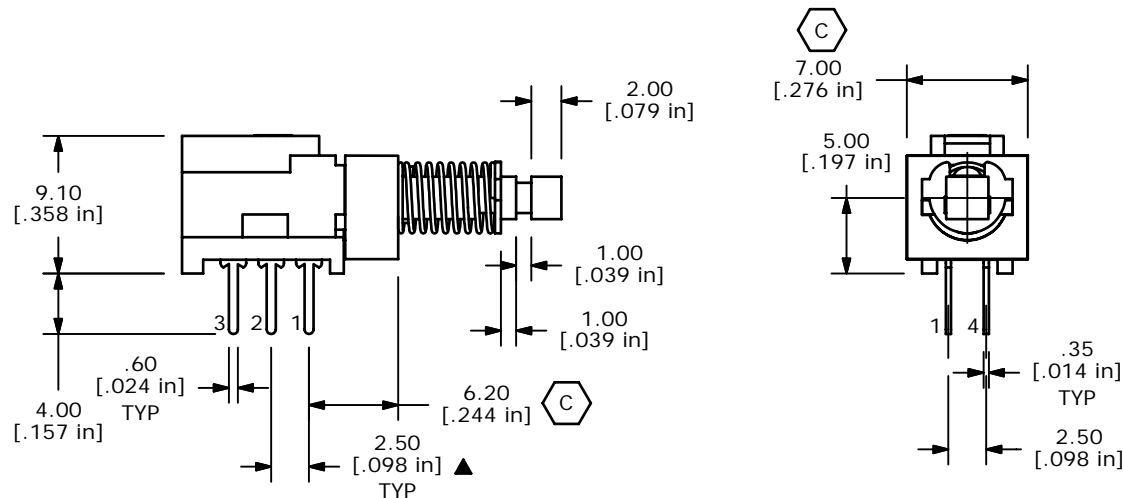
1. ALL DIMENSIONS IN MM [INCH]
2. GENERAL TOLERANCE: X.X=±0.4  
X.XX=±0.25
3. TERM. NOS. FOR REFERENCE ONLY.
4. RATING 0.1A @30V DC
- ▲5. MATERIALS:  
CONTACT/TERMINALS: SILVER PLATE  
HOUSING: PBT UL94HB  
BASE: PA66 UL94HB  
ACTUATOR: POM
6. CONTACT RESISTANCE: 100 MILLI-OHM (INITIAL)
- ▲7. TIMING: NON-SHORTING
8. OPERATING FORCE: 230±50GF
9. TRAVEL: LATCHING  
2MM TO LOCK  
3MM OVERALL
10. ELECTRICAL LIFE: 10000 CYCLES
11. OPERATING TEMP: -20°C TO +70°C
12. ▲DENOTES CRITICAL PARAMETER.



E-SWITCH LOGO



ISOMETRIC



TITLE PBH2UEENAGX

C	14893	CHANGED NOTES AND DIMENSIONS	5/3/05	JB
B	14790	ADD MATERIALS TO NOTES	3/29/05	AR
A	14691	RELEASED FOR PRODUCTION	2/14/05	AR
REV	PCR NO	DESCRIPTION	DATE	BY

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SCALE	DATE	DR	DWG	REV
2:1	2/2/2005	AR	Q960000	C