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ELECTRONICS

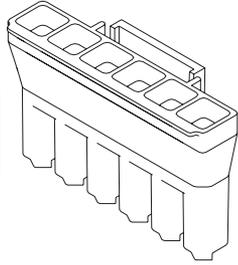
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Jameco Part Number 1970800

# 7.50mm (.295") Pitch Sabre™ Receptacle

**44441**  
Single Row



Circuits	Order No.	
	94V-2	94V-0
2	<a href="#">44441-1002</a>	<a href="#">44441-2002</a>
3	<a href="#">44441-1003</a>	<a href="#">44441-2003</a>
4	<a href="#">44441-1004</a>	<a href="#">44441-2004</a>
5	<a href="#">44441-1005</a>	<a href="#">44441-2005</a>
6	<a href="#">44441-1006</a>	<a href="#">44441-2006</a>

### Features and Benefits

- Patented new integral Terminal Position Assurance (TPA) on mated male and female terminal virtually eliminates terminal backout
- Wire-to-wire and wire-to-board connector system
- Polarized housing assures proper mating
- Terminals are fully isolated in housing
- Positive latch reduces accidental disengagement from plug

### Reference Information

Product Specification: PS-44441-9999  
 Packaging: Bag  
 UL File No.: E29179  
 CSA File No.: LR19980  
 TUV License No.: TBA  
 Use With: 43375 terminal  
 Mates With: 43160 header and 43680 plug  
 Designed In: Inches

### Electrical

Voltage: 600V  
 Current: 18.0A\*  
 Insulation Resistance: 1000 Megohms min.

### Mechanical

Contact Insertion Force: 8.90N max.  
 Contact Retention to Housing: 88.96N min.

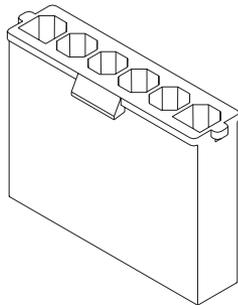
### Physical

Housing: Nylon, UL 94V-2 or 94V-0  
 Operating Temperature: -40 to +75°C

\* Depending on circuit size, wire gauge and PCB. Please refer to product specification.

# 7.50mm (.295") Pitch Sabre™ Wire-to-Wire Plug

**43680**  
Single Row



Circuits	Order No.	
	94V-0	94V-2
2	<a href="#">43680-2002</a>	<a href="#">43680-1002</a>
3	<a href="#">43680-2003</a>	<a href="#">43680-1003</a>
4	<a href="#">43680-2004</a>	<a href="#">43680-1004</a>
5	<a href="#">43680-2005</a>	<a href="#">43680-1005</a>
6	<a href="#">43680-2006</a>	<a href="#">43680-1006</a>

### Features and Benefits

- Patented new integral Terminal Position Assurance (TPA) on mated male and female terminal virtually eliminates terminal backout
- Polarized housing assures proper mating
- Terminals are fully isolated in housing
- Positive latch reduces accidental disengagement from receptacle

### Reference Information

Product Specification: PS-44441-9999  
 Packaging: Bag  
 UL File No.: E29179  
 CSA File No.: LR19980  
 TUV License No.: TBA  
 Use With: 43178 terminal  
 Mates With: 44441 receptacle  
 Designed In: Inches

### Electrical

Voltage: 600V  
 Current: 18.0A\*  
 Insulation Resistance: 1000 Megohms min.

### Mechanical

Contact Insertion Force: 8.90N max.  
 Contact Retention to Housing: 88.96N min.

### Physical

Housing: Nylon, UL 94V-2 or 94V-0  
 Operating Temperature: -40 to +75°C

\* Depending on circuit size and wire gauge. Please refer to product specification.



# PRODUCT SPECIFICATION

## SABRE .125(3.18) X .020 (0.51) FLAT BLADE SYSTEM WITH TPA

### 1.0 SCOPE

This Product Specification covers the 7.50 mm (.295 inch) centerline connector series with 18 to 14 AWG wire using crimp technology with tin and tin-lead plating.

### 2.0 PRODUCT DESCRIPTION

#### 2.1 PRODUCT NAME AND SERIES NUMBER(S)

PRODUCT NAME	PART NUMBER
Plug Housing, 2 circuit	43680-2002
Plug Housing, 3 circuit	43680-2003
Plug Housing, 4 circuit	43680-2004
Plug Housing, 5 circuit	43680-2005
Plug Housing, 6 circuit	43680-2006
Right Angle Header, 2 circuit	(see SDA-43160-***)
Right Angle Header, 3 circuit	(see SDA-43160-***)
Right Angle Header, 4 circuit	(see SDA-43160-***)
Right Angle Header, 5 circuit	(see SDA-43160-***)
Right Angle Header, 6 circuit	(see SDA-43160-***)
Vertical Header, 2 circuit	(see SDA-43160-***)
Vertical Header, 3 circuit	(see SDA-43160-***)
Vertical Header, 4 circuit	(see SDA-43160-***)
Vertical Header, 5 circuit	(see SDA-43160-***)
Vertical Header, 6 circuit	(see SDA-43160-***)
Receptacle Housing, 2 circuit	44441-2002
Male Tab Crimp Terminal, Small	43178-1002
Male Tab Crimp Terminal, Large	43178-2002
Male Tab Crimp Terminal, Side by Side	43178-3002
Receptacle Terminal, Small	43375-0001
Receptacle Terminal, Large	43375-1001

#### 2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate sales drawings for information on dimensions, materials, platings and markings.

<b>REVISION:</b> <b>5</b>	<b>ECR/ECN INFORMATION:</b> EC No: <b>UCR#2002-0330</b> DATE: <b>09/27/01</b>	<b>TITLE:</b> <b>PRODUCT SPECIFICATION</b> <b>.125 (3.18) X .020 (0.51) FLAT BLADE</b> <b>SYSTEM WITH TPA</b>	<b>SHEET No.</b> <b>1 of 4</b>
<b>DOCUMENT NUMBER:</b> <b>PSX-44441-9999</b>	<b>CREATED / REVISED BY:</b> <b>BWIRKUS 9/27/01</b>	<b>CHECKED BY:</b> <b>BWIRKUS 9/27/01</b>	<b>APPROVED BY:</b> <b>SFRY 10/03/01</b>



# PRODUCT SPECIFICATION

## 2.3 SAFETY AGENCY APPROVALS

UL File #E29179  
CSA File #LR19980

## 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

See the appropriate sales drawings for necessary referenced documents and specifications.

## 4.0 RATINGS

### 4.1 VOLTAGE

600 Volts AC (RMS)

### 4.2 CURRENT AND APPLICABLE WIRES

AWG	Amps	Outside Insulation Diameter
14	18	4.57 mm (.180 inch)
16	TBD	4.57 mm (.180 inch)
18	12	4.57 mm (.180 inch)

NOTE: The current capacity is based on each circuit position being loaded with the given wire size, and the rated current applied. The capacity for other applications may be higher.

### 4.3 TEMPERATURE

Operating: - 40°C to + 75°C  
Nonoperating: - 40°C to + 100°C

## 5.0 PERFORMANCE

### 5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Contact Resistance (Low Level)	Mate connectors: apply a maximum voltage of 20 mV and a current of 100 mA. (Measurement locations in Section 7.0)	30 milliohms MAXIMUM [initial]
2	Insulation Resistance	Unmate & unmount connectors: apply a voltage of 500 VDC between adjacent terminals and between terminals to ground.	1000 Megohms MINIMUM
3	Dielectric Withstanding Voltage	Mate connectors: apply a voltage of 5000 VAC for 1 minute between adjacent terminals and between terminals to ground.	No breakdown; current leakage < 5 mA
4	Temperature Rise (via Current Cycling)	Mate connectors: measure the temperature rise at the rated current after 96 hours, Followed by 500 hours of current cycling (45 minutes ON and 15 minutes OFF perhour).	Temperature rise: +30°C MAXIMUM

REVISION: <b>5</b>	ECR/ECN INFORMATION: EC No: UCR#2002-0330 DATE: 09/27/01	TITLE: <b>PRODUCT SPECIFICATION .125 (3.18) X .020 (0.51) FLAT BLADE SYSTEM WITH TPA</b>	SHEET No. <b>2 of 4</b>
DOCUMENT NUMBER: <b>PSX-44441-9999</b>	CREATED / REVISED BY: <b>BWIRKUS 9/27/01</b>	CHECKED BY: <b>BWIRKUS 9/27/01</b>	APPROVED BY: <b>SFRY 10/03/01</b>



# PRODUCT SPECIFICATION

## 5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
5	<b>Connector Mate and Unmate Forces</b>	Mate and unmate connector (male to female) at a rate of $25 \pm 6$ mm ( $1 \pm \frac{1}{4}$ inch) per minute. (Gage dimensions in Section 7.0)	<b>13.3 N (3 lbf)</b> MAXIMUM insertion force & <b>2.2 N (.5 lbf)</b> MINIMUM withdrawal force
6	<b>Terminal Retention Force from Housing</b> (Receptacle Terminal)	Axial pullout force on the terminal in the housing at a rate of $25 \pm 6$ mm ( $1 \pm \frac{1}{4}$ inch) per minute.	<b>67 N (15 lbf)</b> MINIMUM retention force w/ TPA not activated; <b>125 N (25 lbf)</b> MINIMUM retention force w/ TPA activated
7	<b>Terminal Retention Force from Housing</b> (Male Tab Terminal)	Axial pullout force on the terminal in the housing at a rate of $25 \pm 6$ mm ( $1 \pm \frac{1}{4}$ inch) per minute.	<b>133 N (30 lbf)</b> MINIMUM retention force w/ TPA not activated; <b>133 N (30 lbf)</b> MINIMUM retention force w/ TPA activated
8	<b>Durability</b>	Mate connectors up to <b>25</b> cycles at a maximum rate of <b>10</b> cycles per minute prior to Environmental Tests.	<b>3</b> milliohms MAXIMUM (change from initial)
9	<b>Vibration (Random)</b>	Subject mated connectors to vibration with an amplitude of <b>1.52</b> mm ( <b>.060</b> inch) peak to peak; a sweep of 10-55-10 hertz in 1.0 min.; and a duration of 2.0 hours in the $\pm X, \pm Y, \pm Z$ axes.	<b>5</b> milliohms MAXIMUM (change from initial) & Discontinuity < <b>1</b> microsecond
10	<b>Shock (Mechanical)</b>	Mate connectors and shock at <b>50</b> g's with $\frac{1}{2}$ sine wave (11 milliseconds) shocks in the $\pm X, \pm Y, \pm Z$ axes ( <b>18</b> shocks total).	<b>5</b> milliohms MAXIMUM (change from initial) & Discontinuity < <b>1</b> microsecond
11	<b>Wire Pullout Force (Axial)</b>	Apply an axial pullout force on the wire at a rate of $25 \pm 6$ mm ( $1 \pm \frac{1}{4}$ inch).	14 AWG: <b>222 N (50 lbf)</b> 16 AWG: <b>200 N (45 lbf)</b> 18 AWG: <b>133 N (30 lbf)</b> MINIMUM pullout force
12	<b>Wire Pullout Force (Right Angle)</b>	Apply a right angle pullout force on the wire at a rate of $25 \pm 6$ mm ( $1 \pm \frac{1}{4}$ inch).	<b>*** N (***) lbf)</b> MINIMUM pullout force {Recommended minimum value: 75% of tensile strength of the wire}
13	<b>Terminal Insertion Force (into Housing)</b>	Apply an axial insertion force on the terminal at a rate of $25 \pm 6$ mm ( $1 \pm \frac{1}{4}$ inch).	<b>4.4 N (1.0 lbf)</b> MAXIMUM insertion force

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DOCUMENT NUMBER: <b>PSX-44441-9999</b>	CREATED / REVISED BY: <b>BWIRKUS 9/27/01</b>	CHECKED BY: <b>BWIRKUS 9/27/01</b>	APPROVED BY: <b>SFRY 10/03/01</b>



# PRODUCT SPECIFICATION

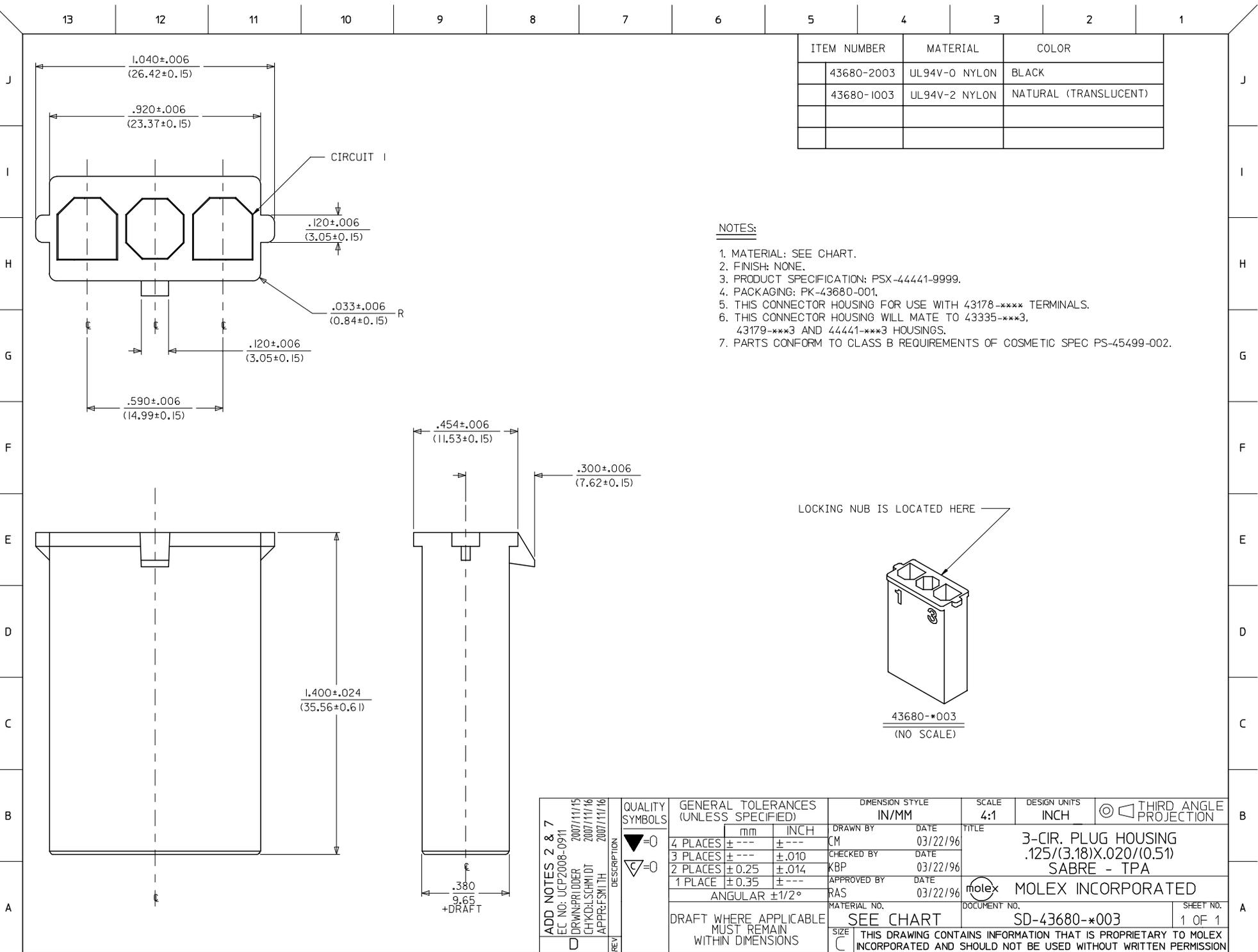
## 5.3 ENVIRONMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT						
14	<b>Shock (Thermal)</b>	Mate connectors; expose to <b>10</b> cycles of: <table border="1"> <tr> <td><u>Temperature °C</u></td> <td><u>Duration (Minutes)</u></td> </tr> <tr> <td>-40 +0/-3</td> <td>30</td> </tr> <tr> <td>+105 +3/-0</td> <td>30</td> </tr> </table>	<u>Temperature °C</u>	<u>Duration (Minutes)</u>	-40 +0/-3	30	+105 +3/-0	30	<b>3</b> milliohms MAXIMUM (change from initial); Visual: No Damage
<u>Temperature °C</u>	<u>Duration (Minutes)</u>								
-40 +0/-3	30								
+105 +3/-0	30								
15	<b>Thermal Aging</b>	Mate connectors; expose to: <b>240</b> hours at <b>105 ± 2°C</b>	<b>5</b> milliohms MAXIMUM (change from initial); Visual: No Damage						
16	<b>Humidity (Steady State)</b>	Mate connectors: expose to a temperature of <b>40 ± 2°C</b> with a relative humidity of <b>90-95%</b> for <b>96</b> hours.	<b>5</b> milliohms MAXIMUM (change from initial) & Dielectric Withstanding Voltage: No Breakdown at <b>500 VAC</b> & Insulation Resistance: <b>1000</b> Megohms MINIMUM & Visual: No Damage						
17	<b>Humidity (Cyclic)</b>	Mate connectors: cycle per EIA-364-31: <b>24</b> cycles at temperature between <b>25 ± 3°C</b> and <b>65 ± 3°C</b> at <b>95 ± 5%</b> relative humidity and <b>25 ± 3°C</b> and <b>-10 ± 3°C</b> with humidity not controlled. Dwell time of <b>1.0</b> hour; ramp time of <b>0.5</b> hours.	<b>5</b> milliohms MAXIMUM (change from initial) & Dielectric Withstanding Voltage: No Breakdown at <b>500 VAC</b> & Insulation Resistance: <b>1000</b> Megohms MINIMUM & Visual: No Damage						
18	<b>Solderability</b>	Solder time <b>3±0.5</b> seconds @ <b>230±5°C</b> (A-43160-**** only)	Solder coverage: <b>95%</b> MINIMUM (per <b>SMES-152</b> )						
19	<b>Salt Spray</b>	Mate connectors: Duration: <b>48</b> hours exposure; Atmosphere: salt spray from a <b>5%</b> solution; Temperature: <b>35 +1/-2°C</b>	<b>10</b> milliohms MAXIMUM (change from initial) & Visual: No Damage						
20	<b>IR Process Soldering</b>	Molex IR Profile	Dimensional: Conformance to Sales Drawing requirements; Visual: No Damage						

## 6.0 PACKAGING

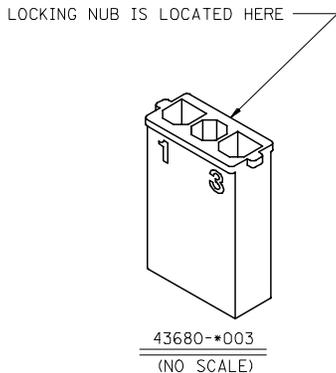
See the appropriate sales drawings for information related to packaging requirements.

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ITEM NUMBER	MATERIAL	COLOR
43680-2003	UL94V-0 NYLON	BLACK
43680-1003	UL94V-2 NYLON	NATURAL (TRANSLUCENT)

- NOTES:**
1. MATERIAL: SEE CHART.
  2. FINISH: NONE.
  3. PRODUCT SPECIFICATION: PSX-44441-9999.
  4. PACKAGING: PK-43680-001.
  5. THIS CONNECTOR HOUSING FOR USE WITH 43178-\*\*\*\* TERMINALS.
  6. THIS CONNECTOR HOUSING WILL MATE TO 43335-\*\*\*3, 43179-\*\*\*3 AND 44441-\*\*\*3 HOUSINGS.
  7. PARTS CONFORM TO CLASS B REQUIREMENTS OF COSMETIC SPEC PS-45499-002.



<b>ADD NOTES 2 &amp; 7</b> EC NO: UCP2008-0911 DRAWN/PRD/DR 2007/11/15 CHKD:LSH/MT 2007/11/16 APPR:FSM/TH 2007/11/16 REV:	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED) <table border="1"> <thead> <tr> <th></th> <th>mm</th> <th>INCH</th> </tr> </thead> <tbody> <tr> <td>4 PLACES</td> <td>± .10</td> <td>± .004</td> </tr> <tr> <td>3 PLACES</td> <td>± .125</td> <td>± .005</td> </tr> <tr> <td>2 PLACES</td> <td>± .15</td> <td>± .006</td> </tr> <tr> <td>1 PLACE</td> <td>± .25</td> <td>± .010</td> </tr> </tbody> </table>		mm	INCH	4 PLACES	± .10	± .004	3 PLACES	± .125	± .005	2 PLACES	± .15	± .006	1 PLACE	± .25	± .010	DIMENSION STYLE IN/MM DRAWN BY DATE CM 03/22/96 CHECKED BY DATE KBP 03/22/96 APPROVED BY DATE RAS 03/22/96	SCALE 4:1 DESIGN UNITS INCH THIRD ANGLE PROJECTION	TITLE 3-CIR. PLUG HOUSING .125(3.18)X.020(0.51) SABRE - TPA
		mm	INCH																	
	4 PLACES	± .10	± .004																	
	3 PLACES	± .125	± .005																	
2 PLACES	± .15	± .006																		
1 PLACE	± .25	± .010																		
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		MATERIAL NO. SEE CHART	DOCUMENT NO. SD-43680-*003	SHEET NO. 1 OF 1																
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION																				