

# SURFACE MOUNT STANDOFFS & SPACERS

**SUPPLIED ON TAPE AND REEL**



SMT Standoffs & Spacers are supplied on tape and reel with Kapton tape added to the top surface. This allows for the standoff to be placed on the circuit board using standard vacuum pick and place equipment. Attachment of the standoff to the PCB is completely controlled. Costly scrapping of populated board due to improper installation of swage or broaching spacer is eliminated.



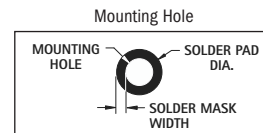
**THREADED STANDOFFS**

**CLEAR HOLE SPACER**

**MATERIAL:** Steel, Tin Plate  
**PACKAGING:** Supplied on 13 inch reels with Kapton tape added to top surface of standoff for vacuum pick up

Metric Standoffs				
CAT. NO.	H HEIGHT	PARTS/ REEL	THREAD	OUTSIDE DIA. (O.D.)
24881	2.00 (.080)	1500	M3	5.56 (.219)
24882	3.00 (.118)	1000		
24883	4.00 (.157)	900		
24884	6.00 (.236)	650		
24885	8.00 (.315)	375		
24886	10.00 (.394)	300		

THREADED STANDOFFS	CLEAR HOLE SPACERS	SMT STANDOFFS & SPACERS			
CAT. NO.	CAT. NO.	H HEIGHT	PARTS/ REEL*	THREAD	OUTSIDE DIA. (O.D.)
4871	—	.062 (1.57)	1500	2-56	.219 (5.6)
4873	—	.250 (6.35)	650		
4881	4886	.062 (1.57)	1500	4-40	.219 (5.6)
4882	4887	.125 (3.18)	1000		
4883	4888	.250 (6.35)	650		
4884	4889	.375 (9.52)	300		
4891	4896	.062 (1.57)	1500	6-32	.281 (7.1)
4892	4897	.125 (3.18)	1000		
4893	4898	.250 (6.35)	650		
4894	4899	.375 (9.53)	300		

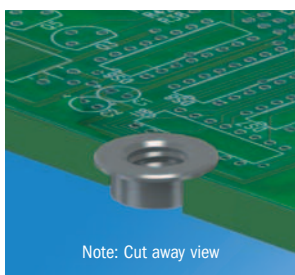


THREAD	MOUNTING HOLE	SOLDER PAD DIA.	SOLDER MASK WIDTH
2-56	.147 (3.7)	.244 (6.2)	.049 (1.2)
4-40	.166 (4.2)	.244 (6.2)	.039 (1.0)
6-32	.213 (5.41)	.306 (7.8)	.047 (1.2)
M3	.166 (4.2)	.244 (6.2)	.039 (1.0)

**STANDOFFS**

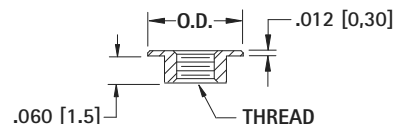
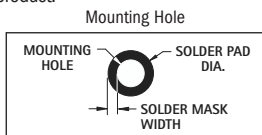
## SURFACE MOUNT THREADED INSERTS

**SUPPLIED ON TAPE AND REEL**



Note: Cut away view

Zero height threaded inserts sit just .012 (0.30) above the board for an easy method of adding threads to PCB. Can be installed using same equipment and processes as any SMT product.

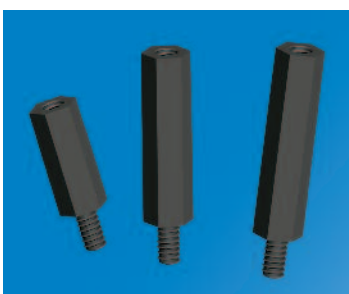


**MATERIAL:** Steel, Tin Plate  
**PACKAGING:** Supplied on 13 inch reels with Kapton tape added to top surface of standoff for vacuum pick-up

THREAD	MOUNTING HOLE	SOLDER PAD DIA.	SOLDER MASK WIDTH
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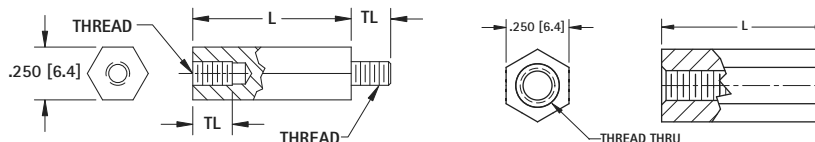
Zero Height SMT Threaded Inserts				
CAT. NO.	THREAD	OUTSIDE DIA. (O.D.)	H HEIGHT	PARTS/ REEL
4929	2-56	.219 (5.6)	.012 (.30)	1500
2439	4-40	.219 (5.6)		
4949	6-32	.281 (7.1)		

## EXTREME TEMPERATURE NYLON STANDOFFS



Keystone's high performance nylon standoffs will stand up to harsh conditions such as automotive under hood applications. The standoffs are manufactured with a material that was specifically designed to survive the most extreme conditions. The plastic is designed to stay pliable and maintain its tensile strength in extreme cold and heat.

**MATERIAL:** High Performance Nylon Blend. Black  
**Operating Temperature:** -20°F (-29°C) thru 365°F (185°C)



THREAD	TL
4-40	.187 (4.7)
6-32	.250 (6.4)
8-32	.375 (9.5)

HIGH PERFORMANCE MALE/FEMALE			
L LENGTH	4-40 CAT. NO.	6-32 CAT. NO.	8-32 CAT. NO.
.250 (6.4)†	4940	4970	4980
.375 (9.5)	4941	4971	4981
.500 (12.7)	4942	4972	4982
.750 (19.1)	4944	4974	4984
1.000 (25.4)	4946	4976	4986

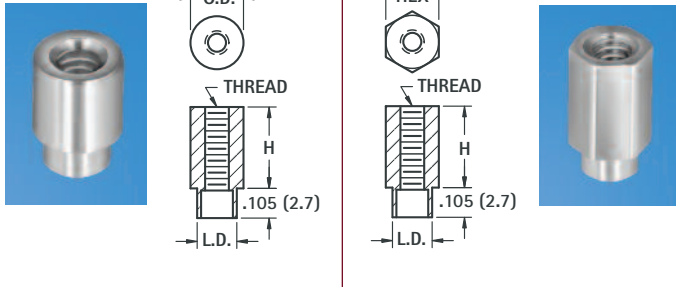
HIGH PERFORMANCE FEMALE/FEMALE			
L LENGTH	4-40 CAT. NO.	6-32 CAT. NO.	8-32 CAT. NO.
.250 (6.4)	4842	4874	4932
.375 (9.5)	4843	4875	4933
.500 (12.7)	4844	4876	4934
.750 (19.1)	4846	4878	4936
1.000 (25.4)	4848	4880	4938

† .140 (3.56) Internal Thread Depth

# SWAGE THREADED STANDOFFS

ROUND

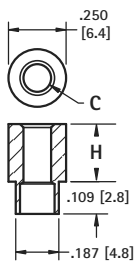
HEX



**MATERIAL:** Brass, ASTM-B16, Ductile Nickel Plate (QQ-N-290)  
For .062 (1.57) boards

ROUND CAT. NO.	H HEIGHT ABOVE PANEL	L.D. SHANK DIAMETER	HEX CAT. NO.
<b>2-56 THREAD × .156 (4.0) O.D.</b>			
1589-2	.125 (3.2)	.125 (3.2)	1731-2
1590-2	.187 (4.7)	.125 (3.2)	1734-2
1591-2	.250 (6.4)	.125 (3.2)	1740-2
1596-2	.375 (9.5)	.125 (3.2)	1743-2
<b>4-40 THREAD × .187 (4.7) O.D.</b>			
2260-2	.125 (3.2)	.139 (3.5)	2270-2
2261-2	.187 (4.7)	.139 (3.5)	2271-2
2262-2	.250 (6.4)	.139 (3.5)	2272-2
2263-2	.375 (9.5)	.139 (3.5)	2273-2
2264-2	.500 (12.7)	.139 (3.5)	2274-2
<b>4-40 THREAD × .250 (6.4) O.D.</b>			
1560A	.125 (3.2)	.187 (4.7)	1653-2
1790-2	.187 (4.7)	.187 (4.7)	1746-2
1650-2	.250 (6.4)	.187 (4.7)	1627-2
1651-2	.375 (9.5)	.187 (4.7)	1628-2
1623-2	.500 (12.7)	.187 (4.7)	1629-2
1624-2	.625 (15.9)	.187 (4.7)	1654-2
1625-2	.750 (19.1)	.187 (4.7)	1655-2
1792-2	.875 (22.2)	.187 (4.7)	1749-2
1652-2	1.000 (25.4)	.187 (4.7)	1630-2
<b>6-32 THREAD × .250 (6.4) O.D.</b>			
1560B	.125 (3.2)	.187 (4.7)	1620-2
1612-2	.187 (4.7)	.187 (4.7)	1752-2
1546	.250 (6.4)	.187 (4.7)	1621-2
1561B	.375 (9.5)	.187 (4.7)	1622-2
1604-2	.500 (12.7)	.187 (4.7)	1758-2
1605-2	.625 (15.9)	.187 (4.7)	1759-2
1608-2	.750 (19.1)	.187 (4.7)	1761-2
1796-2	.875 (22.2)	.187 (4.7)	1775-2
1609-2	1.000 (25.4)	.187 (4.7)	1784-2

# SWAGE CLEAR HOLE SPACERS



CAT. NO.	H HEIGHT ABOVE PANEL	C HOLE
5058-2	.125 (3.2)	.120 (3.0) For # 4
5060-2	.250 (6.4)	
5061-2	.375 (9.5)	
5062-2	.500 (12.7)	
5059-2	.125 (3.2)	.140 (3.5) For # 6
5063-2	.250 (6.4)	
5064-2	.375 (9.5)	
5065-2	.500 (12.7)	

**MATERIAL:** Brass, ASTM-B16, Ductile Nickel Plate (QQ-N-290)  
For .062 (1.57) boards

# FORCE-FIT STANDOFFS

ROUND

A broaching-type fastener/standoff for installation in panels and circuit boards .062 (1.57) and thicker made of plastic and other non-ductile materials. Available threaded or with clearance holes. Easy to install, presses into punched or drilled holes.

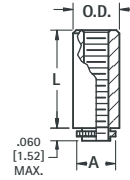
**MATERIAL:** Stainless Steel per ASTM-A581/A582

## MOUNTING HOLES:

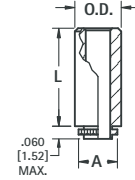
- .147 (3.7) hole for 2-56
- .166 (4.2) hole for 4-40
- .213 (5.4) hole for 6-32

## TOLERANCE ON MOUNTING HOLES:

+0.003/-0.000



Threaded



Clear Hole

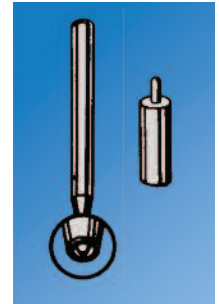
THREADED				
CAT. NO.	L LENGTH	O.D.	A	THREAD
4860	.065 (1.7)	.219 (5.6)	.165 (4.2)	2-56
4861	.065 (1.7)	.219 (5.6)	.184 (4.7)	4-40
4862	.125 (3.2)	.219 (5.6)	.184 (4.7)	
4718	.187 (4.7)	.219 (5.6)	.184 (4.7)	
4863	.250 (6.4)	.219 (5.6)	.184 (4.7)	
4864	.375 (9.5)	.219 (5.6)	.184 (4.7)	
4865 *	.500 (12.7)	.219 (5.6)	.184 (4.7)	
4866	.065 (1.7)	.281 (7.1)	.231 (5.9)	6-32
4867	.125 (3.2)	.281 (7.1)	.231 (5.9)	
4722	.187 (4.7)	.281 (7.1)	.231 (5.9)	
4868	.250 (6.4)	.281 (7.1)	.231 (5.9)	
4869	.375 (9.5)	.281 (7.1)	.231 (5.9)	
4870 *	.500 (12.7)	.281 (7.1)	.231 (5.9)	

\*Thread depth .375 (9.5)

CLEAR HOLE				
CAT. NO.	L LENGTH	O.D.	A	HOLE
4850	.065 (1.7)	.219 (5.6)	.184 (4.7)	.116 (2.9) For # 4
4851	.125 (3.2)	.219 (5.6)	.184 (4.7)	
4852	.250 (6.4)	.219 (5.6)	.184 (4.7)	
4853	.375 (9.5)	.219 (5.6)	.184 (4.7)	
4854	.500 (12.7)	.219 (5.6)	.184 (4.7)	.143 (3.6) For # 6
4855	.065 (1.7)	.281 (7.1)	.231 (5.9)	
4856	.125 (3.2)	.281 (7.1)	.231 (5.9)	
4857	.250 (6.4)	.281 (7.1)	.231 (5.9)	
4858	.375 (9.5)	.281 (7.1)	.231 (5.9)	
4859	.500 (12.7)	.281 (7.1)	.231 (5.9)	

# SWAGE STAKING TOOLS

Precision made staking tool kits are made from .250 (6.4) diameter heat treated steel, zinc plated. Each kit includes the correct swage top staking tool anvil to create a professional appearance. These tools may be used with an arbor press or hand tapped.



CAT. NO.	STANDOFF DIA.	THREAD	HOLE SIZE
TL-19	.156 (4.0)	2-56	-
TL-22	.187 (4.7)	4-40	-
TL-20	.250 (6.4)	4-40	-
TL-21	.250 (6.4)	6-32	.120 (3.0)