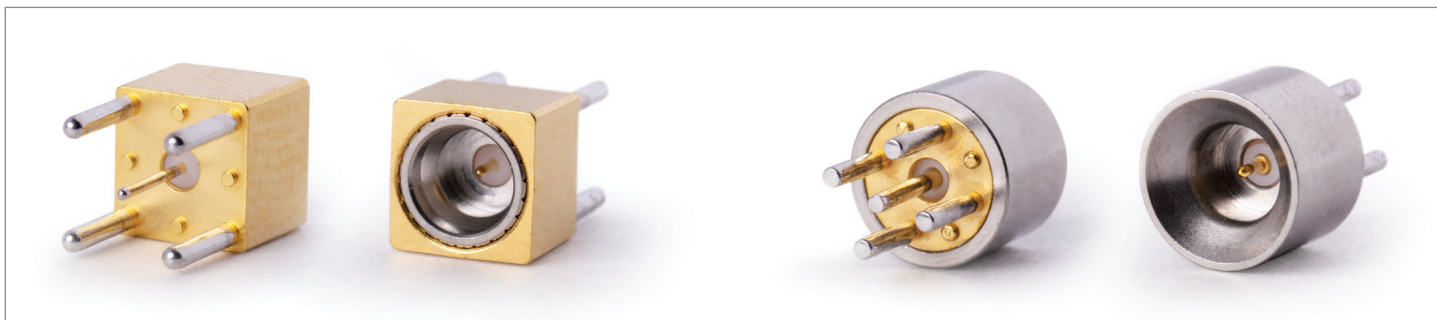


# Pre-Tinned Push-On “Boss” PCB Connectors

## INTRODUCTION



Carlisle Interconnect Technologies (CarlisleIT) introduces the next evolution in “push-on” connector technology with a new product line of pre-tinned and embossed SMP and SMPM connector bodies for PCB applications.

Pre-tinned PCB-mount connectors remove cost by reducing time to install while increasing the reliability of solder joints onto the board. In addition, pre-tinned mounting surfaces help to prevent corrosion and oxidization before and after assembly.

The embossed feature under the connector body allows gases to escape when high heat is applied during the wave solder process, thus preventing the “popcorn effect.”

SMP and SMPM connectors with pre-tin and “Boss” features will mate with standard cable-mounted connectors, as well as with standard female-to-female adapters (commonly referred to as a “bullet”) which can tolerate radial and axial misalignment to provide a blind-mate interconnect solution between male connectors when stacking boards. CarlisleIT’s SMP and SMPM connectors can also withstand multiple engagement/disengagement cycles without degradation in electrical performance.

SMP and SMPM connectors are also designed to satisfy the demand for increased package density and reduced weight in microwave systems. Subminiature, lightweight, blind-mateable interconnects are ideal for complex high-performance microwave modules and systems where size and weight are primary considerations.

MATERIALS	FINISH
Metal	Specification
BeCu (Beryllium Copper)	ASTM B 196 and/or ASTM B 197
Brass	ASTM B 36, B121, B16, B16M
Stainless Steel	ASTM A484/ A582 or A555/581
Dielectric	Specification
Virgin PTFE Fluorocarbon	ASTM D 1710 and ASTM D 1457
Polyamide-imide	ASTM D5204 Group 2 Class 1
Finish	Specification
Gold (50u in. Typical)	ASTM-B488 Type 1, Class 1.25
Nickel (100u in. Typical)	SAE AMS-QQ-N-290
Pasivation	ASTM A967

## FEATURES

- » Frequency range: DC - 40 GHz (SMP) and DC - 65 GHz (SMPM)
- » 50  $\Omega$  impedance
- » Blindmate configuration
- » Interface per MIL-STD-348
- » Ability to withstand radial/axial misalignment
- » Pre-tinned legs and contacts for faster installation and increased corrosion resistance
- » Additional body feature allows heat and gas to escape, eliminating the “popcorn effect”
- » Custom connectors available

# Pre-Tinned Push-On “Boss” PCB Connectors

## GENERAL SPECIFICATIONS

Parameter	Specification	
	SMP	SMPM
Impedance	50 $\Omega$	50 $\Omega$
Frequency Range	DC – 40 GHz	DC – 65 GHz
VSWR	See Product Drawings	
Insertion Loss	$0.1 \times \sqrt{f(\text{GHz})}$	$0.13 \times \sqrt{f(\text{GHz})}$
DWV @ Sea Level	500 VRMS	
Insulation Resistance	5000 M $\Omega$ (min)	
RF High Pot	325 VRMS @ 5 MHz	
Force to Engage	Full Detent	15 lbs typical
	Limited Detent	7 lbs typical
	Smooth Bore	2 lbs typical
		6.5 lbs typical
		N/A
		1.5 lbs typical

Parameter	Specification	
	SMP	SMPM
Force to Disengage	Full Detent	5 lbs typical
	Limited Detent	3 lbs typical
	Smooth Bore	0.5 lbs typical
Temperature Range	-65 °C to +165 °C	
Thermal Shock	MIL-STD-202, Method 107, Cond B	
Moisture Resistance	MIL-STD-202, Method 106, except step 7b	
Corrosion	MIL-STD-202, Method 101, Cond B	
Vibration	MIL-STD-202, Method 204, Cond D	
Shock	MIL-STD-202, Method 213, Cond I	

## SMP PCB CONNECTORS: THROUGH-HOLE BOARD MOUNT

SMP Male Straight PCB-Mount, Offset Standoff (Round Body)/P618

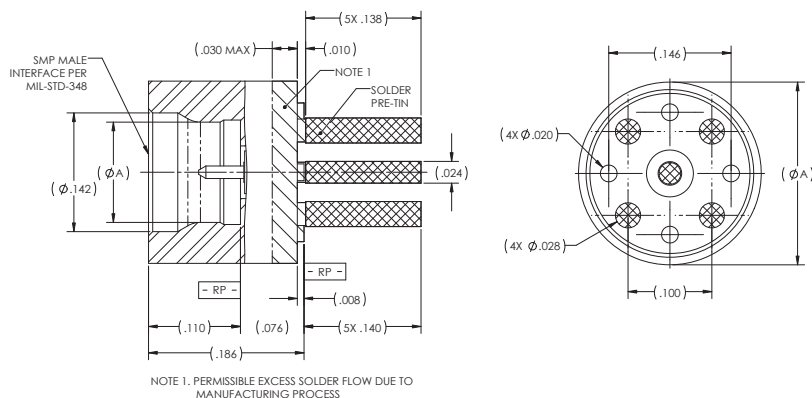


FIGURE 1

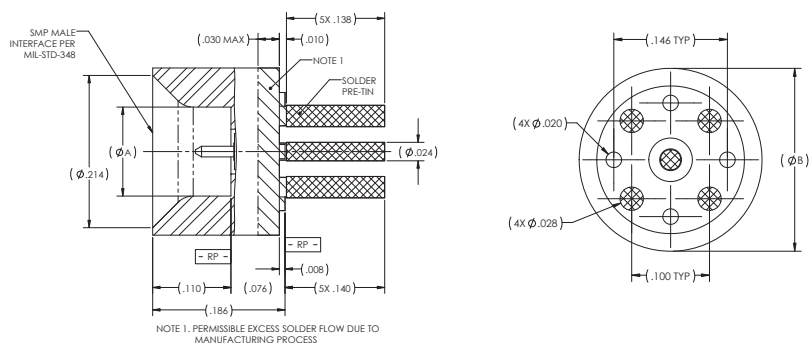


FIGURE 2

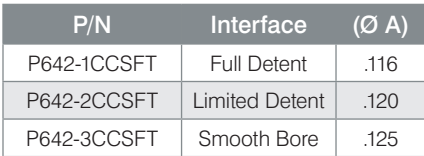
### Recommended Mounting Hole Pattern

P/N	Interface	( $\phi A$ )	( $\phi B$ )	Figure
P618-1CCSFT	Full Detent	.116	(.218)	1
P618-2CCSFT	Limited Detent	.120	(.218)	1
P618-3CCSFT	Smooth Bore	.125	(.218)	1
P618-4CCSFT	Catcher's Mitt	.125	(.235)	2

## SMP PCB CONNECTORS: THROUGH-HOLE BOARD MOUNT



P/N	Interface	(Ø A)	Figure
P640-1CCSFT	Full Detent	.116	1
P640-2CCSFT	Limited Detent	.120	1
P640-3CCSFT	Smooth Bore	.125	1
P640-4CCSFT	Catcher's Mitt	.125	2

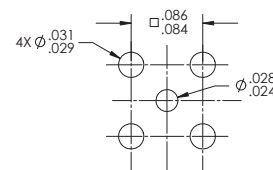
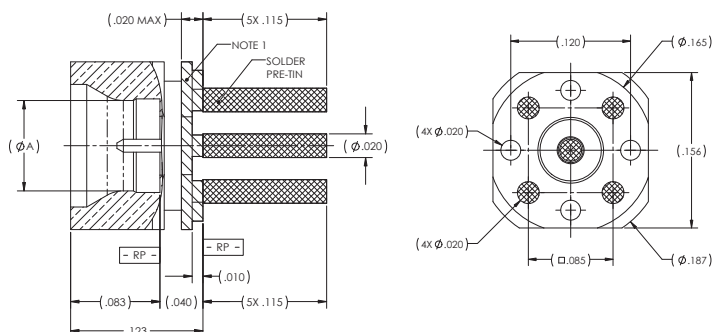


## Recommended Mounting Hole Pattern

# Pre-Tinned Push-On “Boss” PCB Connectors

## SMPM PCB CONNECTORS: THROUGH-HOLE BOARD MOUNT

SMPM Male Straight PCB-Mount, Offset Standoff/P323



Recommended Mounting Hole Pattern

P/N	Interface	(Ø A)
P323-1CCT	Full Detent	.116
P323-3CCT	Smooth Bore	.125

## ORDERING INFORMATION

Configuration		Part Number	Description	Options
PCB Connectors	Through-Hole Board-Mount	P618	SMP Male Straight PCB-Mount, Offset Standoff (Round Body)	See figures for available detents. Contact CarlisleIT for custom products.
		P640	SMP Male Straight PCB-Mount, Offset Standoff (Square Body)	
		P642	SMP Male Right-Angle PCB-Mount, Offset Standoff	
		P323	SMPM Male Straight PCB-Mount, Offset Standoff	