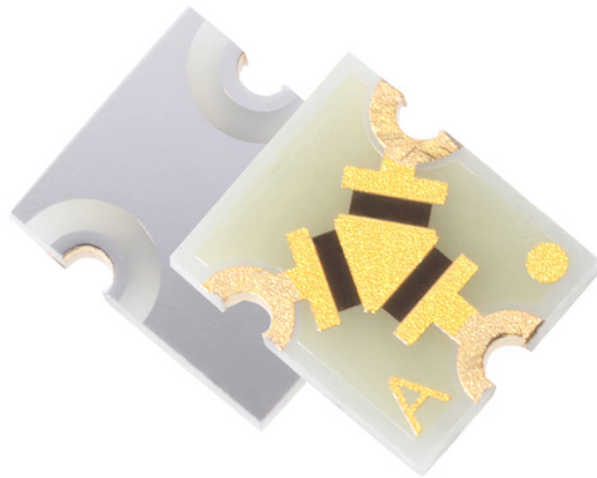


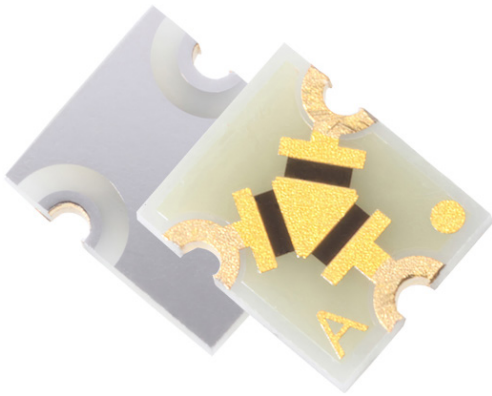
# Power Divider Series

Resistive Power Divider, DC-50 GHz



# Resistive Power Divider

DC-50 GHz



Smiths Interconnect offers an array of surface mount dividers optimized in various frequency ranges design to reduce size and achieve easy for use solutions to support various markets and applications. Surface-mount resistive power dividers, when designed and mounted properly, provide for an excellent electrical performance, and offer all the flexibility of a discrete component.

The 2-to-4-way resistive power dividers range from DC to 50 GHz in a low profile, surface mount package. The resistive power dividers are available in Alumina substrate, with lower frequency silver plated and thick film process technology and millimeter wave frequency in a total thin film solution for accuracy and repeatability.

The compact size makes these power dividers ideal for anywhere board space is a premium. Each divider has excellent broadband response for splitting or combining.

Smiths Interconnect high frequency surface mount Power Dividers are a totally passive solution with options allowing RF designers to reach more precise splitting and combining over a broadband frequency application in a repeatable surface mountable solution

Resistive Power Divider application are designed for demanding applications where excellent broadband response and power handling are required

## Features and Benefits

- Configurable design approach providing optimized solutions for dividing and combining
- Broadband frequency DC-50 GHz surface-mount provide for an excellent electrical performance and offer all the flexibility of a discrete component
- 2-way resistive dividers with equal power ratios can be expanded into more complex structures such as 4-way, 6-way, 8-way
- Possible to customize the design for a specific size and position of input and the outputs
- Thick and thin film process provides tight features tolerances allowing excellent part repeatability
- Size, weight, and power optimized for each unique design

## Applications

- Power Amplifiers
- Phased Array Radar
- Satellites
- Instrumentation
- Antenna Feeds

# Technical Characteristics

Divider Capabilities	RPD02-50EAF	RPD0212F	RPD0312F	RDD0412F
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## Electrical

Nominal Impedance	50 $\Omega$	50 $\Omega$	50 $\Omega$	50 $\Omega$
Frequency Range	DC - 50 GHz	DC - 12 GHz	DC - 12 GHz	DC - 12 GHz
Division	2	2	3	4
Division Loss / Attenuation	-6 dB Typical	-6 dB Typical	-10.0 dB Typical	-12.0 dB Typical
VSWR	1.30:1 Max	1.3:1 Typical	1.3:1 Typical	1.3:1 Typical
Power handling	1 Watt CW	1 Watt CW	1 Watt CW	1 Watt CW

## Environmental

Operating Temperature	-55°C to +150°C
Storage Temperature	-65°C to +150°C
Moisture Sensitivity Level	MSL 1 - Unlimited

## Mechanical

Configuration	Surface Mount	Surface Mount
Substrate Material	Alumina (Al <sub>2</sub> O <sub>3</sub> ) 96%	Alumina (Al <sub>2</sub> O <sub>3</sub> ) 96%
Terminal Material	Thin Film, Solderable Gold over Nickel	Thick Film Silver Plated
Protective Coating	Silicon Nitride	Thick Film
Resistive Film	Thin Film, Tantalum Nitride	Thick Film

## Marking

Unit Marking	"A" size, Pin 1 dot Indicator	O212, Pin 1 dot	O312, Pin 1 dot	O412, Pin 1 dot
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## Quality Assurance

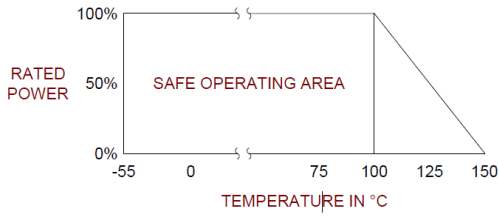
Sample visual and mechanical inspection - 1.0 AQL per mechanical drawing requirements. Periodic electrical inspection performed for commercial grade products. High reliability tested products are available.
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## Packaging

Standard Packaging	Waffle Pack or Tape and Reel
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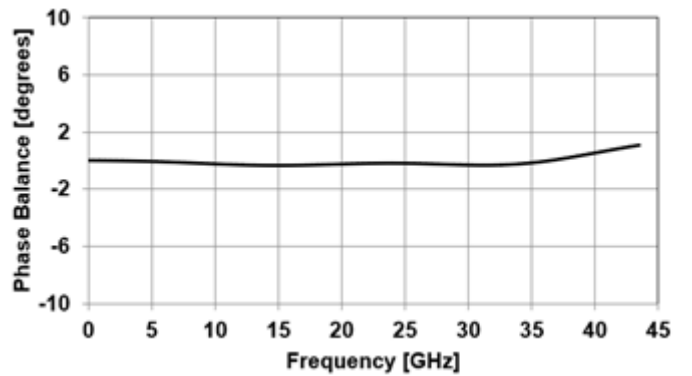
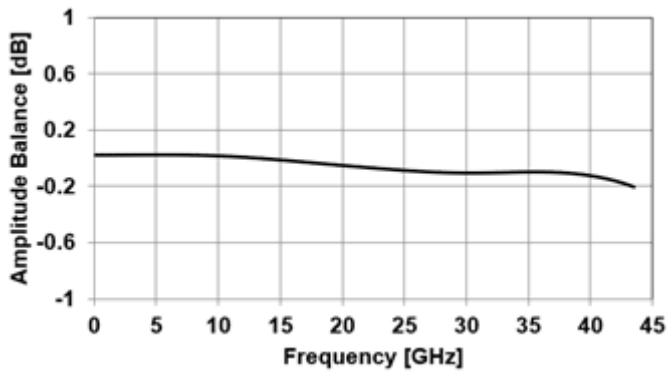
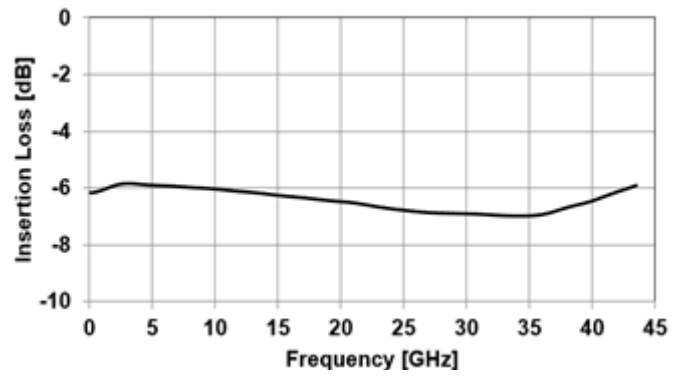
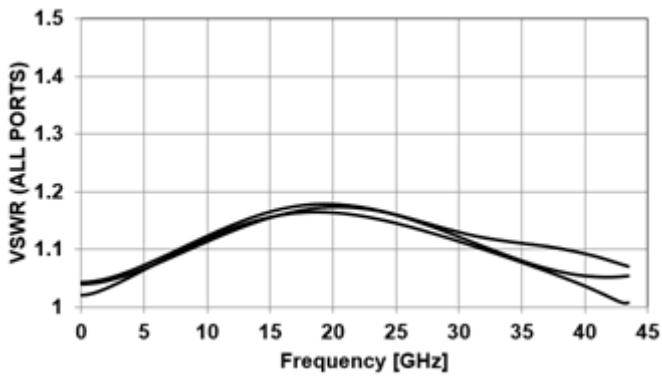


# Power Derating Curve



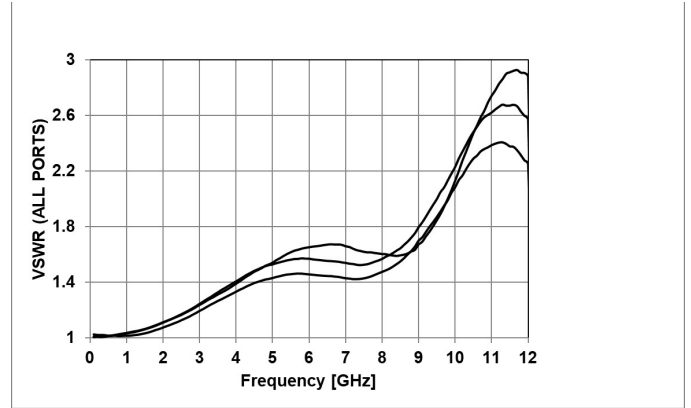
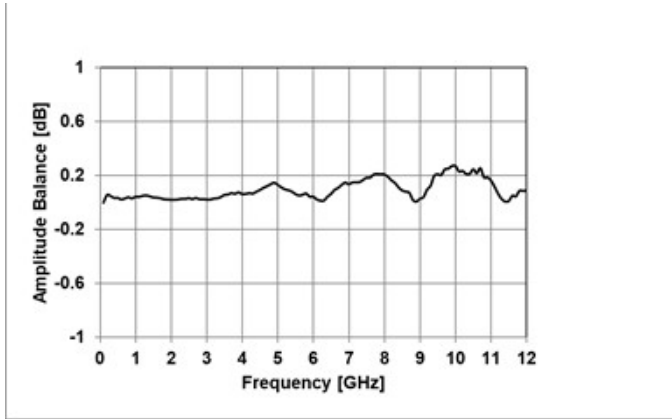
# Typical Data

RPD02-50EAF

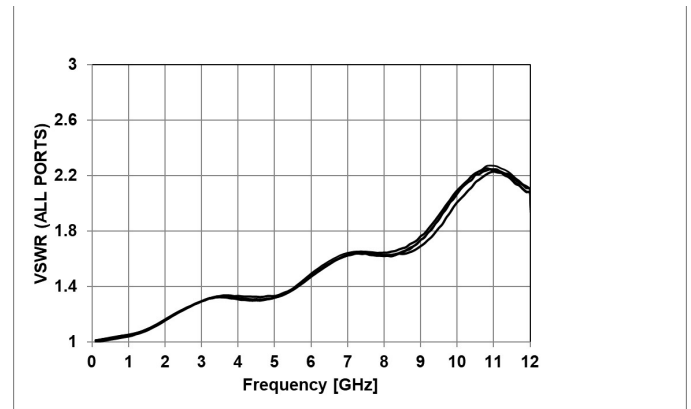
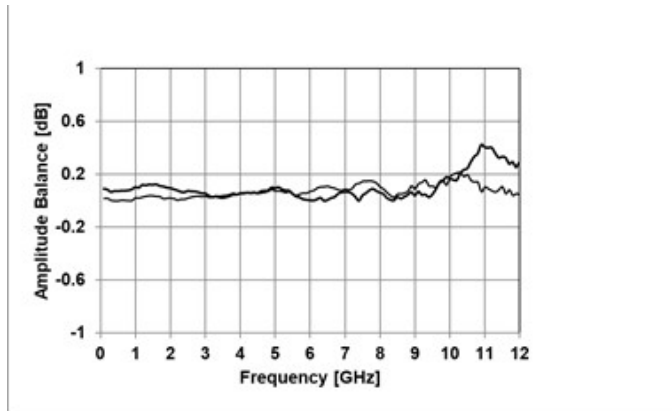


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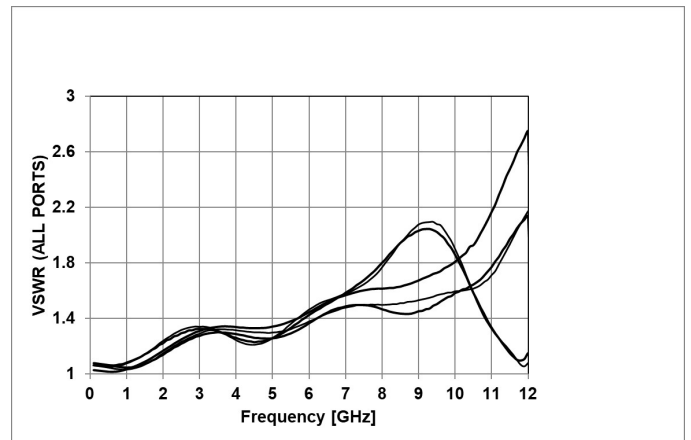
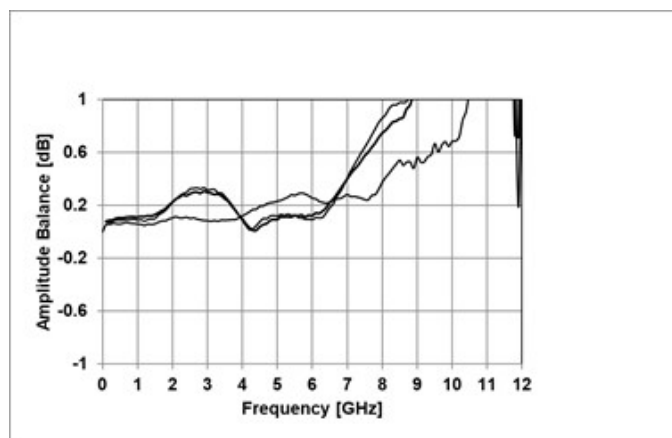
## RPD0212F



## RPD0312F

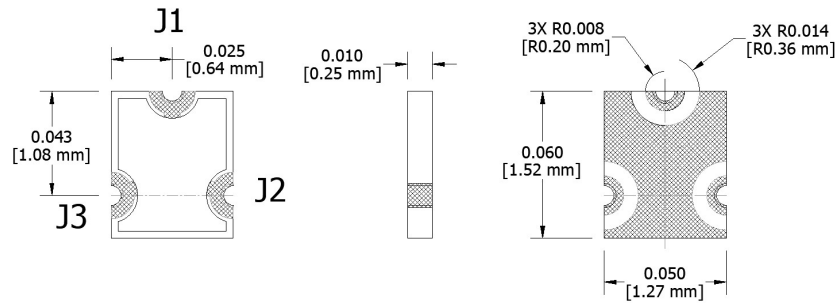


## RPD0412F

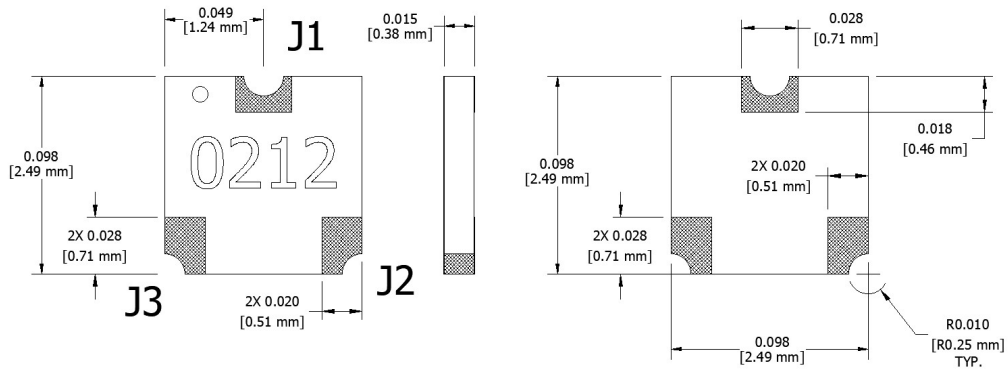


# Mechanical

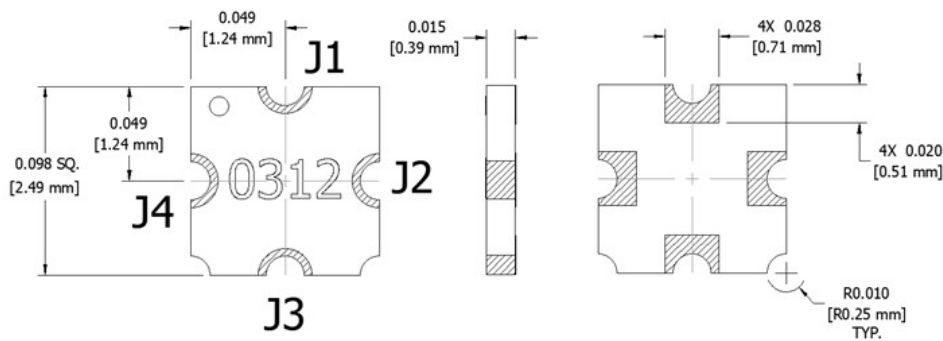
## RPD02-50EAF



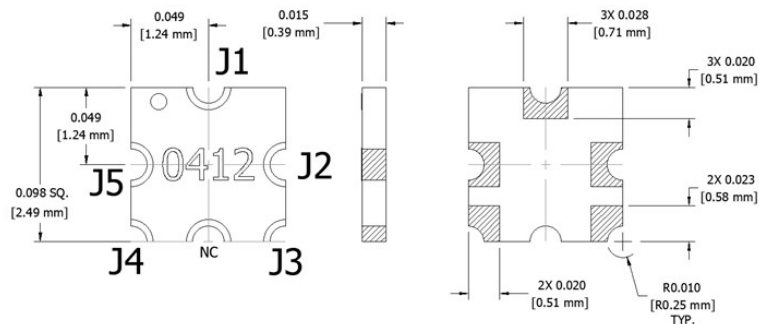
## RPD0212F



## RPD0312F

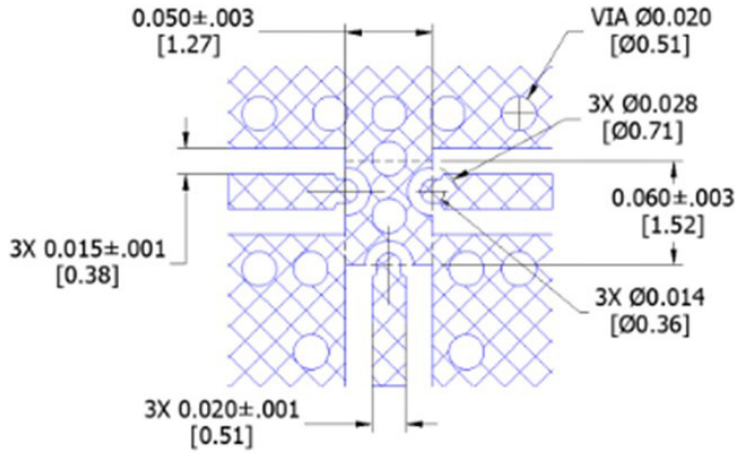


## RPD412F



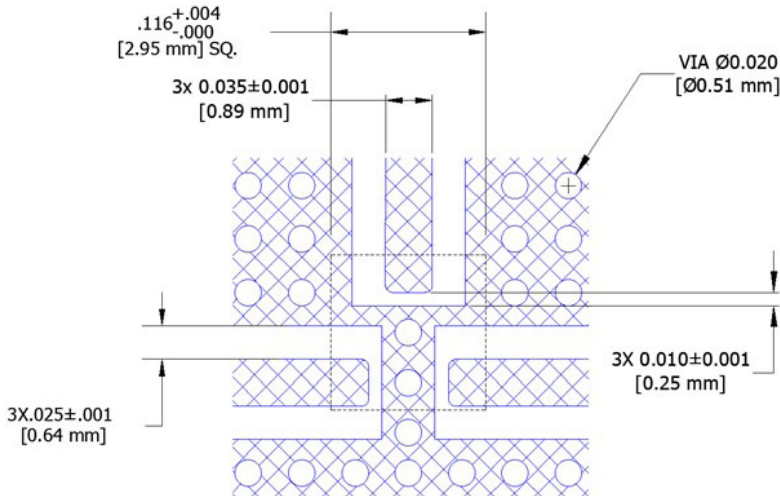
# Suggested Mounting Footprint

RPD02-50EAF



Metric dimensions for Reference only.  
Transmission line dimensions based on a Rogers 6035HTC substrate, 0.010" thick, 1/2oz, copper both sides.

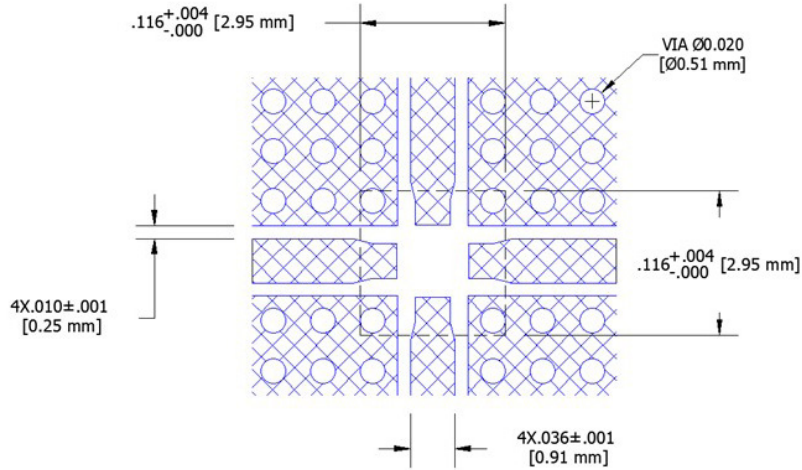
RPD0212F



Metric dimensions for Reference only.  
Transmission line dimensions based on a Rogers 6035HTC substrate, 0.010" thick, 1/2oz, copper both sides.

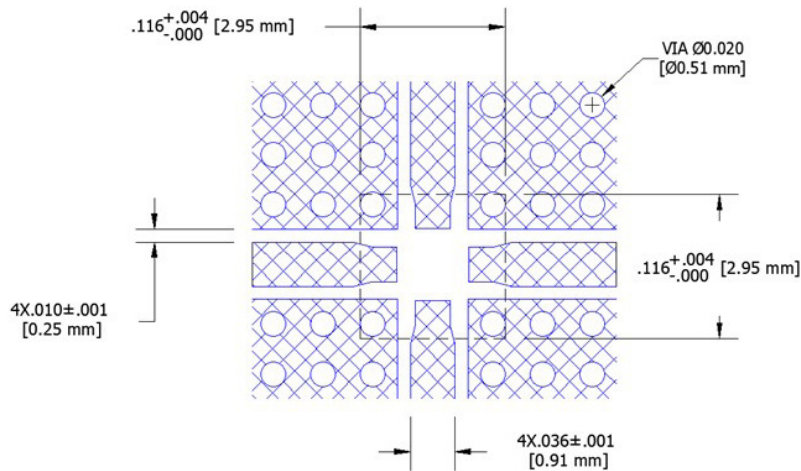
# Suggested Mounting Footprint

RPD0312F



Metric dimensions for Reference only.  
Transmission line dimensions based on a Rogers 6035HTC substrate, 0.010" thick, 1/2oz, copper both sides.

RPD0412F



Metric dimensions for Reference only.  
Transmission line dimensions based on a Rogers 6035HTC substrate, 0.010" thick, 1/2oz, copper both sides.



# How To Order

Specify Model Number: **RPDXXXXF**

	<b>R P D</b>	<b>X X</b>	<b>X X</b>	<b>F</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>1 Series Name</b>	<b>R P D</b> Series			
<b>2 Divide Type</b>	<b>0 2</b> 2 Way	<b>0 3</b> 3 Way	<b>0 4</b> 4 Way	
<b>3 Max Frequency</b>	<b>X X</b> 12 - 12 GHz or 50EA - 50GHz			
<b>4 Terminal Finish</b>	<b>F</b> RoHS Compliant			

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