

# L, S & X-Band High Power

## Circulators and Isolators



Smiths Interconnect's L, S & X-Band high power Circulators and Isolators are specifically designed for solid state power amplifiers (SSPA) used across various Military Communication and Radar applications.

Designed primarily for AESA radar applications, ground-based air surveillance radars, shipboard defense and airborne fire control.

Smiths Interconnect high power Circulators and Isolators feature various connector configurations, with options for terminating one port with internally produced 50 Ohm Terminations forming an Isolator. Together in combination these features provide highly compact, military qualified solutions for the most rugged of defense applications.

These Circulators and Isolators are available in various mechanical and electrical configurations through out the L, S, and X-Bands.

Designed and Qualified  
for Solid State Power  
Amplifiers (SSPA)

## Features & Benefits

- Temperature stable, SSPA Isolators and Circulators
- Available in a variety of mechanical options and capable of being supplied in assigned bands from L, S, & X-Bands
- Manufactured and designed in our Salisbury, Maryland facility
- U.S. ITAR compliant

## End Product Markets



# L-Band High Power Isolator

Designed for defense applications

## Specifications



L-Band Power Isolator	Performance
Part Number	IA10001200P3KS
Operating Frequency	1.00 - 1.20 GHz
Qualification Temperature	-25 to +95°C
Acceptance Temperature	-25 to +85°C
Insertion Loss	0.30 dB max
Isolation	20 dB min
Return Loss (SMA)	19 dB min
Power Handling	FWD 3kW Peak 10% DC, Rev Up Reverse to 150W
Mass	100g nom

# L-Band High Power Circulator

Designed for defense applications

## Specifications



L-Band Power Circulator	Performance
Part Number	CA10001200P3KS
Operating Frequency	1.00 - 1.20 GHz
Qualification Temperature	-25 to +95°C
Acceptance Temperature	-25 to +85°C
Insertion Loss	0.30 dB max
Isolation	20 dB min (When terminated with a load measuring > 20dB)
Return Loss (SMA)	19 dB min
Power Handling	3kW Peak 10% DC
Mass	90g nom

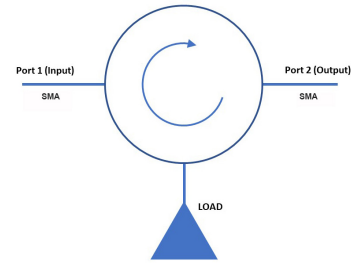
# Technical Characteristics S and X-Band

S-Band High Power Isolator	Performance
Part Number	IA31003500P3KS
Operating Frequency	3.10 - 3.50 GHz
Qualification Temperature	-25 to +95°C
Acceptance Temperature	-25 to +85°C
Insertion Loss	0.30 dB max
Isolation	20 dB min
Return Loss (SMA)	19 dB min
Power Handling	FWD 3kW Peak 10% DC, Rev Up Reverse to 150W
Mass	85g nom

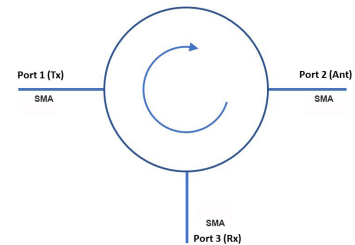
S-Band High Power Circulator	Performance
Part Number	CA31003500P3KS
Operating Frequency	3.10 - 3.50 GHz
Qualification Temperature	-25 to +95°C
Acceptance Temperature	-20 to +85°C
Insertion Loss	0.30 dB max
Isolation	20 dB min (When terminated with a load measuring > 20 dB)
Return Loss (SMA)	19 dB min
Power Handling	3kW Peak 10% DC
Mass	75g nom

X-Band High Power Isolator	Performance
Part Number	IB800012000P300S
Operating Frequency	8.0 - 12.0 GHz
Qualification Temperature	-55 to +95°C
Acceptance Temperature	-45 to +85°C
Insertion Loss	0.35 dB max
Isolation	20 dB min
Return Loss (SMA)	19 dB min
Power Handling	300W Peak 80w avg rev up to 30W
Mass	17g nom

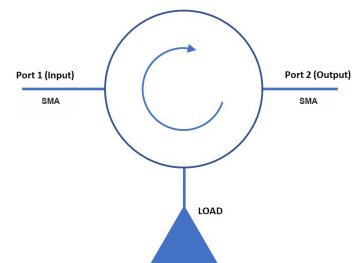
X-Band High Power Circulator	Performance
Part Number	CB800012000P300S
Operating Frequency	8.0 - 12.0 GHz
Qualification Temperature	-55 to +95°C
Acceptance Temperature	-45 to +85°C
Insertion Loss	0.35 dB max
Isolation	20 dB min (When terminated with a load measuring > 20 dB)
Return Loss (SMA)	19 dB min
Power Handling	300W Peak 80W avg
Mass	15g nom



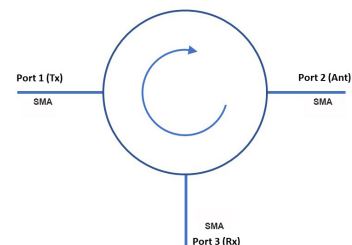
Isolator Schematic



Circulator Schematic



Isolator Schematic



Circulator Schematic

# Worldwide Support

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## Connectors

### Americas

#### Sales

connectors.uscsr@smithsinterconnect.com

#### Technical Support

connectors.ustechsupport@smithsinterconnect.com

### Europe

#### Sales

connectors.emeacsr@smithsinterconnect.com

#### Technical Support

connectors.emeatechsupport@smithsinterconnect.com

### Asia

#### Sales

asiacsr@smithsinterconnect.com

#### Technical Support

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## Fibre Optics & RF Components

### Americas

#### Sales

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### Asia

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## Semiconductor Test

### Americas

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### Europe

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## RF/MW Subsystems

### Americas, Europe & Asia

#### Sales

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#### Technical Support

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# Connecting Global Markets

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