



COAXIAL COMMUNICATION BANDS

SMA BROAD BANDWIDTH CIRCULATOR

PRODUCT DESCRIPTION

RFCI Coaxial Circulators product allows the selection of the smallest practical size in relationship to the required frequency range coverage. RFCI guarantees the RF performance of every miniature Circulators across the specific operating temperature range. Circulators design for applications in high performance linear Broad Band Power Amplifiers.



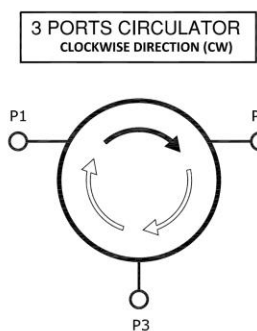
KEY FEATURES

- Miniature and Standard package size.
- Robust Construction for High Reliability performance
- RoHS compliant
- Low typical Insertion loss, High Isolation
- Magnetically Shielded.

- ❖ SMA Female is Standard Products. Available with alternative configuration such as male connectors, high power termination and reverse rotation direction.
- ❖ S-parameters are available upon request.



FUNCTION DIAGRAM



CIRCULATOR OUTLINE DRAWING

Figure BSC-01
(Flange Mount 56mm Package)

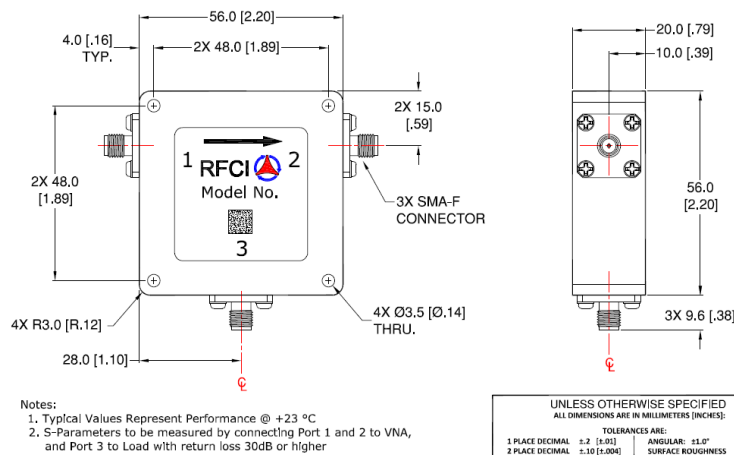
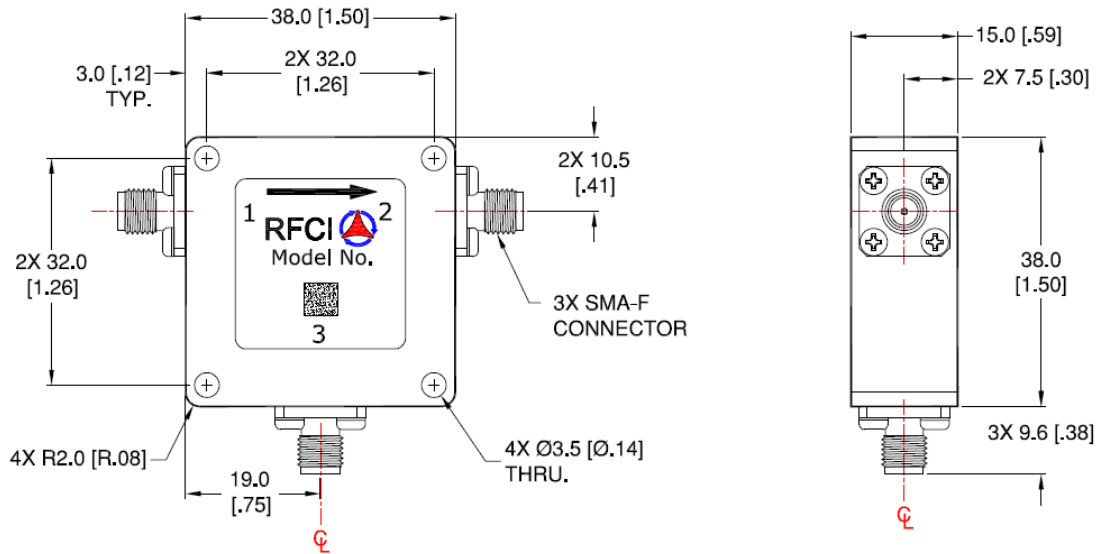


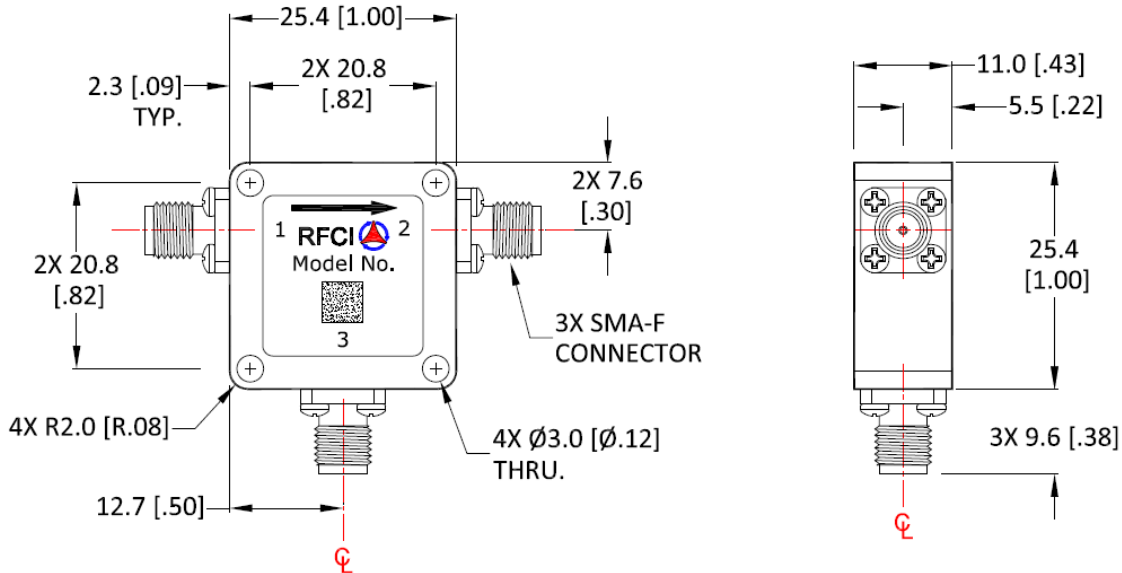
Figure BSC-02
(Flange Mount 38mm Package)



Notes:
1. Typical Values Represent Performance @ +23 °C
2. S-Parameters to be measured by connecting Port 1 and 2 to VNA, and Port 3 to Load with return loss 30dB or higher

UNLESS OTHERWISE SPECIFIED			
ALL DIMENSIONS ARE IN MILLIMETERS [INCHES]:			
TOLERANCES ARE:			
1 PLACE DECIMAL	±.2 [±.01]	ANGULAR:	±1.0°
2 PLACE DECIMAL	±.10 [±.004]	SURFACE ROUGHNESS	16/

Figure BSC-03
(Flange Mount 25.4mm Package)

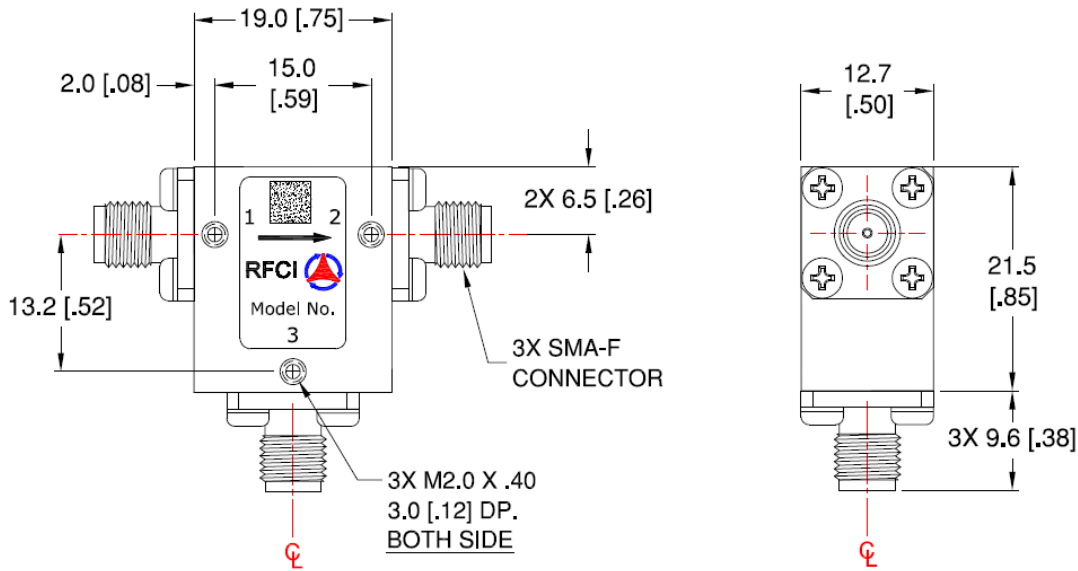


Notes:
1. Typical Values Represent Performance @ +23 °C
2. S-Parameters to be measured by connecting Port 1 and 2 to VNA, and Port 3 to Load with return loss 30dB or higher

UNLESS OTHERWISE SPECIFIED			
ALL DIMENSIONS ARE IN MILLIMETERS [INCHES]:			
TOLERANCES ARE:			
1 PLACE DECIMAL	±.2 [±.01]	ANGULAR:	±1.0°
2 PLACE DECIMAL	±.10 [±.004]	SURFACE ROUGHNESS	16/

Figure BSC-04

(19mm Package)



Notes:

1. Typical Values Represent Performance @ +23 °C.
2. S-Parameters to be measured by connecting Port 1 and 2 to VNA, and Port 3 to Load with return loss 30dB or higher

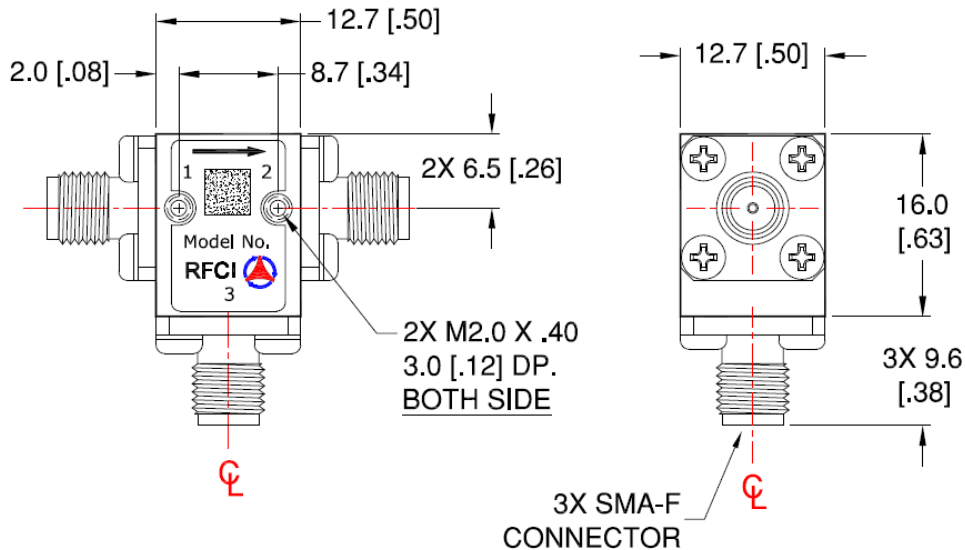
UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN MILLIMETERS [INCHES]:

TOLERANCES ARE:

1 PLACE DECIMAL	±.2 [±.01]	ANGULAR: ±1.0°
2 PLACE DECIMAL	±.10 [±.004]	SURFACE ROUGHNESS 16/

Figure BSC-05

(12.7mm Package)



Notes:

1. Typical Values Represent Performance @ +23 °C.
2. S-Parameters to be measured by connecting Port 1 and 2 to VNA, and Port 3 to Load with return loss 30dB or higher

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN MILLIMETERS [INCHES]:

TOLERANCES ARE:

1 PLACE DECIMAL	±.2 [±.01]	ANGULAR: ±1.0°
2 PLACE DECIMAL	±.10 [±.004]	SURFACE ROUGHNESS 16/

SMA Circulator (56mm, 38mm and 25.4mm Package)

Frequency Range (MHz)		Insertion Loss (dB)	Isolation (dB)	Return Loss (dB)	Fwd. PWR P/CW (W)	Rev PWR CW (W)	Operating Temperature	Package Outline FIG.	RFCI Part No.
Low	High	Room/OT	Room/OT	Room/OT	Max.	Max.	(°C)		
800	2000	0.60/0.85	16/14.5	16/14.5	500/50	50	-0 to +50°C	BSC-01	RFCR8457
800	1400	0.50/0.60	16/15	16/15	500/50	50	-0 to +50°C	BSC-01	RFCR8461
900	1500	0.40/0.60	20/19	20/19	500/50	50	-0 to +50°C	BSC-01	RFCR8460
1000	2000	0.50/0.70	19/17	19/17	500/50	50	-0 to +50°C	BSC-01	RFCR8455
1250	2500	0.50/0.70	19/17	19/17	500/50	50	-0 to +50°C	BSC-01	RFCR8551
1300	2600	0.50/0.70	19/17	19/17	500/50	50	-0 to +50°C	BSC-01	RFCR8552
1350	2700	0.50/0.70	19/17	19/17	500/50	50	-0 to +50°C	BSC-01	RFCR8553
1500	3000	0.50/0.70	19/17	19/17	500/50	30	-10 to +65°C	BSC-02	RFCR8753
1600	3200	0.50/0.70	19/17	19/17	500/50	30	-10 to +65°C	BSC-02	RFCR8754
1500	4000	0.80/1.00	15/14	15/14	500/50	30	-10 to +65°C	BSC-02	RFCR8756
1700	4200	0.50/0.70	16/15	16/15	500/50	30	-10 to +65°C	BSC-02	RFCR8755
2000	6000	1.00/1.40	13/12.5	13/12.5	500/50	30	-20 to +65°C	BSC-02	RFCR8951
2000	4000	0.50/0.70	19/17	19/17	500/50	30	-20 to +85°C	BSC-02	RFCR8851
2000	3000	0.40/0.50	21/20	21/20	500/50	30	-40 to +85°C	BSC-02	RFCR8860
2100	4200	0.50/0.70	19/17	19/17	500/50	30	-20 to +85°C	BSC-02	RFCR8855
2300	6000	0.70/0.80	15/14	15/14	500/50	30	-20 to +85°C	BSC-02	RFCR8992
2500	6200	0.80/1.00	14/13	14/13	500/50	30	-20 to +85°C	BSC-02	RFCR8859
2500	5500	0.60/0.80	16/15	16/15	500/50	30	-20 to +85°C	BSC-02	RFCR8858
2500	5000	0.50/0.70	19/17	19/17	500/50	30	-20 to +85°C	BSC-02	RFCR8856
2600	5200	0.50/0.70	19/17	19/17	500/50	30	-20 to +85°C	BSC-02	RFCR8857
2700	6200	0.60/0.80	16/15	16/15	500/50	30	-20 to +85°C	BSC-02	RFCR8991
3000	6000	0.50/0.70	19/18	19/18	500/50	30	-20 to +85°C	BSC-03	RFCR8952
3200	6400	0.50/0.60	19/18	19/18	500/50	30	-20 to +85°C	BSC-03	RFCR8962
3500	7000	0.50/0.60	19/18	19/18	500/50	30	-20 to +85°C	BSC-03	RFCR8957
3600	8600	0.60/0.70	17/16	17/16	500/50	30	-20 to +85°C	BSC-03	RFCR8964

Standard Part Number is SMA Female and Clockwise (CW) Rotation. Add letter “R” at the end to Part number for a Counter Clockwise (CCW) Rotation

- S-Parameters to be measured by connecting Port 1 and Port 2 to VNA and Port 3 to Load with load return loss 30dB or higher.
- See RFCI website www.rf-ci.com for complete part datasheet.

SMA Circulator (19mm and 12.7mm Package)

Frequency Range (MHz)		Insertion Loss (dB)	Isolation (dB)	Return Loss (dB)	Fwd. PWR P/CW (W)	Rev PWR CW (W)	Operating Temperature	Package Outline FIG.	RFCI Part No.
Low	High	Room/OT	Room/OT	Room/OT	Max.	Max.	(°C)		
4000	10000	0.60/0.70	16/15	16/15	250/30	20	-20 to +85°C	BSC-04	RFCR8967
4000	9000	0.50/0.60	17/16	17/16	250/30	20	-20 to +85°C	BSC-04	RFCR8966
4000	8000	0.50/0.60	19/17	19/17	250/30	20	-40 to +85°C	BSC-04	RFCR8955
4500	9000	0.50/0.60	19/17	19/17	250/30	20	-40 to +85°C	BSC-04	RFCR8968
4700	9700	0.50/0.60	17/16	17/16	250/30	20	-40 to +85°C	BSC-04	RFCR8969
5000	10000	0.50/0.60	19/17	19/17	250/30	20	-40 to +85°C	BSC-04	RFCR8970
5200	10400	0.50/0.60	19/17	19/17	250/30	20	-40 to +85°C	BSC-04	RFCR8971
5300	12700	0.70/0.80	16/15	16/15	250/30	20	-20 to +85°C	BSC-04	RFCR8972
5500	11000	0.50/0.60	19/17	19/17	250/30	20	-40 to +85°C	BSC-04	RFCR8973
6000	12000	0.50/0.60	19/17	19/17	250/30	20	-40 to +85°C	BSC-04	RFCR8974
6500	16500	0.80/1.00	14/13	14/13	250/30	20	-40 to +85°C	BSC-04	RFCR8976
6500	13000	0.50/0.60	19/17	19/17	250/30	20	-40 to +85°C	BSC-04	RFCR8975
7000	17000	0.90/1.00	14/13	14/13	250/30	20	-40 to +85°C	BSC-04	RFCR8979
7000	14000	0.60/0.70	19/17	19/17	250/30	20	-40 to +85°C	BSC-04	RFCR8978
7000	12400	0.50/0.60	20/19	20/19	250/30	20	-40 to +85°C	BSC-04	RFCR8977
7500	16000	0.70/0.80	16/15	16/15	250/30	20	-40 to +85°C	BSC-04	RFCR8981
7500	15000	0.60/0.70	19/17	19/17	250/30	20	-40 to +85°C	BSC-04	RFCR8980
8000	16000	0.60/0.70	19/17	19/17	250/20	10	-40 to +85°C	BSC-05	RFCR8982
8000	12400	0.50/0.60	21/20	21/20	250/20	10	-40 to +85°C	BSC-05	RFCR8983
8000	18000	0.80/0.90	16/15	16/15	250/20	10	-40 to +85°C	BSC-05	RFCR8984
8500	18500	0.80/0.90	16/15	16/15	250/20	10	-40 to +85°C	BSC-05	RFCR8985
9000	18000	0.60/0.70	19/17	19/17	250/20	10	-40 to +85°C	BSC-05	RFCR8986
10000	20000	0.70/0.90	16/15	16/15	250/20	10	-40 to +85°C	BSC-05	RFCR8987
10000	15000	0.50/0.60	21/19	21/19	250/20	10	-40 to +85°C	BSC-05	RFCR8988
11000	18000	0.60/0.70	19/17	19/17	250/20	10	-40 to +85°C	BSC-05	RFCR8989
12400	18000	0.50/0.60	21/19	21/19	250/20	10	-40 to +85°C	BSC-05	RFCR8990

Standard Part Number is SMA Female and Clockwise (CW) Rotation. Add letter “R” at the end to Part number for a Counter Clockwise (CCW) Rotation

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