



COAXIAL

# Bias-Tee

# Z3BT-2R15G+

50Ω 5 to 2600 MHz

SMA Female

### KEY FEATURES

- DC pass through: 7A, 100V
- Low insertion loss, 0.9dB Typ.
- Good Isolation, 40dB Typ.
- Power handling, 7W

### APPLICATIONS

- Satellite IF band
- Satellite Receivers / Transmitters
- Test accessory

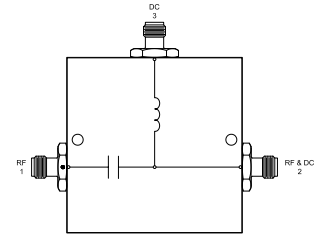
### PRODUCT OVERVIEW

Mini-Circuits' Z3BT-2R15G+ is a Low loss bias tee designed for use with L-Band systems, capable of injecting up to 7A, this Bias tee is ideal for satellite communications applications. Built in a rugged shielded case, the Z3BT-2R15G+ is equipped with SMA Female connectors for all ports. The Z3BT-2R15G+ is ideally suited for powering Satellite up converters and LNBs where RF and DC are injected on a single coax cable.



Generic photo used for illustration purposes only

### FUNCTIONAL DIAGRAM



### ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range	5 - 2600	5	—	2600	MHz
Insertion Loss	5 - 10	—	0.3	1.0	dB
	10 - 2200	—	0.9	1.8	
	2200 - 2600	—	0.9	2.2	
Return Loss (RF Port)	5 - 10	12.74	26.44	—	dB
	10 - 1300	13.98	20.83	—	
	1300 - 2600	12.74	17.7	—	
Return Loss (RF & DC Port)	5 - 10	12.74	26.44	—	dB
	10 - 1300	13.98	20.83	—	
	1300 - 2600	12.74	17.7	—	
Isolation (RF to DC Port)	5 - 10	25	40	—	dB
	10 - 1300	40	55	—	
	1300 - 2200	37	45	—	
	2200 - 2600	20	35	—	
Isolation (DC to RF & DC Port)	5 - 10	25	40	—	dB
	10 - 1300	40	55	—	
	1300 - 2200	35	45	—	
	2200 - 2600	20	35	—	
DC Resistance (DC to RF & DC Port)	—	—	0.5	—	Ohm

### ABSOLUTE MAXIMUM RATINGS<sup>1</sup>

Operating Case Temperature	-40° C to +85° C
Storage Temperature	-55° C to +100° C
Input Power	7W
Voltage at DC Port	100V
Current at DC Port	7A

1. Permanent damage may occur if any of these limits are exceeded.

REV. B  
 ECO-014462  
 Z3BT-2R15G+  
 EDU2049  
 URJ  
 240425





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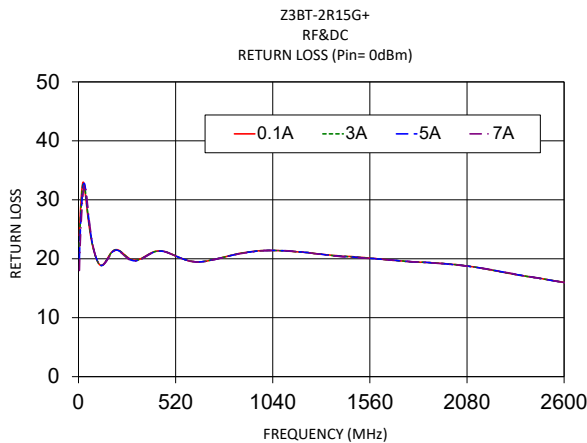
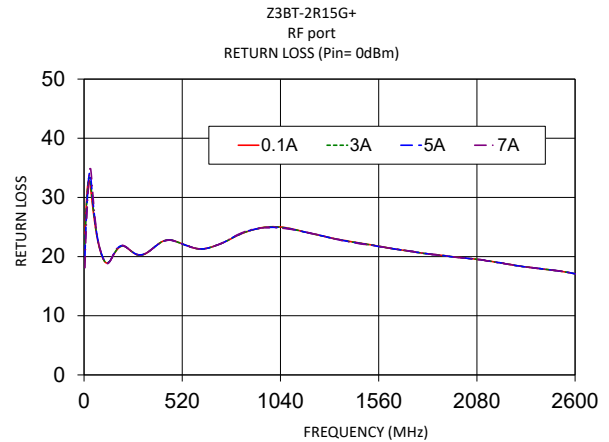
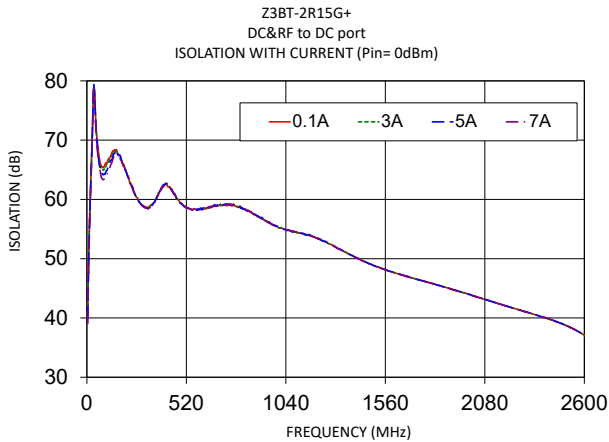
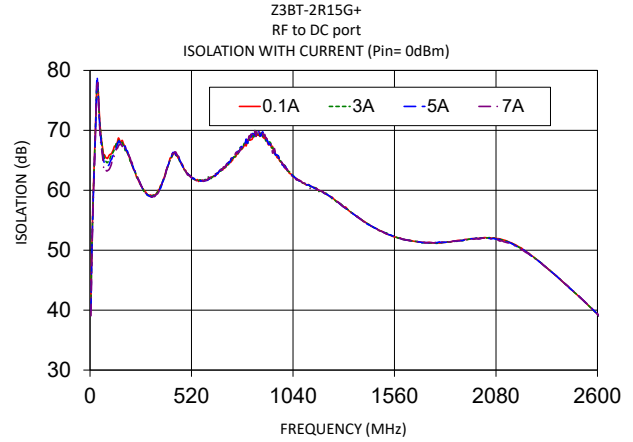
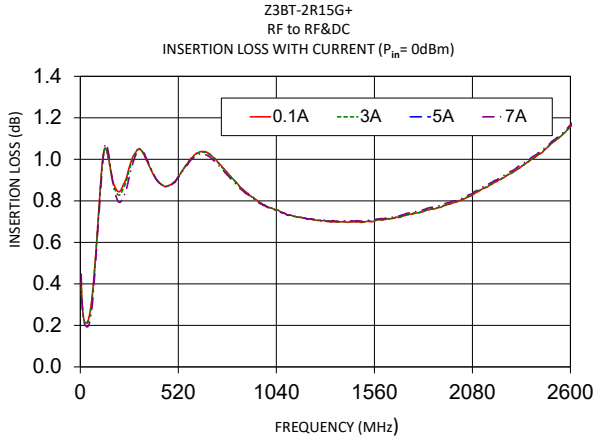
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SMA Female

### TYPICAL PERFORMANCE GRAPHS





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# Bias-Tee

## Z3BT-2R15G+

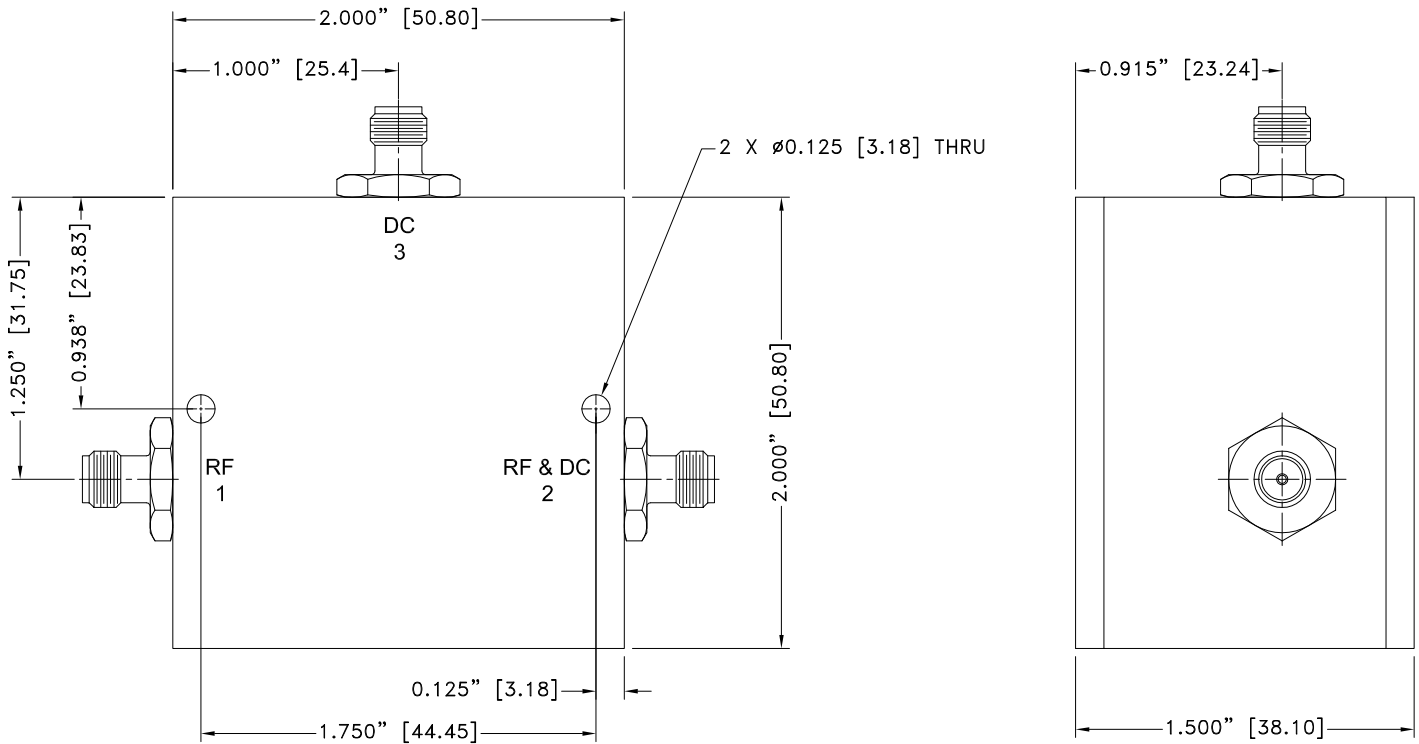
50Ω 5 to 2600 MHz

SMA Female

### COAXIAL CONNECTIONS

Description	RF PORT	RF & DC PORT	DC PORT	GROUND
Connector Type	SMA Female	SMA Female	SMA Female	—
Orientation	1	2	3	—

### CASE STYLE DRAWING



Unit Weight: 154 Grams.

Dimensions are in inches (mm). Tolerances: 2 Pl.  $\pm$  .03; 3 Pl.  $\pm$  .015

### PRODUCT MARKING\*: Z3BT-2R15G+

\*Marking may contain other features or characters for internal lot control.





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## Z3BT-2R15G+

 Mini-Circuits

50Ω 5 to 2600 MHz

SMA Female

ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD

[CLICK HERE](#)

Performance Data & Graphs	Data
	Graphs
	S-Parameter (S2P Files) Data Set (.zip file)
Case Style	CC1553
RoHS Status	Compliant
Environmental Ratings	ENV28

#### NOTES

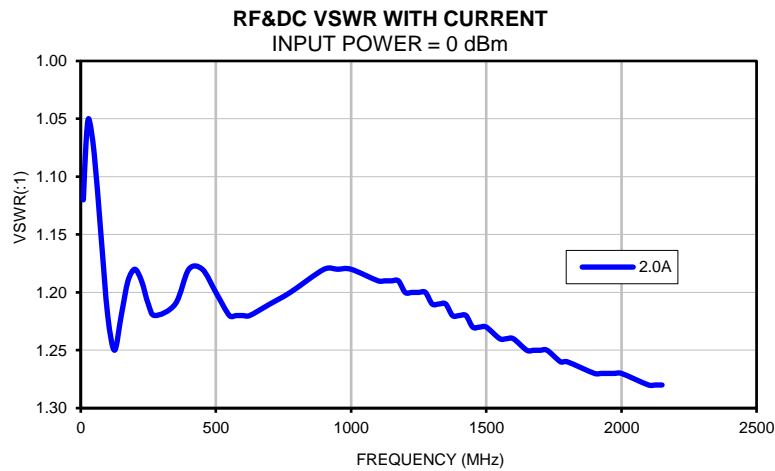
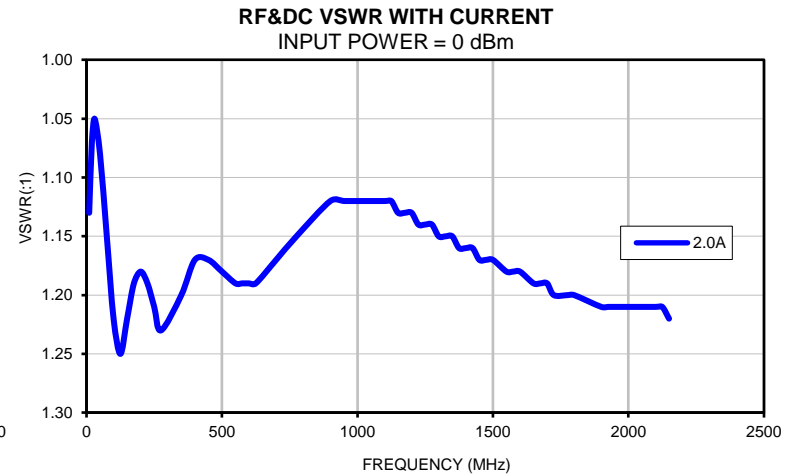
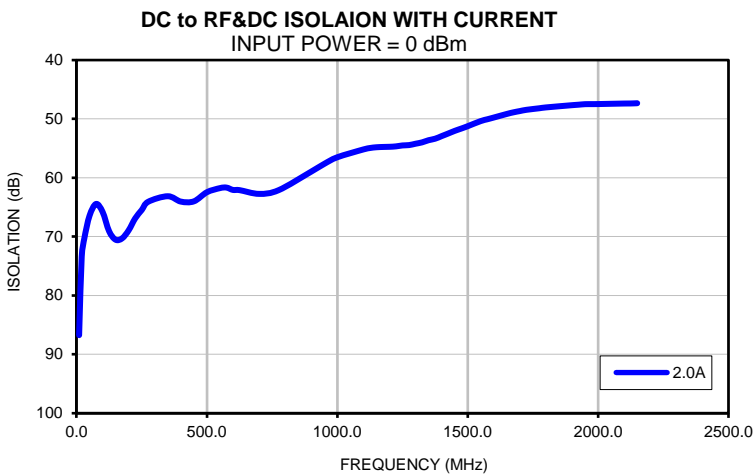
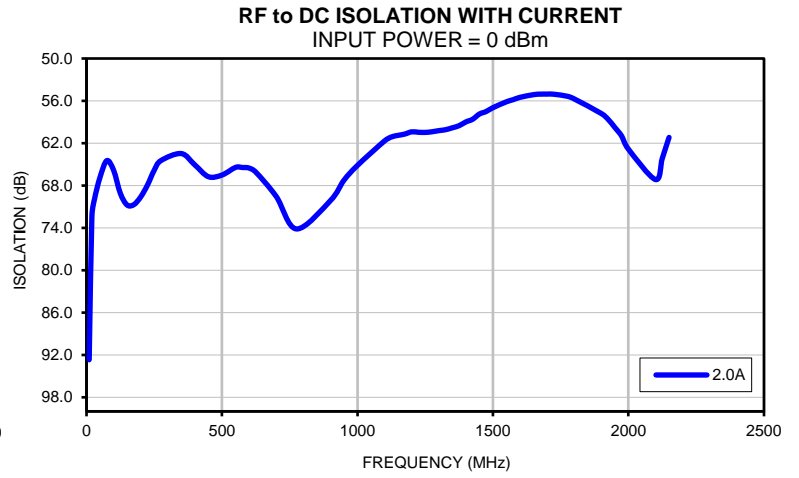
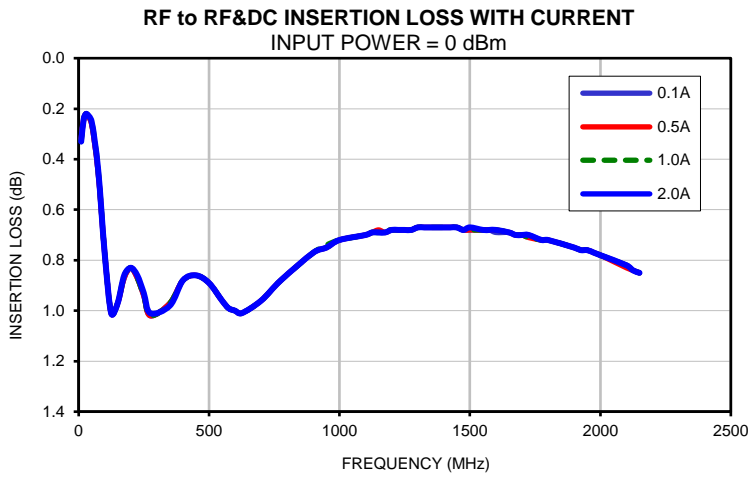
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)



*Typical Performance Data*

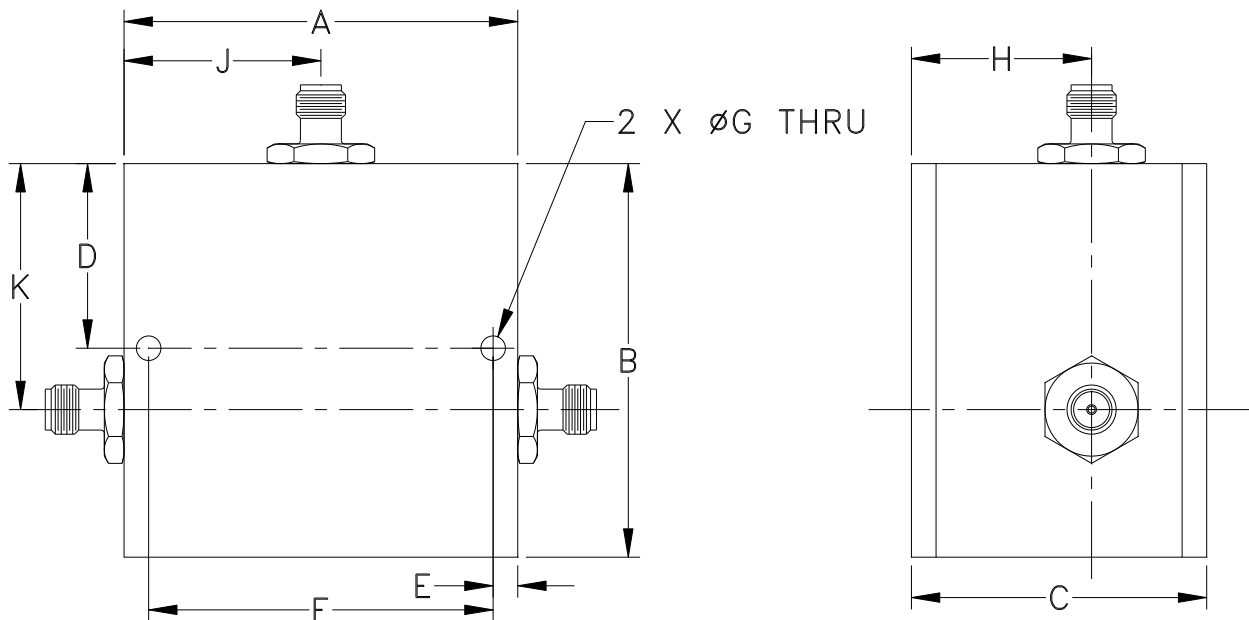
FREQ.	INSERTION LOSS (PIN= 0dBm) with current				ISOLATION (PIN= 0dBm)		VSWR	
	( Port 1 to Port 2 )				( Port 1-S )	( Port S-2 )	(Port 1)	(Port 2)
(MHz)	(dB)				(dB)		(:1)	
	0.1A	0.5A	1.0A	2.0A	2.0A	2.0A	2.0A	2.0A
10	0.32	0.32	0.33	0.33	92.69	86.75	1.13	1.12
20	0.24	0.24	0.24	0.24	72.37	73.40	1.07	1.07
30	0.22	0.22	0.22	0.22	69.85	70.31	1.05	1.05
50	0.26	0.26	0.25	0.25	66.83	66.45	1.08	1.08
75	0.45	0.45	0.44	0.44	64.47	64.46	1.15	1.15
100	0.77	0.77	0.77	0.77	65.82	65.81	1.22	1.22
125	1.01	1.01	1.01	1.01	69.11	69.09	1.25	1.25
150	0.97	0.97	0.97	0.97	70.76	70.54	1.22	1.22
175	0.87	0.87	0.86	0.86	70.70	70.30	1.19	1.19
200	0.83	0.83	0.83	0.83	69.62	68.94	1.18	1.18
225	0.87	0.87	0.87	0.86	67.94	66.91	1.19	1.19
250	0.94	0.94	0.94	0.93	65.83	65.50	1.21	1.21
275	1.02	1.02	1.02	1.01	64.46	64.09	1.23	1.22
350	0.97	0.97	0.97	0.98	63.47	63.15	1.20	1.21
400	0.88	0.88	0.88	0.88	65.08	64.06	1.17	1.18
450	0.86	0.86	0.86	0.86	66.75	64.02	1.17	1.18
500	0.89	0.89	0.89	0.89	66.51	62.47	1.18	1.20
550	0.96	0.96	0.96	0.96	65.43	61.77	1.19	1.22
575	0.99	0.99	0.99	0.99	65.44	61.68	1.19	1.22
600	1.00	1.00	1.00	1.00	65.52	62.08	1.19	1.22
625	1.01	1.01	1.01	1.01	66.10	62.11	1.19	1.22
700	0.96	0.96	0.96	0.96	69.53	62.75	1.17	1.21
775	0.88	0.88	0.88	0.88	74.15	62.12	1.15	1.20
900	0.77	0.77	0.77	0.77	70.15	58.97	1.12	1.18
950	0.75	0.75	0.74	0.75	67.26	57.65	1.12	1.18
1000	0.72	0.72	0.72	0.72	65.15	56.53	1.12	1.18
1100	0.70	0.70	0.70	0.70	61.68	55.20	1.12	1.19
1125	0.69	0.69	0.69	0.69	61.12	54.96	1.12	1.19
1150	0.69	0.68	0.69	0.69	60.89	54.83	1.13	1.19
1175	0.69	0.69	0.68	0.69	60.70	54.78	1.13	1.19
1200	0.68	0.68	0.68	0.68	60.39	54.75	1.13	1.20
1225	0.68	0.68	0.68	0.68	60.45	54.68	1.14	1.20
1250	0.68	0.68	0.68	0.68	60.47	54.52	1.14	1.20
1275	0.68	0.68	0.68	0.68	60.38	54.46	1.14	1.20
1300	0.67	0.67	0.67	0.67	60.22	54.23	1.15	1.21
1325	0.67	0.67	0.67	0.67	60.09	54.00	1.15	1.21
1350	0.67	0.67	0.67	0.67	59.82	53.63	1.15	1.21
1375	0.67	0.67	0.67	0.67	59.52	53.38	1.16	1.22
1400	0.67	0.67	0.67	0.67	58.99	52.94	1.16	1.22
1425	0.67	0.67	0.67	0.67	58.61	52.50	1.16	1.22
1450	0.67	0.67	0.67	0.67	57.87	52.05	1.17	1.23
1475	0.68	0.68	0.68	0.68	57.51	51.66	1.17	1.23
1500	0.68	0.68	0.68	0.67	56.97	51.25	1.17	1.23
1550	0.68	0.68	0.68	0.68	56.13	50.38	1.18	1.24
1575	0.68	0.68	0.68	0.68	55.83	50.08	1.18	1.24
1600	0.69	0.68	0.68	0.68	55.50	49.78	1.18	1.24
1650	0.69	0.69	0.69	0.69	55.12	49.17	1.19	1.25
1675	0.70	0.70	0.70	0.70	55.05	48.90	1.19	1.25
1700	0.70	0.70	0.70	0.70	55.04	48.68	1.19	1.25
1725	0.70	0.71	0.71	0.70	55.06	48.47	1.20	1.25
1775	0.72	0.72	0.72	0.72	55.35	48.20	1.20	1.26
1800	0.72	0.72	0.72	0.72	55.72	48.06	1.20	1.26
1900	0.75	0.75	0.75	0.75	57.79	47.68	1.21	1.27
1925	0.76	0.76	0.76	0.76	58.61	47.60	1.21	1.27
1950	0.76	0.76	0.76	0.76	59.77	47.51	1.21	1.27
1975	0.77	0.77	0.77	0.77	60.98	47.50	1.21	1.27
2000	0.78	0.78	0.78	0.78	62.84	47.49	1.21	1.27
2100	0.82	0.83	0.82	0.82	67.15	47.40	1.21	1.28
2125	0.84	0.84	0.84	0.84	64.16	47.39	1.21	1.28
2150	0.85	0.85	0.85	0.85	61.18	47.35	1.22	1.28

Typical Performance Curves



## Outline Dimensions

CC1553



CASE#	A	B	C	D	E	F	G	H	J	K	WT. GRAMS
CC1553	2.000 (50.80)	2.000 (50.80)	1.500 (38.10)	0.938 (23.83)	0.125 (3.18)	1.750 (44.45)	0.125 (3.18)	0.915 (23.24)	1.000 (25.4)	1.250 (31.75)	154

Dimensions are in inches (mm). Tolerances: 2 Pl.  $\pm .03$ ; 3 Pl.  $\pm .015$

### Notes:

1. Case material: Aluminum alloy.
2. Case finish:  
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
3. Refer to the individual model data sheet for the type of connectors available.



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



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RF/IF MICROWAVE COMPONENTS



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

<b>Specification</b>	<b>Test/Inspection Condition</b>	<b>Reference/Spec</b>
Operating Temperature	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I