COAXIAL

Bias-Tee

ZABT-250W-63+
ZABT-250W-63X+

50Ω 420 to 6000 MHz Up to 250W

KEY FEATURES

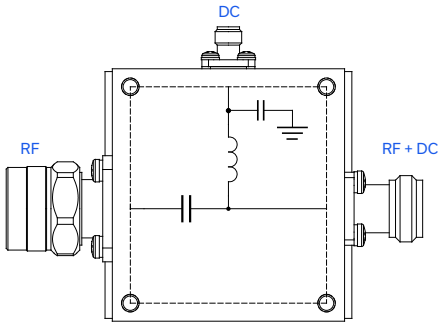
- Wideband, 420 to 6000 MHz
- High Power Handling, 250 W
- Low Insertion Loss, 0.1 dB Typ

Generic photo used for illustration purposes only

PRODUCT OVERVIEW

Mini-Circuits' ZABT-250W-63+ is a coaxial bias tee providing high power handling and low insertion loss for applications over a very wide frequency range from 420 to 6000 MHz. It provides 45 dB typical DC-RF isolation and handles up to 4.5A DC current at the DC input. This model features rugged construction with N-Type / SMA connectors.

FUNCTIONAL DIAGRAM



ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range	-	420	-	6000	MHz
Insertion Loss	420-600	-	0.3	0.7	dB
	600-6000	-	0.1	0.3	
Return Loss (RF Port, (RF & DC Port)	420-600	10	15	-	dB
	600-6000	15	20	-	
Isolation (RF/RF & DC Port to DC Port)	420-6000	35	45	-	dB
DC Resistance (DC to RF & DC Port)	-	-	-	100	mOhm

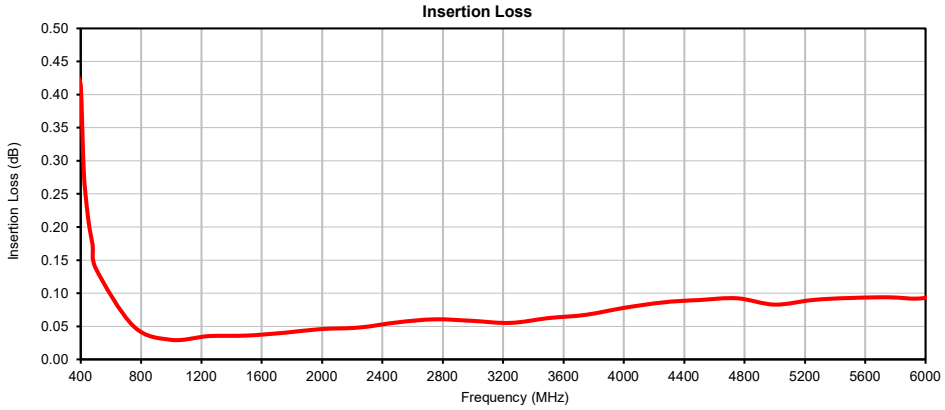
ABSOLUTE MAXIMUM RATINGS[1]

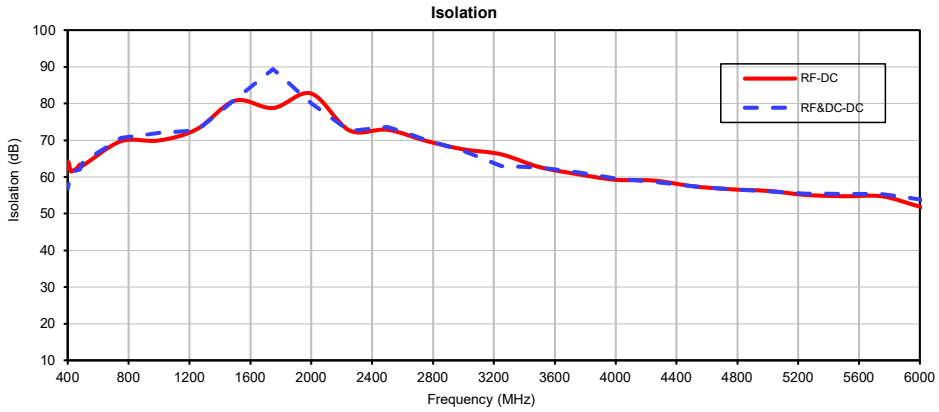
Operating Case Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
Input Power[2]	300 W
Voltage at DC Port	+50 V
Current at DC Port	4.5 A

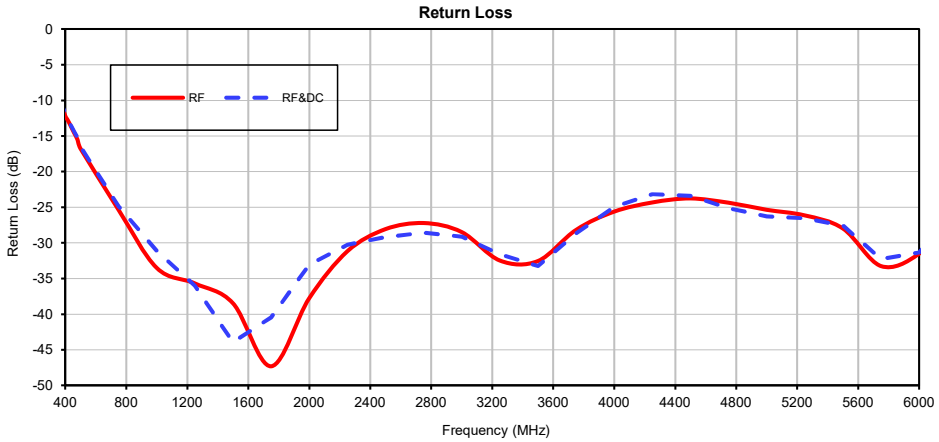
1. Permanent damage may occur if any of these limits are exceeded.
2. For units without heatsink, maximum thermal resistance of user's external heat sink should not exceed 2.2 °C/W.

REV. OR
ECO-021054
ZABT-250W-63+
MCL NY
240304

TYPICAL PERFORMANCE GRAPHS



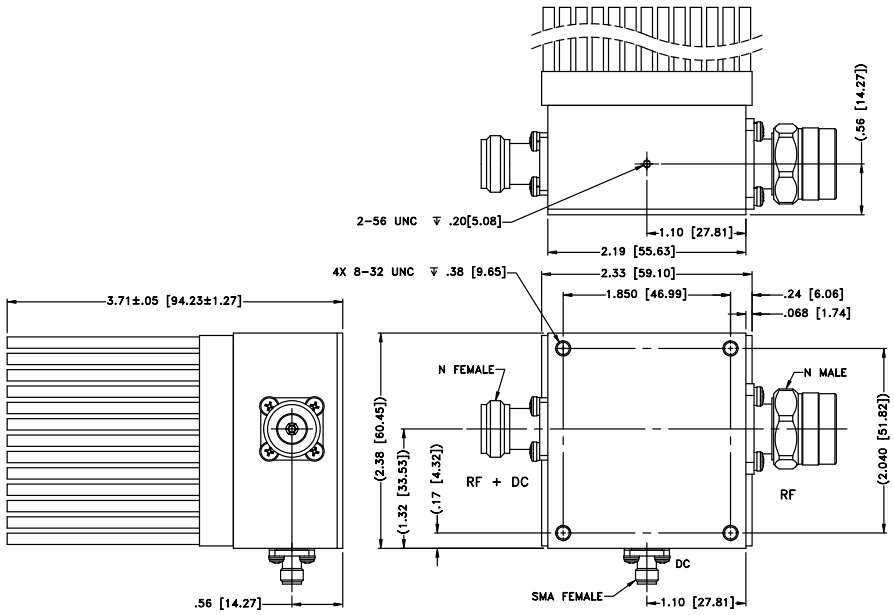




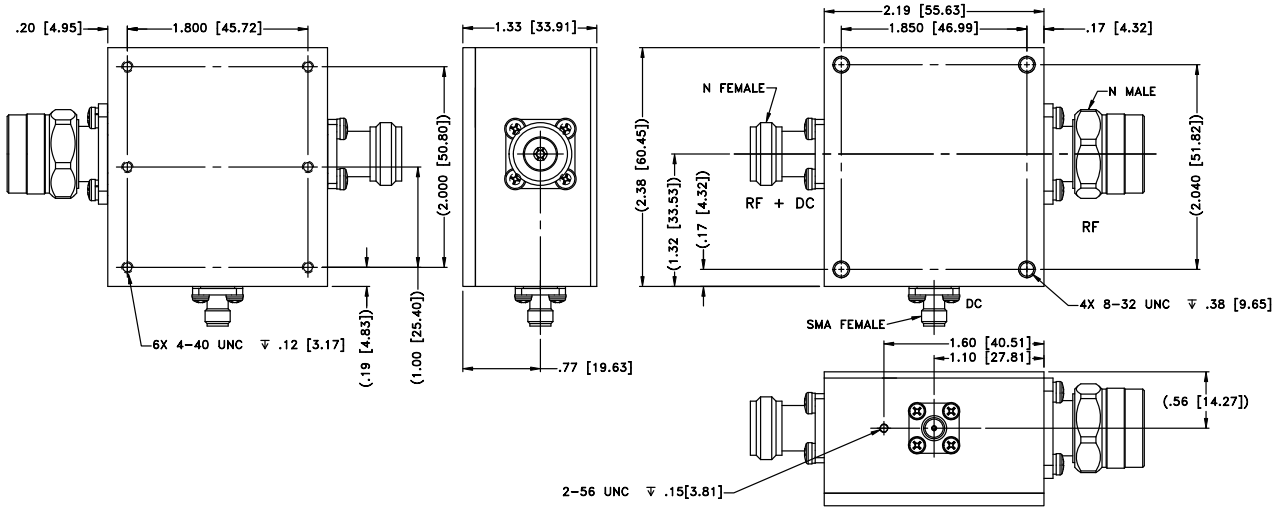
COAXIAL CONNECTIONS

Description	RF PORT	RF & DC PORT	DC PORT
Connector Type	N	N	SMA

CASE STYLE DRAWING



MOUNTING INFORMATION OF MODEL WITHOUT HEATSINK



Weight: 450 grams; Without heatsink 321 grams
Dimensions are in inches [mm]. Tolerances: 2 Pl ±.03; 3 Pl ±.015

PRODUCT MARKING*: ZABT-250W-63+

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

ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD CLICK HERE

Performance Data & Graphs	Data Graphs S-Parameter (SXP Files) Data Set (.zip file)
Case Style	VY3240-1
RoHS Status	Compliant
Environmental Ratings	ENV28T23

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

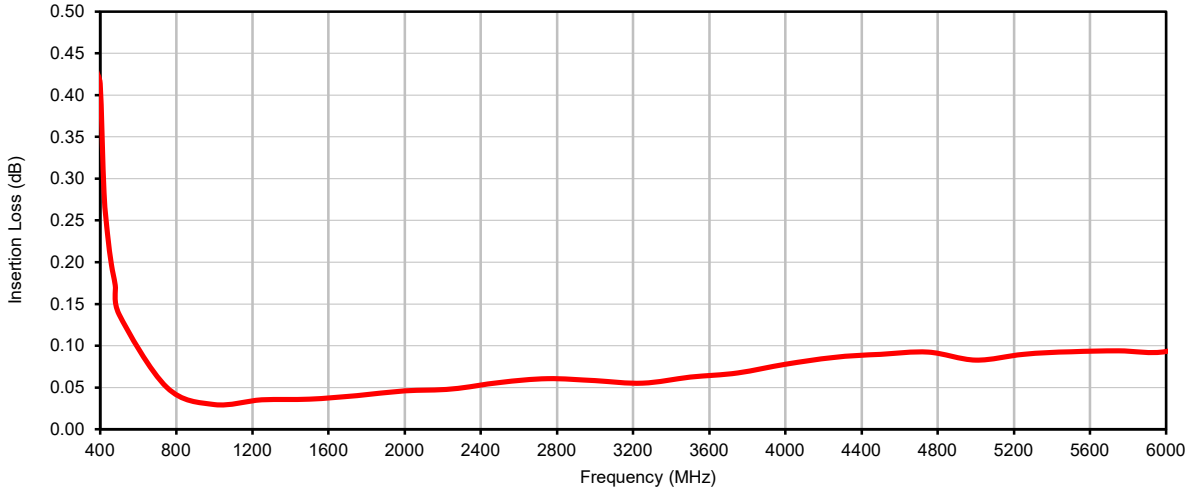
Bias-Tee, Coaxial ZABT-250W-63+

Typical Performance Data

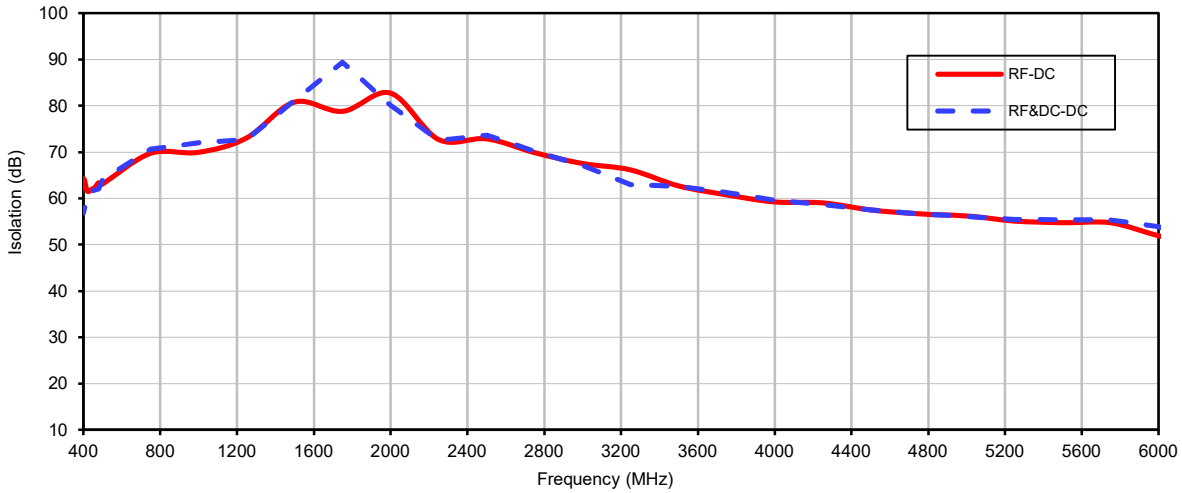
FREQUENCY (MHz)	INSERTION LOSS (dB)	ISOLATION (dB)		Return Loss (dB)	
		RF-DC	RF&DC-DC	RF	RF&DC
360	0.52	58	56	10	10
380	0.43	59	57	11	11
400	0.41	64	57	12	12
420	0.28	62	61	13	13
440	0.23	62	61	14	14
460	0.20	62	62	15	14
480	0.17	63	62	15	15
500	0.14	63	64	17	16
750	0.05	70	71	25	25
1000	0.03	70	72	34	31
1250	0.04	73	73	36	36
1500	0.04	81	81	38	44
1750	0.04	79	89	47	40
2000	0.05	83	80	38	33
2250	0.05	73	73	31	30
2500	0.06	73	74	28	29
2750	0.06	70	70	27	29
3000	0.06	68	67	28	29
3250	0.06	66	63	32	32
3500	0.06	63	63	33	33
3750	0.07	61	61	28	29
4000	0.08	59	60	26	25
4250	0.09	59	59	24	23
4500	0.09	58	58	24	23
4750	0.09	57	57	24	25
5000	0.08	56	56	25	26
5250	0.09	55	55	26	27
5500	0.09	55	55	28	28
5750	0.09	55	55	33	32
6000	0.09	52	54	31	31
6250	0.11	49	49	26	25
6500	0.15	37	36	23	23
6750	0.50	29	27	14	14
7000	0.29	32	31	15	16

Typical Performance Curves

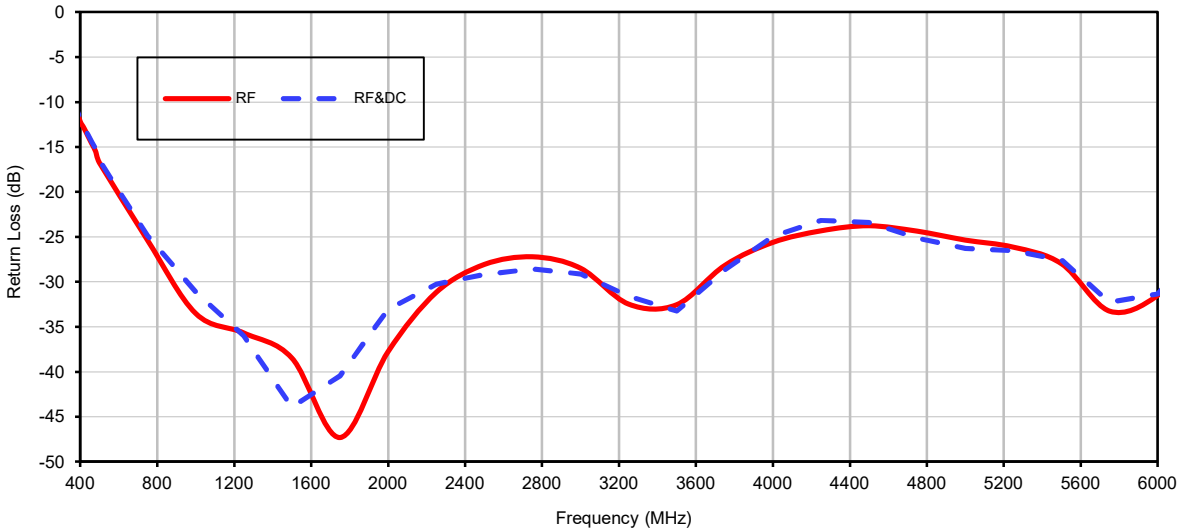
Insertion Loss



Isolation



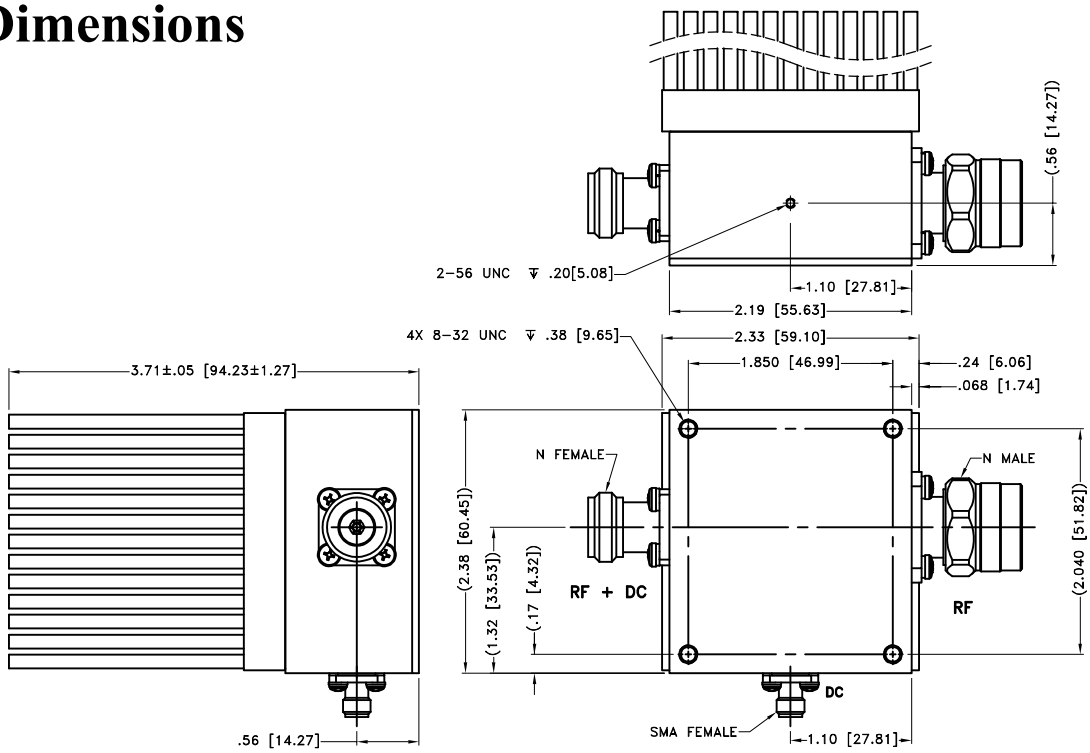
Return Loss



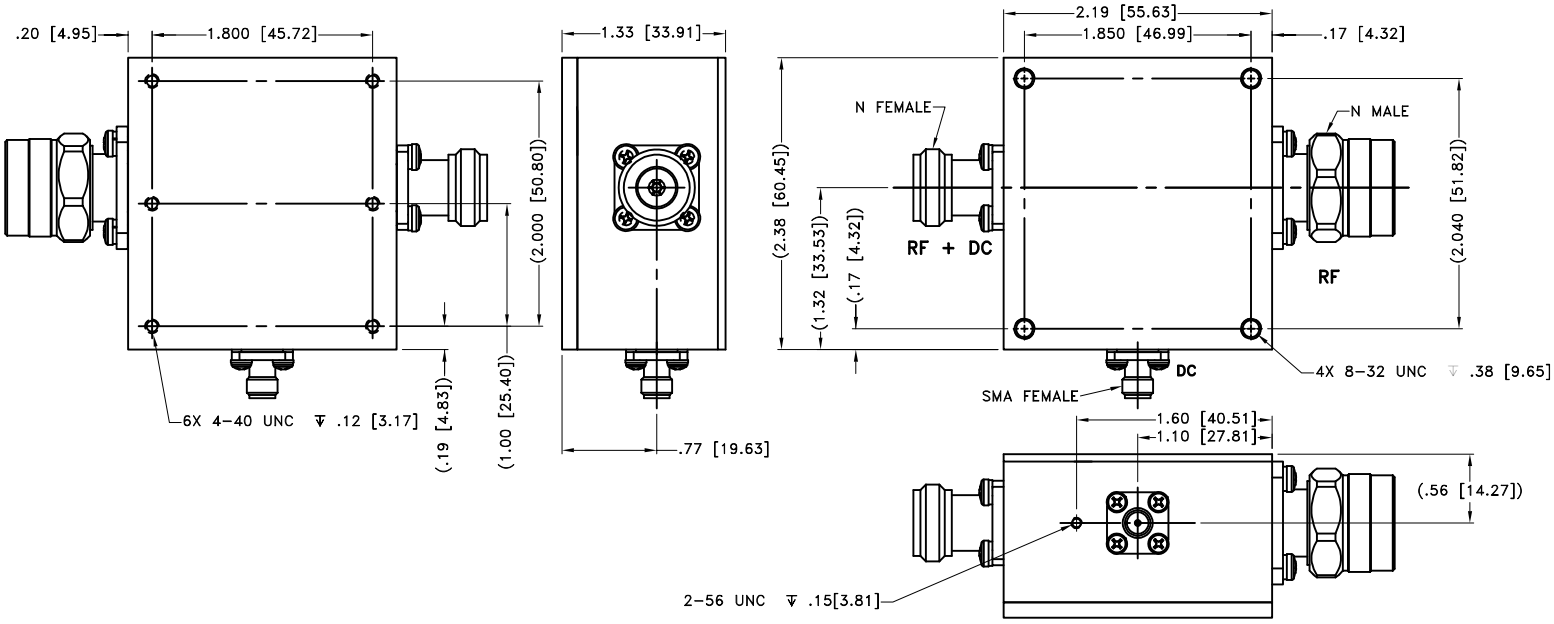
Case Style VY

Outline Dimensions

VY3240-1



MOUNTING INFORMATION OF MODEL WITHOUT HEATSINK



Weight: 450 grams; Without heatsink 321 grams

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

Notes:

1. Case material: Aluminum.
2. Case finish: Gold plating;
3. Heat sink finish: Black anodize.
4. Refer to the individual model data sheet for the type of connectors available.
5. Shape of connector flange may vary.

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RF/IF MICROWAVE COMPONENTS

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Environmental Specifications **ENV28T23**

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.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-40° to 85° C Ambient Environment	Individual Model Data Sheet
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

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