

# Power Splitter/Combiner

## ZN4PD-272-S+

4 Way-0° 50Ω 500 to 2700 MHz

### Maximum Ratings

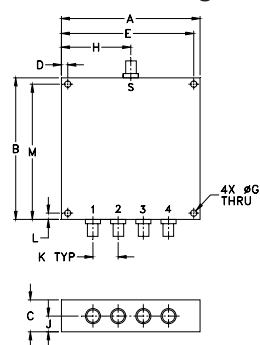
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	10W max.
Internal Dissipation	2.0W max.
DC Current	1.0 A (250mA for each port)

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

### Coaxial Connections

SUM PORT	S
PORT 1	1
PORT 2	2
PORT 3	3
PORT 4	4

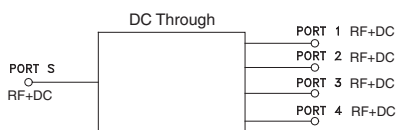
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
2.75	2.80	.63	.125	2.625	—	.125
69.85	71.12	16.00	3.18	66.68	—	3.18
H	J	K	L	M	wt	
1.38	.31	.500	.125	2.675	grams	
35.05	7.87	12.70	3.18	67.95	140	

### Electrical Schematic



### Features

- wideband, 500 to 2700 MHz
- rugged, shielded case
- power input up to 10W
- excellent amplitude unbalance, 0.2 dB typ.
- high isolation, 19 dB typ.
- low insertion loss, 0.9 dB typ.

### Applications

- UHF
- cellular, GPS, PCS
- receivers/transmitters
- instrumentation
- CATV



Generic photo used for illustration purposes only

CASE STYLE: UU182

Connectors	Model
SMA	ZN4PD-272-S+

**+RoHS Compliant**  
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

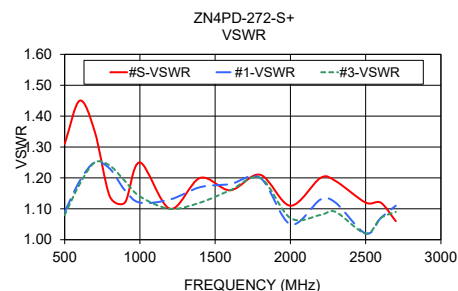
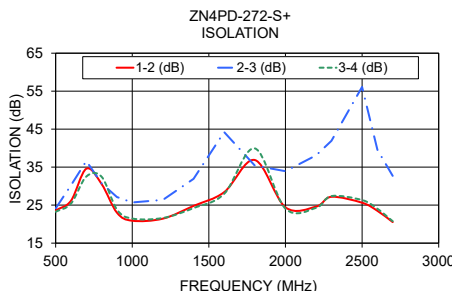
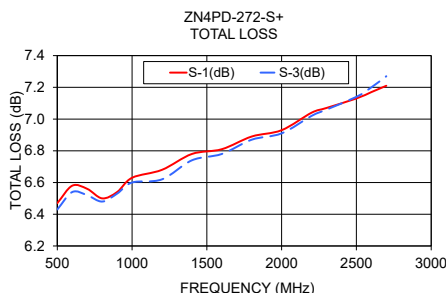
### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
<b>Frequency Range</b>		500	—	2700	MHz
<b>Insertion Loss (above theoretical 6.0 dB)</b>	500-1500	—	0.9	1.3	dB
	1500-2700	—	1.2	1.6	dB
<b>Isolation</b>	500-1500	15	25	—	dB
	1500-2700	15	22	—	dB
<b>Phase Unbalance</b>	500-1500	—	1.7	3	Degree
	1500-2700	—	3.1	6	Degree
<b>Amplitude Unbalance</b>	500-1500	—	0.2	0.8	dB
	1500-2700	—	0.4	0.8	dB
<b>VSWR (Port S)</b>	500-1500	—	1.2	1.65	dB
	1500-2700	—	1.4	1.7	dB
<b>VSWR Output (Port 1-4)</b>	500-1500	—	1.2	1.6	dB
	1500-2700	—	1.2	1.5	dB

### Typical Performance Data

Freq. (MHz)	Total Loss <sup>1</sup> (dB)				Amp. Unbal. (dB)	Isolation (dB)			VSWR S	VSWR 1	VSWR 2	VSWR 3	VSWR 4
	S-1	S-2	S-3	S-4		1-2	2-3	3-4					
500.00	6.47	6.39	6.43	6.43	0.08	23.59	24.14	23.26	1.31	1.09	1.06	1.08	1.08
600.00	6.58	6.50	6.54	6.54	0.08	26.15	30.21	25.40	1.45	1.19	1.16	1.18	1.19
700.00	6.56	6.48	6.52	6.52	0.08	34.58	36.61	32.52	1.35	1.25	1.23	1.25	1.25
800.00	6.50	6.43	6.48	6.47	0.07	30.54	30.71	32.46	1.14	1.23	1.21	1.24	1.24
900.00	6.54	6.48	6.53	6.51	0.06	23.01	27.13	23.83	1.12	1.16	1.16	1.19	1.18
1000.00	6.63	6.57	6.60	6.58	0.06	20.89	25.69	21.46	1.25	1.12	1.12	1.14	1.13
1200.00	6.68	6.62	6.62	6.59	0.09	21.44	26.38	21.61	1.10	1.13	1.12	1.10	1.11
1400.00	6.78	6.73	6.74	6.70	0.08	24.79	31.90	24.22	1.20	1.17	1.15	1.12	1.15
1600.00	6.81	6.75	6.78	6.73	0.08	28.41	44.23	27.98	1.16	1.18	1.17	1.16	1.17
1800.00	6.89	6.84	6.87	6.82	0.07	36.87	35.40	39.93	1.21	1.20	1.20	1.20	1.20
2000.00	6.93	6.89	6.91	6.86	0.08	24.42	33.93	24.06	1.11	1.05	1.07	1.07	1.07
2200.00	7.04	7.01	7.02	6.95	0.10	24.61	38.10	24.29	1.20	1.13	1.09	1.08	1.08
2300.00	7.07	7.04	7.06	6.97	0.10	27.19	41.93	27.38	1.19	1.12	1.10	1.09	1.10
2500.00	7.13	7.11	7.14	7.02	0.12	25.63	56.12	26.33	1.12	1.02	1.03	1.02	1.06
2600.00	7.17	7.16	7.20	7.06	0.14	23.50	39.56	24.05	1.12	1.07	1.03	1.07	1.06
2700.00	7.21	7.21	7.27	7.10	0.17	20.53	32.69	20.76	1.06	1.11	1.05	1.09	1.07
2700.00	7.21	7.21	7.27	7.10	0.17	20.53	32.69	20.76	1.06	1.11	1.05	1.09	1.07

1. Total Loss = Insertion Loss + 6dB splitter loss.



### Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuit's 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-Circuit's website at [www.minicircuits.com/WCLStore/terms.jsp](http://www.minicircuits.com/WCLStore/terms.jsp)



# 4 Way-0° Power Splitter/Combiner

# ZN4PD-272-S+

## Typical Performance Data

FREQ. (MHz)	TOTAL LOSS <sup>1</sup> (dB)				AMP UNBAL. (dB)	ISOLATION (dB)			PHASE UNBAL. (Deg)	FREQ. (MHz)	VSWR (:1)				
	S1	S2	S3	S4		1-2	2-3	3-4			S	1	2	3	4
500	6.47	6.39	6.43	6.43	0.08	23.59	24.14	23.26	0.47	500	1.31	1.09	1.06	1.08	1.08
550	6.54	6.46	6.50	6.50	0.08	25.00	26.80	24.42	0.52	550	1.41	1.14	1.11	1.13	1.14
600	6.58	6.50	6.54	6.54	0.08	26.15	30.21	25.40	0.56	600	1.45	1.19	1.16	1.18	1.19
650	6.58	6.50	6.54	6.54	0.08	28.59	34.41	27.54	0.57	650	1.42	1.23	1.20	1.22	1.23
675	6.57	6.49	6.54	6.54	0.08	30.83	36.19	29.47	0.60	675	1.39	1.24	1.22	1.24	1.24
700	6.56	6.48	6.52	6.52	0.08	34.58	36.61	32.52	0.61	700	1.35	1.25	1.23	1.25	1.25
725	6.54	6.47	6.51	6.51	0.07	42.51	35.47	38.05	0.63	725	1.30	1.25	1.23	1.26	1.25
775	6.51	6.44	6.49	6.48	0.07	35.20	32.13	38.65	0.66	775	1.19	1.24	1.22	1.25	1.25
800	6.50	6.43	6.48	6.47	0.07	30.54	30.71	32.46	0.66	800	1.14	1.23	1.21	1.24	1.24
824	6.50	6.43	6.49	6.47	0.07	27.73	29.57	29.12	0.67	824	1.09	1.21	1.20	1.23	1.23
850	6.51	6.44	6.49	6.48	0.07	25.60	28.57	26.69	0.69	850	1.07	1.19	1.19	1.22	1.21
875	6.52	6.46	6.51	6.49	0.07	24.11	27.78	25.04	0.70	875	1.09	1.18	1.17	1.20	1.19
900	6.54	6.48	6.53	6.51	0.06	23.01	27.13	23.83	0.72	900	1.12	1.16	1.16	1.19	1.18
925	6.56	6.50	6.55	6.53	0.06	22.18	26.62	22.92	0.75	925	1.16	1.15	1.15	1.18	1.16
950	6.58	6.52	6.57	6.55	0.06	21.58	26.21	22.26	0.79	950	1.20	1.14	1.13	1.16	1.15
975	6.60	6.55	6.59	6.57	0.06	21.17	25.90	21.79	0.82	975	1.23	1.13	1.12	1.15	1.14
1000	6.63	6.57	6.60	6.58	0.06	20.89	25.69	21.46	0.83	1000	1.25	1.12	1.12	1.14	1.13
1050	6.65	6.60	6.62	6.60	0.06	20.68	25.46	21.18	0.87	1050	1.26	1.12	1.12	1.13	1.12
1100	6.66	6.61	6.62	6.60	0.07	20.79	25.51	21.20	0.87	1100	1.23	1.12	1.12	1.12	1.11
1150	6.67	6.62	6.62	6.59	0.08	21.08	25.80	21.38	0.83	1150	1.17	1.12	1.11	1.11	1.11
1200	6.68	6.62	6.62	6.59	0.09	21.44	26.38	21.61	0.85	1200	1.10	1.13	1.12	1.10	1.11
1250	6.70	6.64	6.64	6.61	0.09	21.90	27.21	21.90	0.87	1250	1.06	1.13	1.12	1.10	1.11
1300	6.72	6.67	6.67	6.63	0.09	22.56	28.39	22.39	0.88	1300	1.10	1.15	1.13	1.10	1.12
1350	6.76	6.70	6.71	6.67	0.09	23.50	29.93	23.14	0.89	1350	1.16	1.16	1.14	1.11	1.14
1400	6.78	6.73	6.74	6.70	0.08	24.79	31.90	24.22	0.91	1400	1.20	1.17	1.15	1.12	1.15
1450	6.80	6.74	6.76	6.72	0.08	26.28	34.53	25.52	0.94	1450	1.22	1.18	1.16	1.13	1.16
1500	6.80	6.75	6.77	6.73	0.07	27.53	37.85	26.69	0.96	1500	1.21	1.17	1.16	1.14	1.16
1550	6.80	6.75	6.77	6.73	0.07	28.21	41.98	27.49	0.99	1550	1.18	1.18	1.16	1.15	1.17
1600	6.81	6.75	6.78	6.73	0.08	28.41	44.23	27.98	1.01	1600	1.16	1.18	1.17	1.16	1.17
1650	6.82	6.77	6.79	6.75	0.08	28.83	41.77	28.71	1.05	1650	1.16	1.19	1.18	1.17	1.18
1700	6.85	6.79	6.82	6.77	0.08	30.08	38.87	30.30	1.06	1700	1.18	1.20	1.19	1.19	1.19
1750	6.87	6.82	6.85	6.79	0.07	32.82	36.79	33.75	1.11	1750	1.20	1.21	1.20	1.20	1.20
1800	6.89	6.84	6.87	6.82	0.07	36.87	35.40	39.93	1.13	1800	1.21	1.20	1.20	1.20	1.20
1850	6.90	6.86	6.89	6.84	0.07	34.69	34.42	35.43	1.17	1850	1.20	1.18	1.19	1.19	1.19
1900	6.91	6.87	6.90	6.84	0.07	29.65	33.91	29.46	1.21	1900	1.17	1.14	1.16	1.16	1.16
1950	6.92	6.87	6.91	6.85	0.07	26.38	33.75	26.06	1.24	1950	1.14	1.10	1.12	1.12	1.12
2000	6.93	6.89	6.91	6.86	0.08	24.42	33.93	24.06	1.27	2000	1.11	1.05	1.07	1.07	1.07
2050	6.96	6.92	6.94	6.87	0.08	23.41	34.49	23.04	1.30	2050	1.12	1.03	1.02	1.03	1.03
2100	6.98	6.94	6.96	6.89	0.09	23.20	35.37	22.82	1.36	2100	1.15	1.07	1.03	1.02	1.02
2150	7.02	6.98	6.99	6.92	0.09	23.63	36.60	23.26	1.40	2150	1.18	1.10	1.07	1.05	1.05
2200	7.04	7.01	7.02	6.95	0.10	24.61	38.10	24.29	1.46	2200	1.20	1.13	1.09	1.08	1.08
2225	7.05	7.02	7.03	6.96	0.10	25.26	38.95	25.01	1.48	2225	1.20	1.13	1.10	1.09	1.09
2250	7.06	7.03	7.04	6.96	0.10	25.95	39.88	25.80	1.52	2250	1.20	1.13	1.10	1.09	1.09
2275	7.07	7.04	7.05	6.97	0.10	26.62	40.85	26.62	1.55	2275	1.19	1.13	1.10	1.09	1.10
2300	7.07	7.04	7.06	6.97	0.10	27.19	41.93	27.38	1.58	2300	1.19	1.12	1.10	1.09	1.10
2325	7.08	7.05	7.07	6.98	0.10	27.58	43.01	27.98	1.61	2325	1.18	1.11	1.09	1.08	1.10
2350	7.08	7.06	7.08	6.98	0.10	27.70	44.36	28.32	1.64	2350	1.16	1.09	1.08	1.07	1.09
2375	7.09	7.07	7.09	6.99	0.10	27.61	45.99	28.36	1.69	2375	1.15	1.08	1.08	1.06	1.08
2400	7.09	7.07	7.09	6.99	0.10	27.35	48.05	28.17	1.71	2400	1.14	1.06	1.07	1.05	1.08
2425	7.10	7.08	7.11	7.00	0.11	26.96	50.97	27.78	1.73	2425	1.13	1.05	1.06	1.04	1.07
2450	7.11	7.09	7.12	7.01	0.11	26.53	56.08	27.32	1.76	2450	1.13	1.03	1.04	1.03	1.07
2500	7.13	7.11	7.14	7.02	0.12	25.63	56.12	26.33	1.84	2500	1.12	1.02	1.03	1.02	1.06
2525	7.14	7.13	7.16	7.03	0.13	25.15	49.06	25.81	1.85	2525	1.12	1.03	1.02	1.03	1.06
2550	7.15	7.14	7.17	7.04	0.13	24.65	45.02	25.29	1.87	2550	1.12	1.05	1.02	1.05	1.06
2575	7.16	7.15	7.19	7.05	0.14	24.11	41.95	24.70	1.91	2575	1.12	1.06	1.03	1.06	1.06
2600	7.17	7.16	7.20	7.06	0.14	23.50	39.56	24.05	1.93	2600	1.12	1.07	1.03	1.07	1.06
2625	7.18	7.18	7.22	7.07	0.15	22.86	37.51	23.36	1.94	2625	1.11	1.08	1.04	1.08	1.07
2650	7.19	7.19	7.24	7.08	0.15	22.15	35.72	22.58	1.95	2650	1.10	1.09	1.04	1.09	1.07
2675	7.21	7.20	7.26	7.09	0.16	21.37	34.13	21.70	1.95	2675	1.09	1.10	1.05	1.09	1.07
2700	7.21	7.21	7.27	7.10	0.17	20.53	32.69	20.76	1.96	2700	1.06	1.11	1.05	1.09	1.07

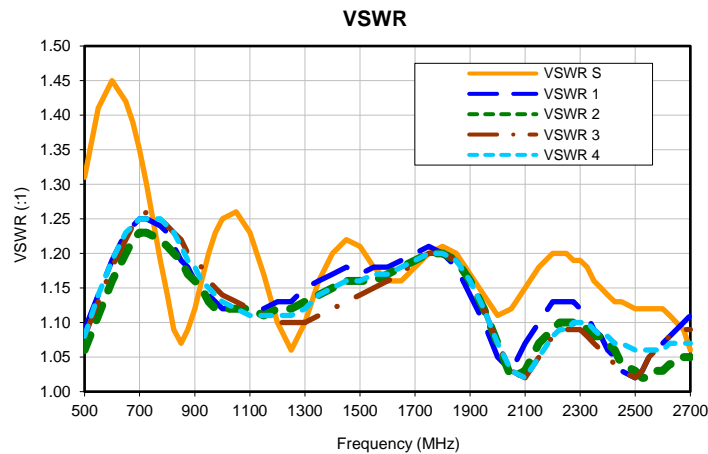
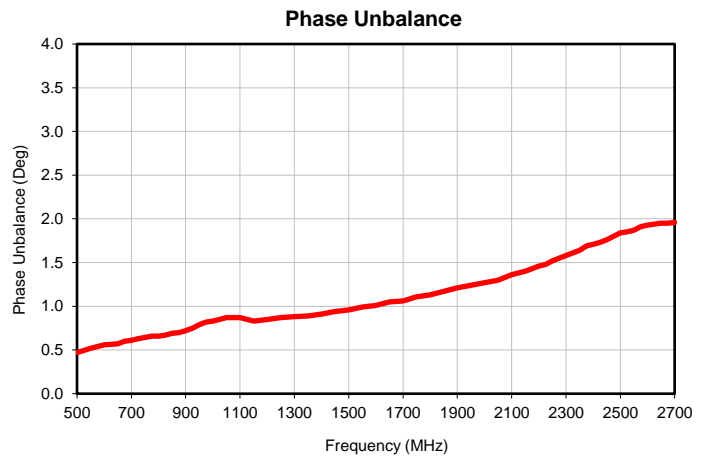
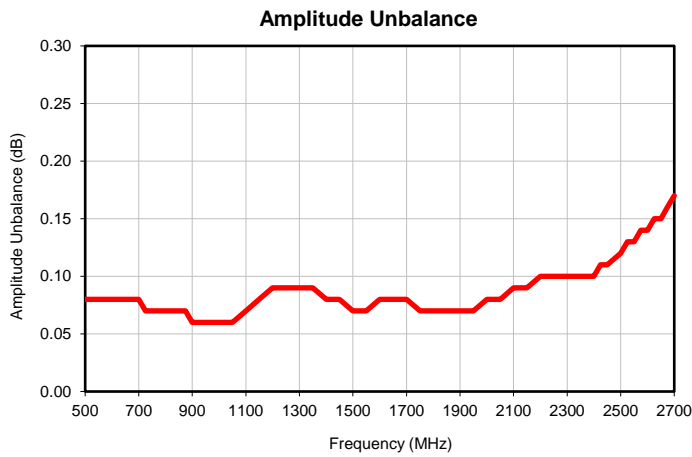
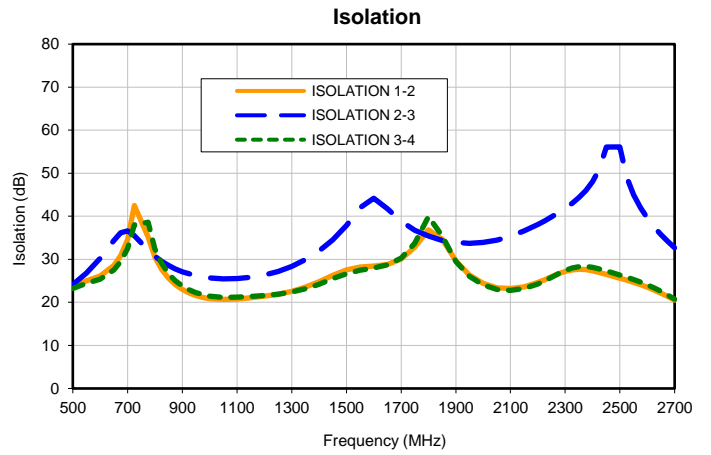
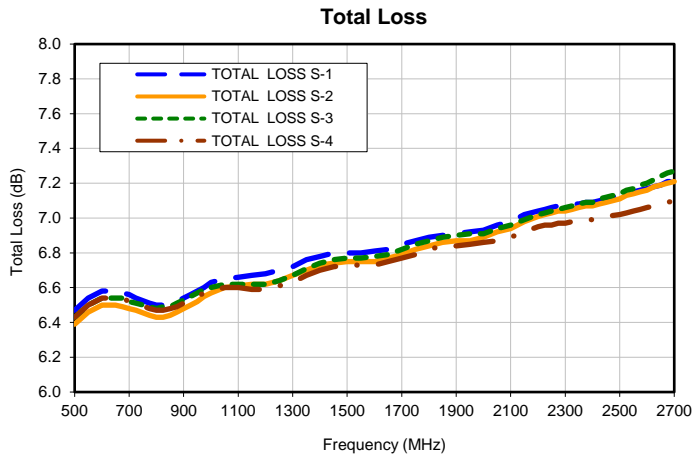
<sup>1</sup> Total Loss = Insertion Loss + 6dB Splitter Loss



# 4 Way-0° Power Splitter/Combiner

# ZN4PD-272-S+

## Typical Performance Curves



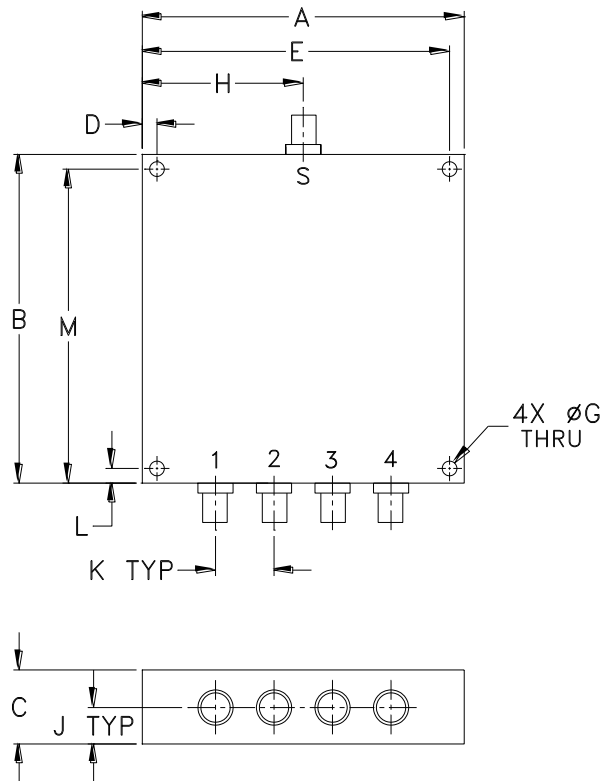
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 • Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site  
The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: [www.minicircuits.com](http://www.minicircuits.com)

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IF/RF MICROWAVE COMPONENTS

## Outline Dimensions

UU182



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	WT. GRAMS
UU182	2.75 (69.85)	2.80 (71.12)	.63 (16.00)	.125 (3.18)	2.625 (66.68)	--	.125 (3.18)	1.38 (35.05)	.31 (7.87)	.500 (12.70)	.125 (3.18)	2.675 (67.95)	140

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

### Notes:

- Case material: Aluminum alloy.
- Case finish:  
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
- 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



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: [www.minicircuits.com](http://www.minicircuits.com)

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