

25 dB DC Pass

High Power Directional Tap

ZARC-25-252-S+

50Ω 100W 550 to 2500 MHz

The Big Deal

- High Power Handling, 100 W
- Excellent Mainline Loss, 0.25 dB typ.
- Very good VSWR, 1.15:1 typ.



CASE STYLE: AW1564

Product Overview

The ZARC-25-252+ high power directional tap is ideal for signal monitoring up to 100W RF signals in UHF and wireless telecommunications applications. The heavy-duty microstrip module is housed in a rugged aluminum alloy case, with anodized aluminum heat sink and gold-plated SMA connectors. Overall dimensions are 3.00" x 2.81" x 2.03" high.

Feature	Advantages
0.25 dB typ. mainline loss	Extremely low internal power dissipation, reducing mainline loss and internal temperature for high reliability
VSWR 1.15:1 typ.	Very good 50Ω impedance matching minimizes interference with signal integrity
DC Pass up to 2A	Suitable for applications using remote antenna control or other remote motorized requirements
100 W input maximum	High power capacity, combined with excellent insertion loss, supports operation in transmitters and base stations for GSM, CDMA, UMTS, or LTE systems, UHF broadcasting, fixed microwave, and 2.4 GHz wireless LAN applications

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/MCLStore/terms.jsp



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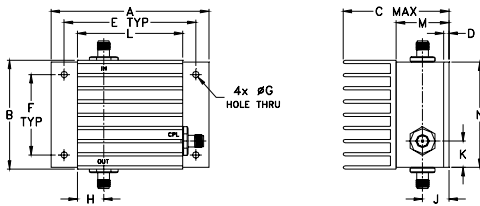
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input	100W max.
DC Current (IN-OUT)	2A
Permanent damage may occur if any of these limits are exceeded.	

Coaxial Connections

INPUT	1
OUTPUT	2
COUPLED	3

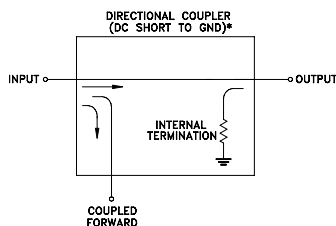
Outline Drawing



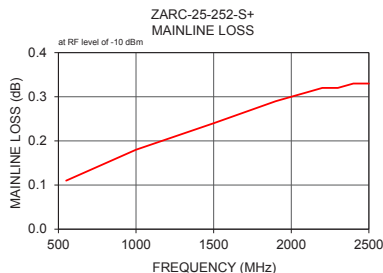
Outline Dimensions (inch mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	wt
3.00	2.06	2.03	.10	2.500	1.525	.125	.50	.50	.50	2.00	1.00	2.00	grams
76.20	52.32	51.56	2.54	63.50	38.74	3.18	12.70	12.70	12.70	50.80	25.40	50.80	230

Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) THAT ROUTES DC FROM RF PORTS TO GROUND.



Features

- excellent mainline loss, 0.25 dB typ.
- good VSWR, 1.15 typ.

Applications

- cellular
- PCS
- ISM



Generic photo used for illustration purposes only

CASE STYLE: AW1564

Connectors	Model
SMA	ZARC-25-252-S+

+RoHS Compliant

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

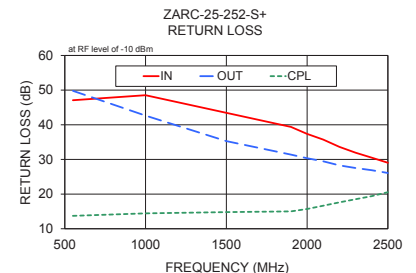
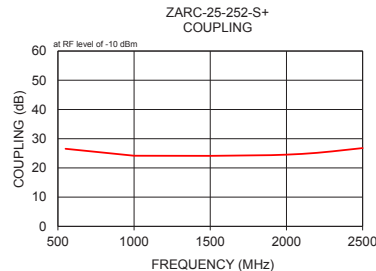
Electrical Specifications at 25°C

Parameter	Condition (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		550		2500	MHz
Mainline Loss (above theoretical 0.014 dB)	550	—	0.11	0.25	dB
	900	—	0.15	0.30	
	2200	—	0.30	0.45	
	2500	—	0.30	0.50	
	550 - 2500	—	25.0	—	
Coupling* (IN-CPL)	550	25.8	26.5	27.3	dB
	900	23.5	24.3	25.1	
	2200	23.7	25.0	26.3	
	2500	25.0	26.5	28.0	
	550 - 2500	—	25.0	—	
Coupling Flatness(±)	550 - 900	—	1.1	1.6	dB
	900 - 2200	—	0.4	1.0	
	2200 - 2500	—	0.7	1.2	
Return Loss (Input)	550	24	30	—	dB
	900	22	27	—	
	2200	18	25	—	
	2500	18	24	—	
Return Loss (Output)	550	24	30	—	dB
	900	22	27	—	
	2200	18	23	—	
	2500	18	22	—	
Return Loss (Coupling)	550	12	14	—	dB
	900	11	13	—	
	2200	15	18	—	
	2500	16	23	—	
Input Power	550 - 1500	—	—	100	W
	1500-2500	—	—	80	

* Coupling can be used for forward direction only.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB) Out-Cpl	Return Loss (dB) In	Return Loss (dB) Out	Cpl
550.00	0.11	26.54	14.85	47.09	49.80	13.72
1000.00	0.18	24.16	10.22	48.53	42.65	14.44
1500.00	0.24	24.13	7.13	43.44	35.29	14.80
1900.00	0.29	24.37	5.10	39.39	31.40	15.01
2000.00	0.30	24.54	4.57	37.37	30.35	15.70
2100.00	0.31	24.79	4.01	35.72	29.46	16.64
2200.00	0.32	25.16	3.43	33.62	28.29	17.61
2300.00	0.32	25.65	2.81	31.93	27.53	18.52
2400.00	0.33	26.23	2.19	30.52	26.90	19.41
2500.00	0.33	26.79	1.63	29.04	26.09	20.55



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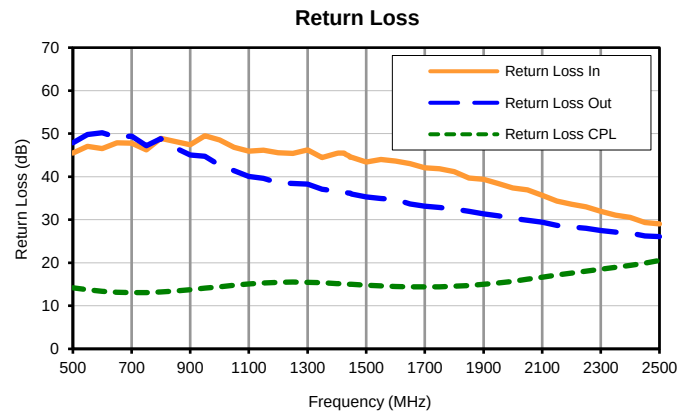
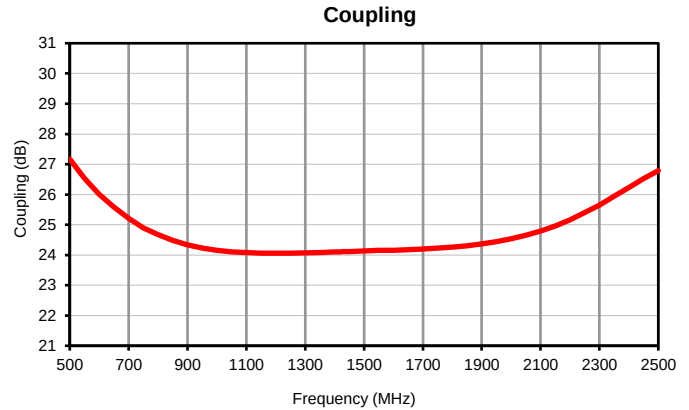
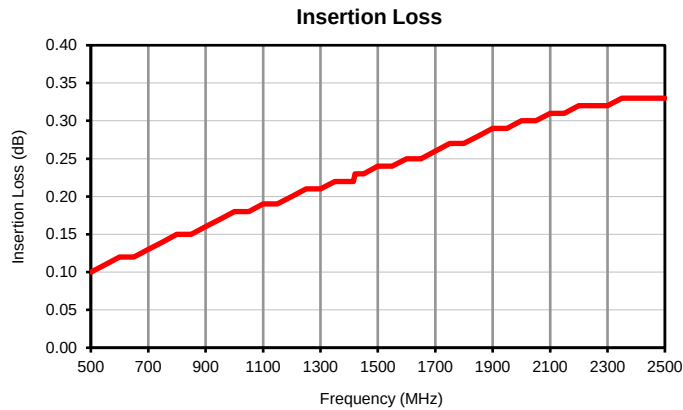
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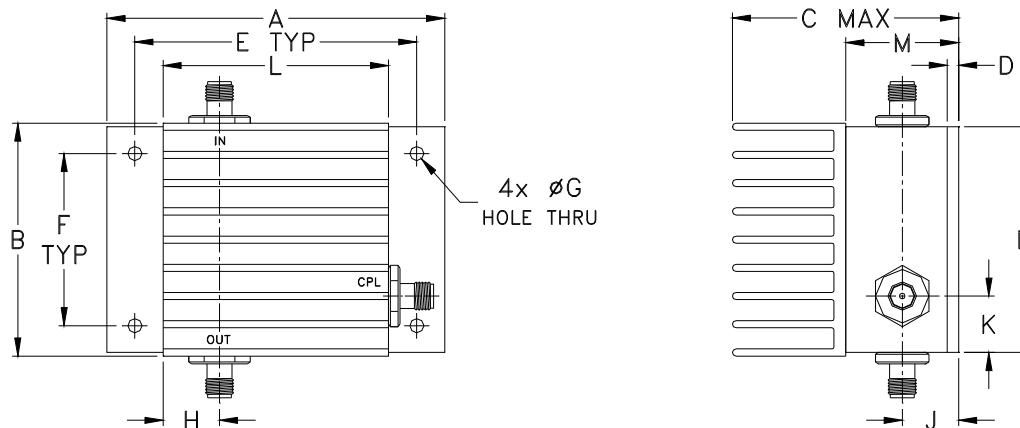
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	COUPLING (dB)	DIRECTIVITY (dB)	RETURN LOSS		
				IN	(dB) OUT	CPL
500	0.10	27.17	15.56	45.50	47.87	14.21
550	0.11	26.54	14.85	47.09	49.80	13.72
600	0.12	26.01	14.20	46.53	50.22	13.37
650	0.12	25.58	13.53	47.88	49.16	13.16
700	0.13	25.21	12.99	47.77	49.42	13.08
750	0.14	24.90	12.49	46.25	47.24	13.11
800	0.15	24.67	11.95	48.89	48.87	13.24
850	0.15	24.48	11.48	48.14	46.70	13.46
900	0.16	24.34	11.05	47.42	45.05	13.75
950	0.17	24.23	10.59	49.52	44.75	14.09
1000	0.18	24.16	10.22	48.53	42.65	14.44
1050	0.18	24.10	9.86	46.81	41.40	14.79
1100	0.19	24.08	9.50	45.95	40.05	15.08
1150	0.19	24.06	9.16	46.19	39.59	15.32
1200	0.20	24.06	8.83	45.59	38.60	15.47
1250	0.21	24.06	8.52	45.40	38.41	15.51
1300	0.21	24.07	8.22	46.22	38.32	15.47
1350	0.22	24.08	7.93	44.48	37.13	15.35
1400	0.22	24.10	7.65	45.45	36.65	15.18
1405	0.22	24.10	7.63	45.49	36.53	15.16
1410	0.22	24.10	7.60	45.48	36.56	15.14
1415	0.22	24.10	7.58	45.50	36.54	15.12
1420	0.23	24.10	7.55	45.49	36.46	15.10
1425	0.23	24.11	7.51	45.49	36.39	15.08
1430	0.23	24.11	7.49	45.17	36.27	15.06
1435	0.23	24.11	7.47	45.02	36.27	15.04
1440	0.23	24.11	7.44	44.91	36.21	15.02
1445	0.23	24.11	7.41	44.53	36.18	15.00
1450	0.23	24.11	7.38	44.53	36.01	14.99
1500	0.24	24.13	7.13	43.44	35.29	14.80
1550	0.24	24.15	6.86	43.98	34.97	14.63
1600	0.25	24.16	6.61	43.61	34.69	14.49
1650	0.25	24.18	6.36	43.05	33.69	14.41
1700	0.26	24.20	6.12	42.10	33.17	14.42
1750	0.27	24.23	5.87	41.86	32.86	14.45
1800	0.27	24.26	5.61	41.19	32.48	14.56
1850	0.28	24.30	5.37	39.69	31.95	14.75
1900	0.29	24.37	5.10	39.39	31.40	15.01
1950	0.29	24.44	4.84	38.41	30.91	15.33
2000	0.30	24.54	4.57	37.37	30.35	15.70
2050	0.30	24.65	4.30	36.97	29.90	16.17
2100	0.31	24.79	4.01	35.72	29.46	16.64
2150	0.31	24.96	3.73	34.31	28.70	17.14
2200	0.32	25.16	3.43	33.62	28.29	17.61
2250	0.32	25.40	3.10	33.00	28.05	18.09
2300	0.32	25.65	2.81	31.93	27.53	18.52
2350	0.33	25.94	2.49	31.11	27.14	18.95
2400	0.33	26.23	2.19	30.52	26.90	19.41
2450	0.33	26.52	1.90	29.38	26.21	19.90
2500	0.33	26.79	1.63	29.04	26.09	20.55

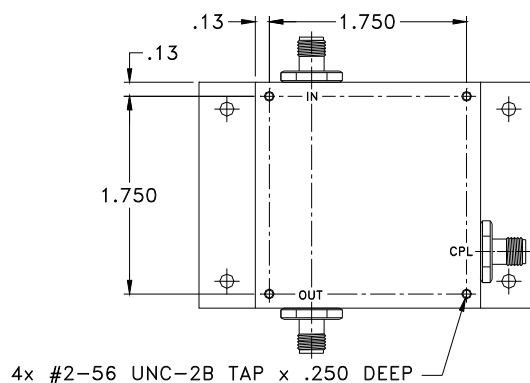
Typical Performance Curves



Outline Dimensions



MOUNTING INFORMATION FOR MODELS WITHOUT HEATSINK



CASE #	A	B	C	D	E	F	G	H	J	K	L
AW1564	3.00 (76.20)	2.06 (52.32)	2.03 (51.56)	.10 (2.54)	2.500 (63.50)	1.525 (38.74)	.125 (3.18)	.50 (12.70)	.50 (12.70)	.50 (12.70)	2.00 (50.80)

CASE #	M	N	WT, GRAMS	WT WITHOUT HEATSINK, GRAMS
AW1564	1.00 (25.40)	2.00 (50.80)	230	165

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

Notes:

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



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



Provides ACTUAL Data Instantly From MINI-CIRCUITS At: 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.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85°C	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