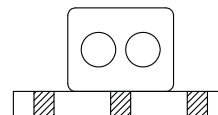


Surface Mount Directional Coupler

50Ω 10dB 30 to 750 MHz

RDC-10-82-3W-1+



Generic photo used for illustration purposes only

CASE STYLE: 99-01-1491-3

+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		30		750	MHz
Insertion Loss ¹	30 - 750	—	—	1.45	dB
	30 - 300	—	0.9	1.15	
	300 - 375	—	0.95	1.2	
	375 - 750	—	1.15	1.45	
Coupling		—	10±0.5	—	dB
Coupling Flatness (±)		—	—	0.5	dB
Directivity		15	22	—	dB
Return Loss (Input)		15	22	—	dB
Return Loss (Output)		19	32	—	dB
Return Loss (Coupling)		12	19	—	dB
Input Power		—	—	3	W

1. Insertion loss includes theoretical power loss at coupled port.

Maximum Ratings

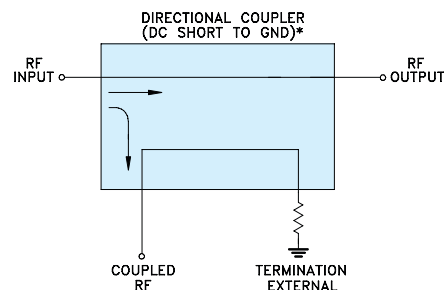
Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

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

Pin Connections

Function	Pin Number
INPUT	1
OUTPUT	6
COUPLED	3
50 OHM TERM	4
GROUND	2
NOT USED	5

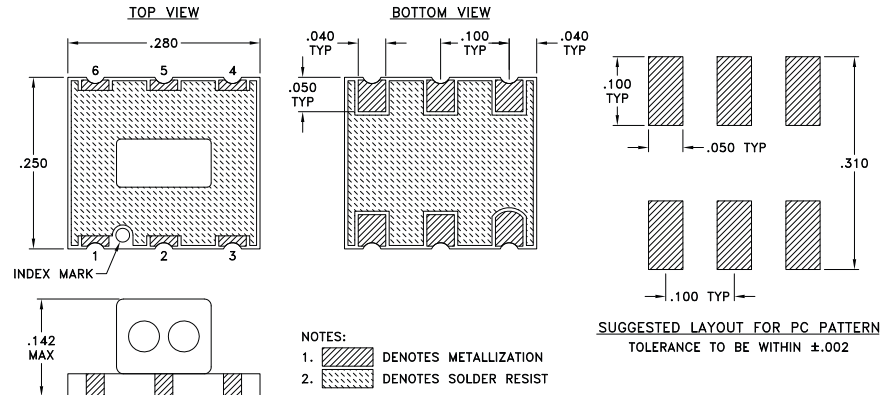
Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) AND EXTERNAL TERMINATION.

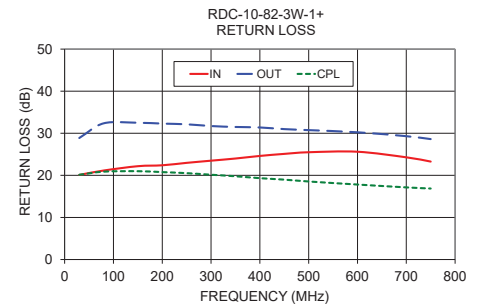
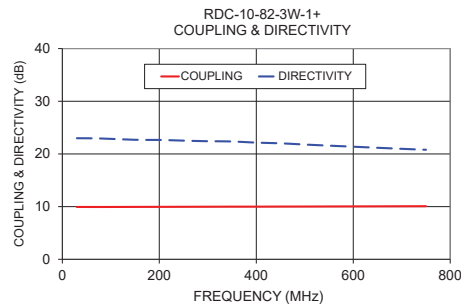
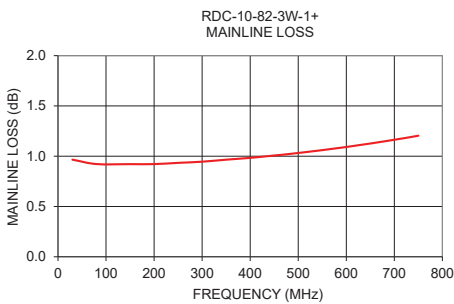


Outline Drawing



Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	In	Return Loss (dB) Out	Cpl
30	0.97	9.94	22.98	20.10	28.88	20.13
80	0.92	9.93	22.93	21.15	32.36	20.88
150	0.92	9.95	22.69	22.18	32.50	20.99
200	0.92	9.96	22.66	22.39	32.30	20.77
250	0.93	9.97	22.53	22.97	32.13	20.52
300	0.95	9.98	22.41	23.49	31.72	20.15
350	0.97	9.99	22.37	24.00	31.50	19.78
400	0.98	9.99	22.14	24.62	31.38	19.33
450	1.01	10.01	22.02	25.10	30.99	18.98
500	1.03	10.02	21.78	25.49	30.75	18.54
600	1.09	10.04	21.37	25.61	30.23	17.82
700	1.16	10.07	20.97	24.29	29.31	17.14
750	1.20	10.08	20.79	23.27	28.62	16.87



Additional 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-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



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	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, 95% Coverage
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	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215