

# 20 dB, Surface Mount Power Signal Tap

## RBDC-20-63+

50Ω DC to 6000 MHz



Generic photo used for illustration purposes only

CASE STYLE: TT1224-2

### Maximum 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.	

### Pad Connections

INPUT	3
OUTPUT	4
COUPLED	1
GROUND	2,5,6

### Features

- Wideband, DC-6000 MHz
- Low insertion loss, 1.1 dB typ.
- Excellent return loss for input/output ports ideal for signal-tap
- Temperature stable

### Applications

- ISM
- UMTS
- WiMAX
- PCS
- Wi-Fi
- LTE

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

Available Tape and Reel at no extra cost

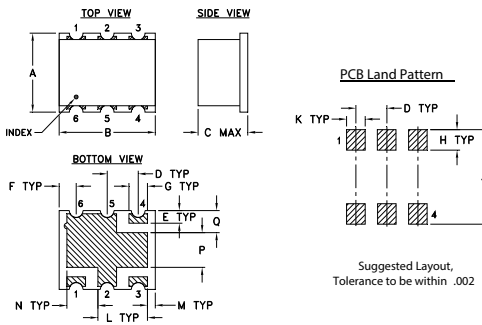
Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500, 1000, 4000

### Electrical Specifications at 25°C

Parameter	Condition (MHz)	Min.	Typ.	Max.	Unit
<b>Frequency Range</b>		DC			MHz
<b>Mainline Loss<sup>1</sup></b>	DC-2000	—	0.98	1.3	dB
	2000-6000	—	1.35	1.6	
<b>Nominal Coupling<sup>2</sup> (IN-CPL, OUT-CPL)</b>	DC-6000	—	20	—	dB
<b>Coupling Flatness(±)</b>	DC-2000	—	0.7	1.0	dB
	2000-6000	—	1.3	1.8	
<b>Return Loss (Input)</b>	DC-2000	16	20	—	dB
	2000-6000	15	18	—	
<b>Return Loss (Output)</b>	DC-2000	16	20	—	dB
	2000-6000	15	20	—	
<b>Return Loss (Coupling)</b>	DC-2000	15	19	—	dB
	2000-6000	12	17	—	
<b>Input Power</b>	DC-6000	—	—	0.25	W

1. Mainline loss includes theoretical power loss at coupled port.
2. Coupling can be used for both forward and reversed direction.

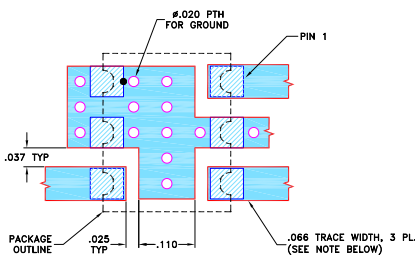
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
.25	.31	.16	.100	.040	.055	.060	.065
6.35	7.87	4.06	2.54	1.02	1.40	1.52	1.65
J	K	L	M	N	P	Q	wt.
.300	.060	.160	.025	.100	.110	.070	grams
7.62	1.52	4.06	0.64	2.54	2.79	1.78	0.16

### Demo Board MCL P/N: TB-907+ Suggested PCB Layout (PL-511)



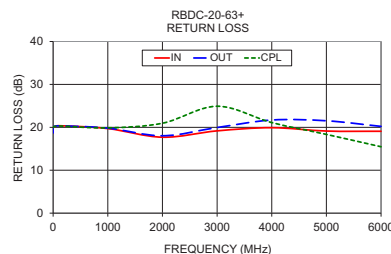
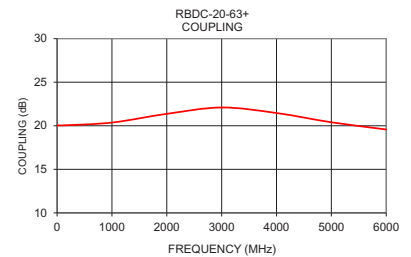
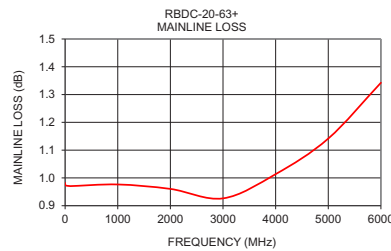
- NOTES:
1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030"±.002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
  2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).  
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

### 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](http://www.minicircuits.com/MCLStore/terms.jsp)

### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Return Loss (dB)		
			In	Out	Cpl
0.01	0.98	20.01	18.75	18.67	19.96
0.10	0.98	20.10	19.73	19.73	20.10
10.00	0.97	20.06	20.12	20.18	20.13
100.00	0.97	20.04	20.37	20.35	20.32
1000.00	0.98	20.37	19.71	19.82	19.88
2000.00	0.96	21.37	17.70	18.03	20.95
3000.00	0.93	22.10	19.18	19.95	24.92
4000.00	1.01	21.46	19.91	21.70	21.10
5000.00	1.14	20.40	19.13	21.52	18.35
6000.00	1.34	19.57	19.08	20.22	15.47



### Electrical Schematic

