

Surface Mount Power Splitter/Combiner

QBA-20W+
QBA-20W

2 Way-90° 50Ω 1500 to 2200 MHz



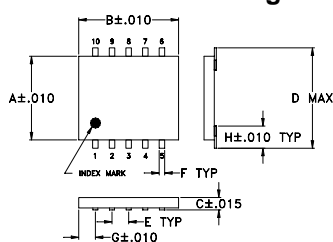
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C

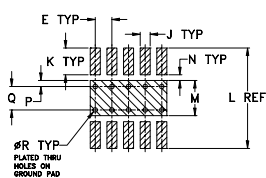
Pin Connections

SUM PORT	1
PORT 1 (+90°)	10
PORT 2 (0°)	6
GROUND	2,3,4,7,8,9
50 OHM TERM EXTERNAL	5

Outline Drawing



PCB Land Pattern

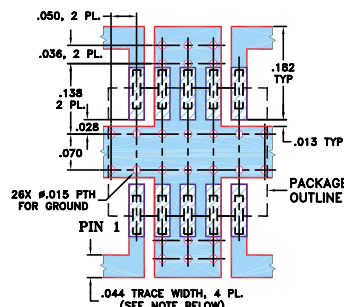


Suggested Layout,
Tolerance to be within ±0.02

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	
.250	.300	.050	.310	.050	.015	.050	.066	
6.35	7.62	1.27	7.87	1.27	0.38	1.27	1.68	
J	K	L	M	N	P	Q	R	wt
.030	.095	.330	.100	.020	.015	.070	.014	grams
0.76	2.41	8.38	2.54	0.51	0.38	1.78	0.36	0.2

Demo Board MCL P/N: TB-115+ Suggested PCB Layout (PL-004)



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020 ± .0015; 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

Features

- insertion loss, 0.45 dB typ.
- high power capability, 25W
- good isolation, 23 dB typ.
- ceramic body, good for heat dissipation
- solder plated leads for excellent solderability
- aqueous washable
- protected by U.S. Patent 5,534,830

Applications

- PCS
- GSM
- GPS
- VSAT

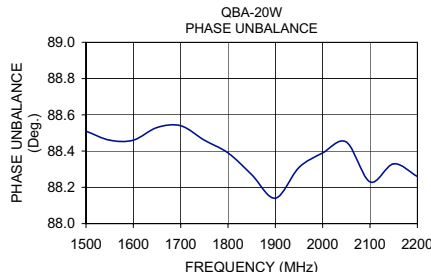
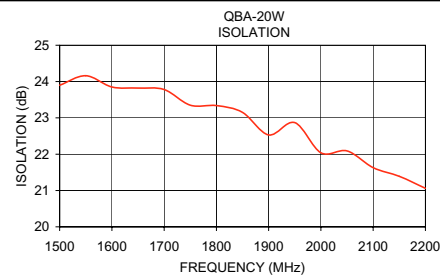
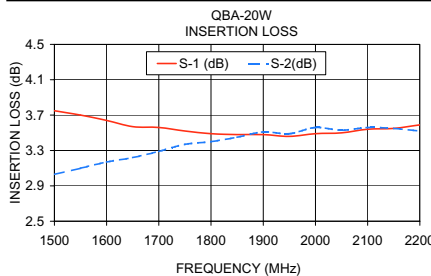
Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS ¹ (dB) Avg. of Coupled Outputs less 3 dB			PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	INPUT POWER (W)
	Typ.	Min.	f_L	f_U	σ			
f_L - f_U			\bar{X}	\bar{X}	σ	Max.	Max.	below 25°C
1500-2200	23	16	0.41	0.58	0.02	5.0	1.2	25 ²

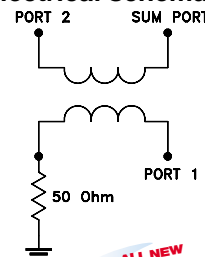
1. Includes test fixture losses.
2. Derate linearly to 5W at 100°C
Thermal compound may be applied to decrease body temperature. See application note AN-10-007

Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
1500.00	3.75	3.03	0.72	23.90	88.51	1.16	1.21	1.19
1550.00	3.70	3.10	0.60	24.16	88.46	1.16	1.20	1.21
1600.00	3.64	3.17	0.48	23.85	88.46	1.17	1.18	1.20
1650.00	3.57	3.22	0.34	23.82	88.53	1.17	1.18	1.22
1700.00	3.56	3.29	0.27	23.78	88.54	1.17	1.18	1.21
1750.00	3.52	3.37	0.16	23.35	88.46	1.17	1.19	1.21
1800.00	3.49	3.40	0.08	23.34	88.39	1.17	1.18	1.22
1850.00	3.48	3.45	0.03	23.15	88.27	1.18	1.16	1.21
1900.00	3.48	3.51	0.03	22.53	88.14	1.16	1.17	1.21
1950.00	3.46	3.49	0.03	22.87	88.31	1.17	1.18	1.22
2000.00	3.49	3.56	0.07	22.04	88.39	1.16	1.19	1.21
2050.00	3.50	3.53	0.03	22.09	88.45	1.17	1.18	1.24
2100.00	3.54	3.56	0.03	21.63	88.23	1.16	1.17	1.23
2150.00	3.55	3.55	0.00	21.39	88.33	1.16	1.18	1.24
2200.00	3.59	3.52	0.06	21.06	88.26	1.15	1.20	1.25



electrical schematic



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RF/IF MICROWAVE COMPONENTS

REV. B
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BCELL/WZ/CP
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