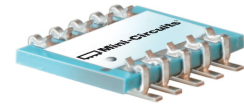


Power Splitter/Combiner

QBA-07

2 Way-90° 50Ω 340 to 680 MHz



CASE STYLE: SM1L

Maximum Ratings

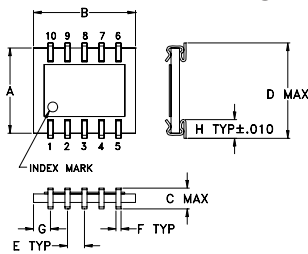
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C

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

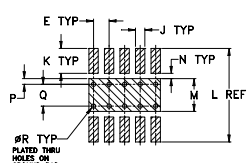
Pin Connections

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

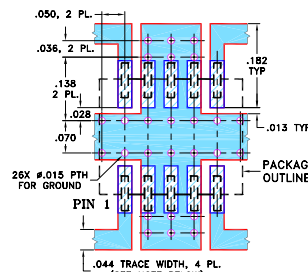


Suggested Layout,
Tolerance to be within ±0.02
ADJACENT GROUND PINS SHALL BE CONNECTED TO EACH OTHER AND TO GROUND PAD

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	
.250	.300	.070	.320	.050	.015	.050	.075	
6.35	7.62	1.78	8.13	1.27	0.38	1.27	1.91	
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	0.3

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

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-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/MCLStore/terms.jsp

Features

- low insertion loss, 0.5 dB typ.
- high power capability, 27W
- hermetically sealed
- low variation with temperature
- low profile, 0.07" height
- aqueous washable
- protected by U.S. Patent 5,534,830

Applications

- NMT
- land mobile radio
- broadcasting

Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)	INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB	PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	THERMAL RESISTANCE θjc, °C/W	POWER (W)
f _L -f _U	Typ. Min.	\bar{X} σ	Typ. Max.	Typ. Max.	Typ.	
340-680	22 16	0.8 0.1	3.0 7.0	0.7 2.0	20	21*
340-530	23 18	0.5 0.1	1.7 4.0	0.7 2.0	20	27**

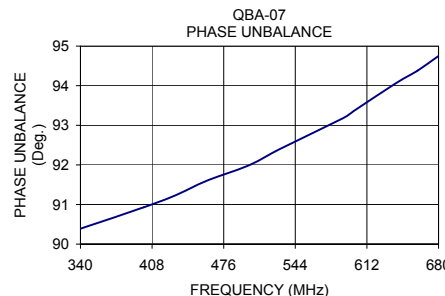
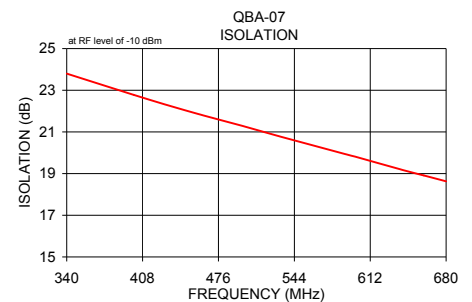
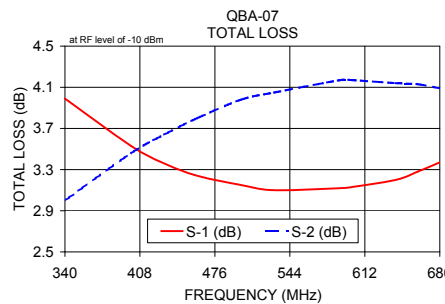
* Derate linearly to 9W at 100°C

** Derate linearly to 12W at 100°C

Typical Performance Data

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
340.00	3.99	3.00	0.99	23.80	90.39	1.14	1.08	1.12
400.00	3.53	3.46	0.07	22.78	90.93	1.17	1.10	1.14
430.00	3.36	3.64	0.27	22.29	91.23	1.19	1.11	1.14
460.00	3.24	3.80	0.56	21.83	91.60	1.20	1.12	1.15
500.00	3.15	3.98	0.83	21.25	91.99	1.22	1.14	1.17
530.00	3.10	4.05	0.96	20.80	92.41	1.24	1.15	1.18
590.00	3.12	4.17	1.05	19.93	93.19	1.27	1.18	1.20
600.00	3.13	4.17	1.04	19.79	93.37	1.27	1.19	1.21
640.00	3.20	4.14	0.94	19.19	94.07	1.29	1.21	1.22
660.00	3.28	4.13	0.85	18.91	94.38	1.30	1.22	1.23
680.00	3.37	4.09	0.73	18.63	94.75	1.31	1.23	1.24

1. Total Loss = Insertion Loss + 3dB splitter loss.



electrical schematic

