Surface Mount

Power Splitter/Combiner

QCC-22+

2 Way-90° 50Ω 1500 to 2500 MHz

CASE STYLE: GF981
PRICE: $4.95 ea. QTY (10-49)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	17.5W* max.

* Derate linearly to 3.5W at 100°C ambient.
Permanent damage may occur if any of these limits are exceeded.

Pin Connections

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

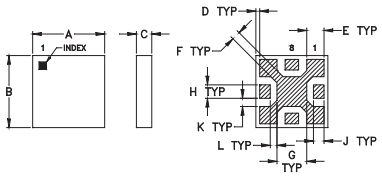
Features

- low insertion loss, 0.4 dB typ.
- high isolation, 28 dB typ.
- LTCC construction
- excellent temperature stability
- small size, 0.15" X 0.15"
- aqueous washable
- protected by U.S. Patent 7,030,713

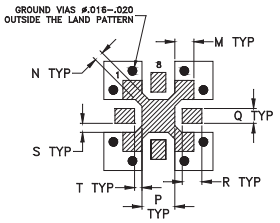
Applications

- PCS
- WLAN
- blue tooth
- space
- defense
- radar

Outline Drawing



PCB Land Pattern



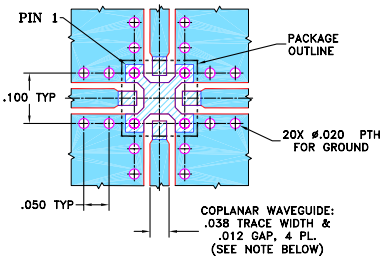
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J
.150	.150	.032	.008	.036	.018	.062	.028	.022
3.81	3.81	0.81	0.20	0.91	0.46	1.57	0.71	0.56

K	L	M	N	P	Q	R	S	T	wt
.017	.014	.036	.018	.062	.028	.037	.017	.014	grams
0.43	0.36	0.91	0.46	1.57	0.71	0.94	0.43	0.36	0.05

Demo Board MCL P/N: TB-302+
Suggested PCB Layout (PL-128)



NOTES: 1.COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP 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

Electrical Specifications

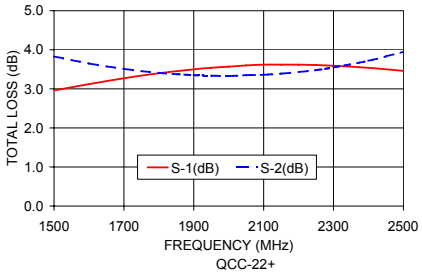
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB		PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)	
f_L-f_U	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.
1500-2500								
1500-1700	28	23	0.4	0.6	2	3	0.6	1.3
1700-2200	28	19	0.4	0.7	2	4	0.2	0.5
2200-2500	20	15	0.5	0.8	2	4	0.3	0.8

Typical Performance Data

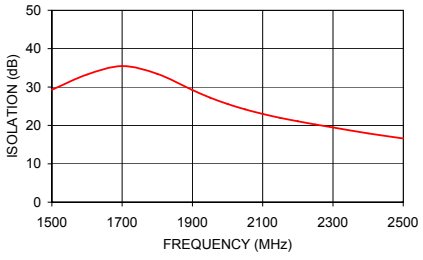
Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
1500.00	2.96	3.83	0.87	29.29	91.01	1.10	1.23	1.17
1600.00	3.12	3.65	0.53	33.27	91.14	1.07	1.23	1.16
1700.00	3.27	3.51	0.24	35.46	91.15	1.07	1.24	1.15
1800.00	3.40	3.41	0.01	33.44	91.09	1.08	1.26	1.15
1900.00	3.50	3.35	0.15	29.22	90.88	1.10	1.27	1.17
1950.00	3.54	3.34	0.20	27.24	90.76	1.12	1.28	1.18
2000.00	3.57	3.33	0.24	25.58	90.59	1.15	1.29	1.19
2050.00	3.60	3.35	0.25	24.18	90.42	1.17	1.31	1.20
2100.00	3.62	3.36	0.26	22.99	90.21	1.19	1.32	1.21
2150.00	3.62	3.39	0.23	21.96	90.02	1.21	1.33	1.22
2200.00	3.62	3.43	0.19	21.08	89.83	1.22	1.35	1.23
2250.00	3.61	3.48	0.13	20.24	89.65	1.24	1.36	1.25
2300.00	3.59	3.55	0.04	19.46	89.44	1.26	1.37	1.27
2400.00	3.54	3.72	0.18	17.93	89.07	1.33	1.39	1.31
2500.00	3.46	3.95	0.49	16.61	88.76	1.41	1.44	1.36

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

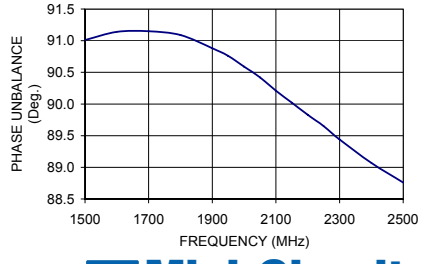
QCC-22+
TOTAL LOSS



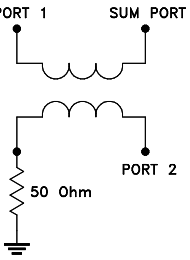
QCC-22+
ISOLATION



QCC-22+
PHASE UNBALANCE



electrical schematic



For detailed performance specs & shopping online see web site

REV. F
M127604
QCC-22+
EDB-030107
LR/RS/CP
100622