

# Surface Mount Power Splitter/Combiner

**NEW!**

**QCC-22**

2 Way-90° 50Ω

1500 to 2500 MHz



**BLUE CELL™**

CASE STYLE: GF981

PRICE: \$ 4.95 ea. QTY (10-49)

## Maximum Ratings

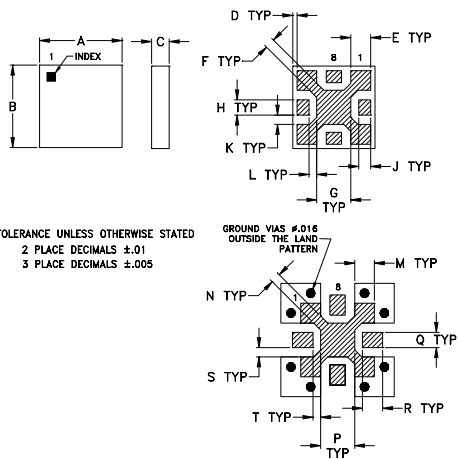
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input	17.5W* max.

\*derate linearly to 3.5W at 100°C ambient.

## Pin Connections

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

## Outline Drawing



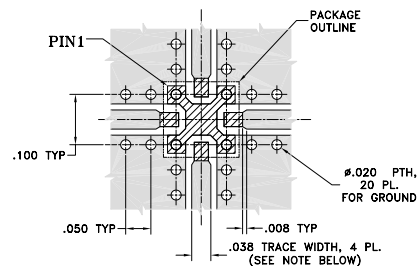
TOLERANCE UNLESS OTHERWISE STATED  
2 PLACE DECIMALS ±.01  
3 PLACE DECIMALS ±.005

SUGGESTED LAYOUT FOR PCB LAND PATTERN

## Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	wt.
.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	grams
.017	.014	.036	.018	.062	.028	.037	.017	.014	
0.43	0.36	0.91	0.46	1.57	0.71	0.94	0.43	0.36	.05

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



### NOTES:

- TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS .020" ± .0025". COPPER: 1/2 OZ, EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
- IF YOUR PCB DESIGN RULES ALLOW, GROUND VIAS SHOULD BE PLACED UNDER THE LAND PATTERN FOR BETTER RF PERFORMANCE.

- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

## Features

- low insertion loss, 0.4 dB typ.
- high isolation, 28 dB typ.
- LTCC construction
- excellent temperature stability
- small size, 0.15"X0.15"
- patent pending

## Applications

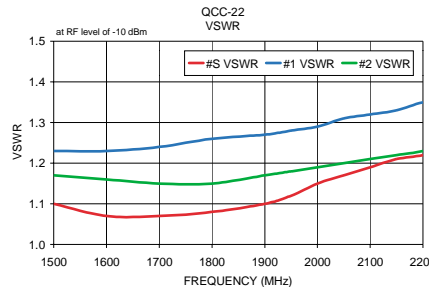
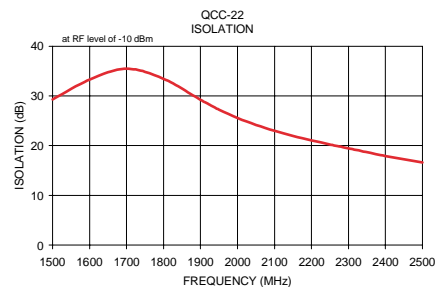
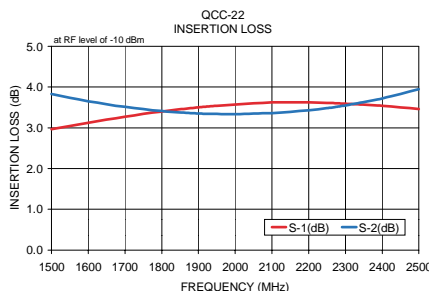
- PCS
- defense
- space
- radar
- blue tooth
- WLAN

## Splitter Electrical Specifications

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

## 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	2.96	3.83	0.87	29.29	91.01	1.10	1.23	1.17
1600.00	3.12	3.65	0.87	33.27	91.14	1.07	1.23	1.16
1700.00	3.27	3.51	0.87	35.46	91.15	1.07	1.24	1.15
1800.00	3.40	3.41	0.87	33.44	91.09	1.08	1.26	1.15
1900.00	3.50	3.35	0.87	29.22	90.88	1.10	1.27	1.17
1950.00	3.54	3.34	0.87	27.24	90.76	1.12	1.28	1.18
2000.00	3.57	3.33	0.87	25.58	90.59	1.15	1.29	1.19
2050.00	3.60	3.35	0.87	24.18	90.42	1.17	1.31	1.20
2100.00	3.62	3.36	0.87	22.99	90.21	1.19	1.32	1.21
2150.00	3.62	3.39	0.87	21.96	90.02	1.21	1.33	1.22
2200.00	3.62	3.43	0.87	21.08	89.83	1.22	1.35	1.23
2250.00	3.61	3.48	0.87	20.24	89.65	1.24	1.36	1.25
2300.00	3.59	3.55	0.87	19.46	89.44	1.26	1.37	1.27
2400.00	3.54	3.72	0.87	17.93	89.07	1.33	1.39	1.31
2500.00	3.46	3.95	0.87	16.61	88.76	1.41	1.44	1.36



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