



ULTRA-SMALL CERAMIC

# Power Splitter/Combiner

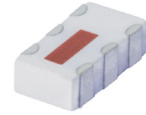
QCN-3+

Mini-Circuits

2 Way-90° 50Ω 220 to 470 MHz

## FEATURES

- Low insertion loss, 0.4 dB typ.
- High isolation, 25 dB typ.
- Wrap-around terminal for excellent solderability
- Ultra small, 0.12"X0.06"X0.035"



Generic photo used for illustration purposes only

CASE STYLE: FV1206-1

+RoHS Compliant

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

## APPLICATIONS

- Balanced amplifiers
- Modulators
- VHF
- Defense communication

## ELECTRICAL SPECIFICATIONS AT 25°C

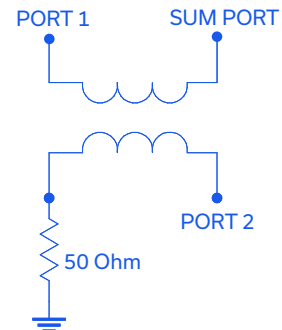
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		220		470	MHz
Insertion Loss, above 3.0 dB	220-470		0.6	0.8	dB
	270-350		0.4	0.7	
	350-450		0.6	0.8	
Isolation	220-470	18	24		dB
	270-350	18	25		
	350-450	20	30		
Phase Unbalance	220-470		1	8	Degree
	270-350		3	5	
	350-450		5	8	
Amplitude Unbalance	220-470		0.5	1.7	dB
	270-350		0.7	1.0	
	350-450		0.5	1.0	
VSWR	220-470		1.2		(:1)
	270-350		1.2		
	350-450		1.2		

## MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	15W* max.

\* Derate linearly to 7W at 100°C ambient. Permanent damage may occur if any of these limits are exceeded.

## ELECTRICAL SCHEMATIC



Mini-Circuits

www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. F  
ECO-010256  
QCN-3+  
AD/TD/CP/AM  
211021

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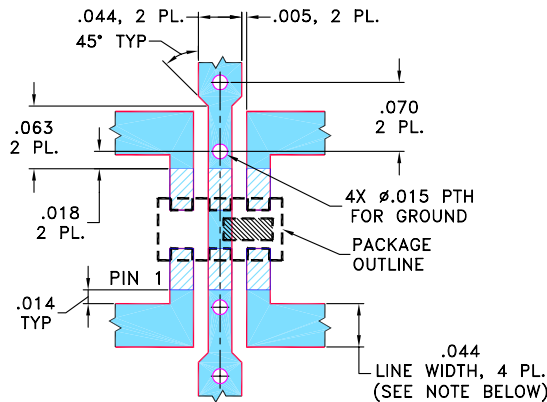


### PIN CONNECTIONS

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

PRODUCT MARKING: SB

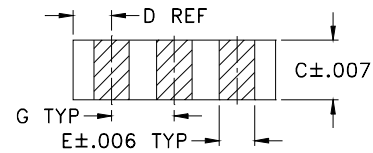
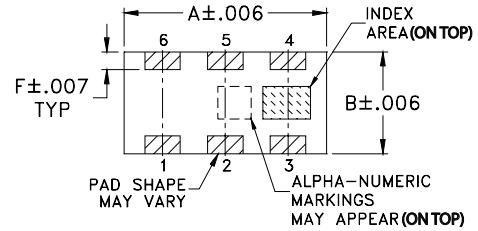
DEMO BOARD MCL P/N: TB-255  
SUGGESTED PCB LAYOUT (PL-131)



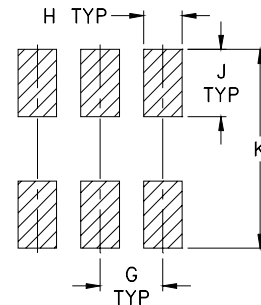
NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### OUTLINE DRAWING



### PCB Land Pattern



Suggested Layout,  
Tolerance to be within ±.002

### OUTLINE DIMENSIONS (Inches/mm)

A	B	C	D	E	F
.126	.063	.035	.024	.022	.011
3.20	1.60	0.89	0.61	0.56	0.28
G	H	J	K	wt	
.039	.024	.042	.123	grams	
0.99	0.61	1.07	3.12	.020	

### TAPE & REEL INFORMATION: F75