Surface Mount

Power Splitter/Combiner

LRPQ-320J

2 Way-90° 50Ω 270 to 320 MHz

CASE STYLE: QQQ569

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.

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

Pin Connections

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

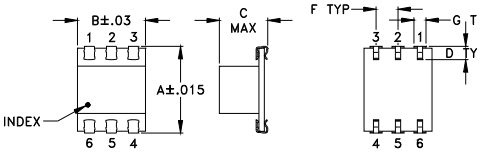
Features

- low insertion loss, 0.3 dB typ.
- good isolation, 21 dB typ.
- excellent phase unbalance 1 deg. typ.
- good return loss, VSWR 1.20:1 typ.
- aqueous washable

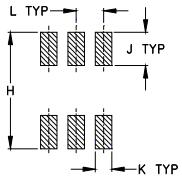
Applications

- UHF
- modulators
- balanced amplifiers
- image rejection mixers

Outline Drawing



PCB Land Pattern



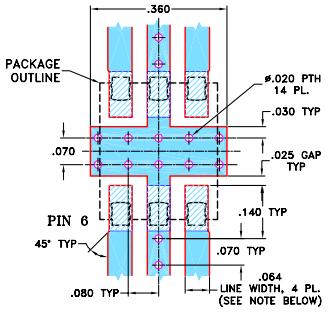
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
.390	.31	.225	.060	--	.100	.045
9.91	7.87	5.72	1.52	--	2.54	1.14

H	J	K	L	M	wt
.420	.120	.060	.100	--	grams
10.67	3.05	1.52	2.54	--	0.50

Demo Board MCL P/N: TB-226
Suggested PCB Layout (PL-140)



NOTE:
1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; 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

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.	Max.	Max.
270-320	21	18	0.3	0.6	3	1.2

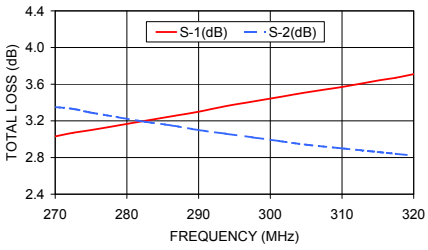
LRPQ units have bottom barrier ground plane insulated with glass barrier.

Typical Performance Data

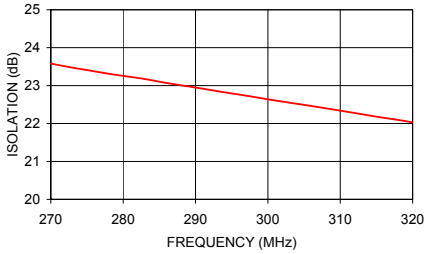
Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
270.00	3.03	3.35	0.32	23.58	89.59	1.15	1.11	1.15
272.50	3.07	3.33	0.26	23.49	89.56	1.15	1.12	1.15
275.00	3.10	3.29	0.19	23.41	89.63	1.15	1.12	1.15
278.75	3.15	3.24	0.09	23.29	89.63	1.16	1.12	1.16
282.50	3.20	3.19	0.01	23.19	89.67	1.16	1.12	1.16
286.25	3.25	3.15	0.10	23.06	89.64	1.16	1.12	1.16
290.00	3.30	3.10	0.20	22.95	89.66	1.17	1.13	1.17
293.75	3.36	3.06	0.30	22.83	89.68	1.17	1.13	1.17
297.50	3.41	3.02	0.39	22.72	89.69	1.17	1.13	1.17
301.25	3.46	2.98	0.47	22.60	89.70	1.18	1.13	1.18
305.00	3.51	2.94	0.57	22.49	89.71	1.18	1.14	1.18
310.00	3.57	2.90	0.67	22.34	89.71	1.19	1.14	1.18
315.00	3.64	2.86	0.79	22.18	89.77	1.19	1.14	1.19
317.50	3.67	2.84	0.84	22.11	89.78	1.19	1.14	1.19
320.00	3.71	2.82	0.89	22.03	89.77	1.20	1.15	1.19

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

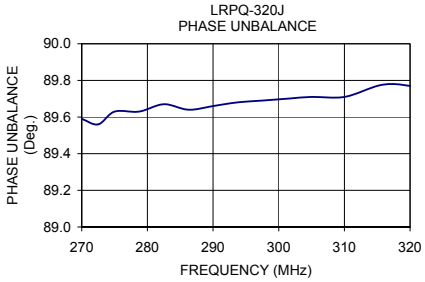
LRPQ-320J
TOTAL LOSS



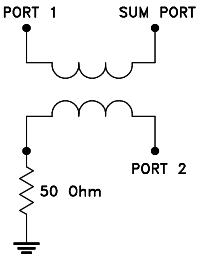
LRPQ-320J
ISOLATION



LRPQ-320J
PHASE UNBALANCE



electrical schematic



Notes

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