

# Surface Mount Power Splitter/Combiner

## LRPQ-700

2 Way-90° 50Ω 500 to 700 MHz

### Maximum Ratings

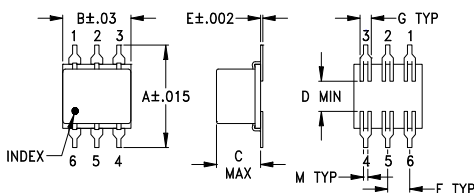
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.

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

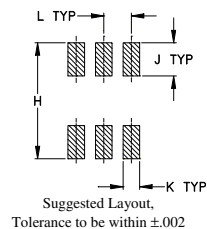
### Pin Connections

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

### Outline Drawing



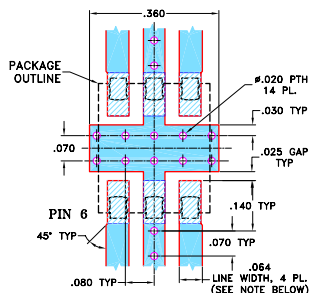
### PCB Land Pattern



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.400	.31	.200	.10	.010	.100	.050
10.16	7.87	5.08	2.54	0.25	2.54	1.27
H	J	K	L	M	wt	
.420	.120	.060	.100	.020	grams	
10.67	3.05	1.52	2.54	0.51	0.55	

### 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.  
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)  
4. 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.  
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### Features

- low insertion loss, 0.2 dB typ.
- excellent phase unbalance 1 deg. typ.

### Applications

- modulators
- UHF
- signal processing
- balanced amplifiers
- instrumentation

### Electrical Specifications

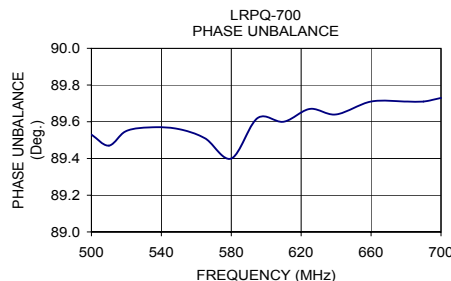
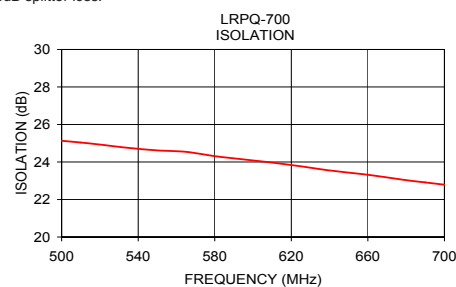
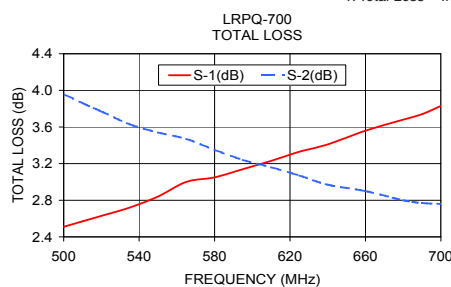
FREQ. RANGE (MHz)	ISOLATION (dB)	INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB	PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
$f_L$ - $f_U$	Typ. Min.	Typ. Max.	Max.	Max.
500-700	23 18	0.2 0.6	3	1.8

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

### Typical Performance Data

Frequency (MHz)	Total Loss <sup>1</sup> (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
500.00	2.51	3.96	1.45	25.13	89.53	1.13	1.09	1.13
510.00	2.57	3.86	1.28	25.04	89.47	1.13	1.10	1.13
520.00	2.63	3.77	1.14	24.93	89.55	1.14	1.10	1.13
535.00	2.72	3.63	0.92	24.75	89.57	1.14	1.10	1.14
550.00	2.84	3.54	0.70	24.62	89.56	1.15	1.11	1.15
565.00	3.00	3.47	0.47	24.54	89.51	1.16	1.12	1.15
580.00	3.05	3.35	0.30	24.31	89.40	1.16	1.12	1.16
595.00	3.14	3.24	0.11	24.14	89.62	1.17	1.13	1.17
610.00	3.23	3.16	0.07	23.97	89.60	1.18	1.13	1.17
625.00	3.33	3.07	0.26	23.77	89.67	1.19	1.14	1.18
640.00	3.41	2.97	0.44	23.55	89.64	1.20	1.14	1.19
660.00	3.56	2.90	0.66	23.32	89.71	1.21	1.15	1.20
680.00	3.68	2.80	0.88	23.03	89.71	1.22	1.16	1.21
690.00	3.74	2.77	0.97	22.91	89.71	1.22	1.16	1.21
700.00	3.83	2.76	1.07	22.79	89.73	1.23	1.17	1.22

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



### electrical schematic

