

# Surface Mount Power Splitter/Combiner

## HPQ-10+ HPQ-10

2 Way-90° 50Ω 900 to 970 MHz



### Maximum Ratings

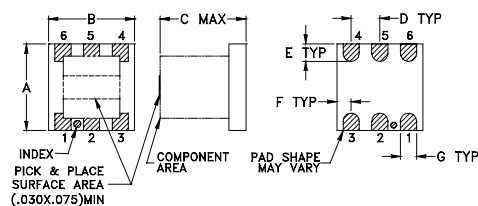
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.

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

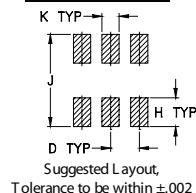
### Pin Connections

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

### Outline Drawing



### PCB Land Pattern



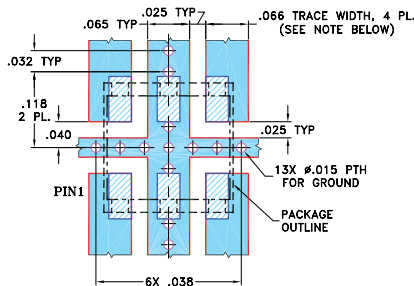
### Outline Dimensions (inch/mm)

A	B	C	D	E	F
.200	.200	.200	.075	.050	.025
5.08	5.08	5.08	1.91	1.27	0.64

G	H	J	K	wt
.026	.070	.220	.035	grams
0.66	1.78	5.59	0.89	0.15

### Demo Board MCL P/N: TB-43 Suggested PCB Layout (PL-114)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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

### Features

- low insertion loss, 0.25 dB typ.
- good isolation, 20 dB typ.
- excellent input VSWR, 1.17:1 typ.;
- output VSWR, 1.25:1 typ.
- aqueous washable

### Applications

- cellular
- GSM
- modulators
- matching amplifiers

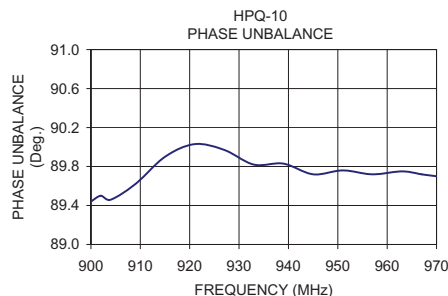
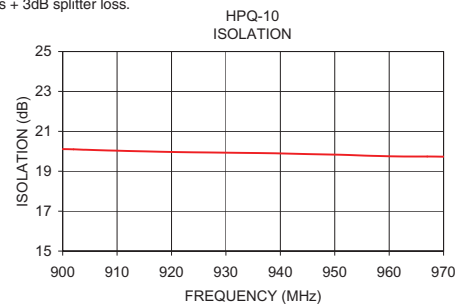
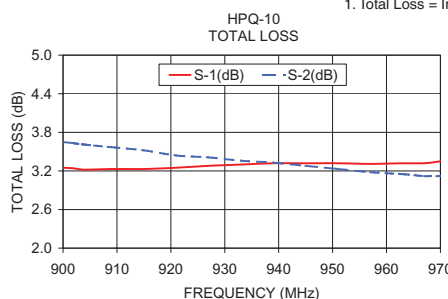
### Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB		PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)		VSWR (:1)	
	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	S-Port Typ.	Output Typ.
f <sub>L</sub> -f <sub>H</sub>	22	17	0.25	0.45	0.7	4.0	0.5	1.2	1.17	1.17

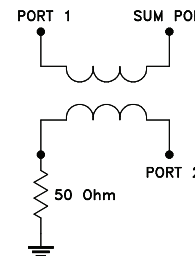
### Typical Performance Data

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						
900.00	3.25	3.65	0.40	20.11	89.44	1.25	1.18	1.25
902.00	3.24	3.63	0.39	20.10	89.50	1.25	1.18	1.25
904.00	3.22	3.61	0.38	20.08	89.46	1.25	1.18	1.25
909.00	3.23	3.57	0.34	20.04	89.62	1.25	1.18	1.25
915.00	3.23	3.52	0.28	20.00	89.90	1.26	1.19	1.25
921.00	3.25	3.44	0.20	19.96	90.03	1.26	1.19	1.26
927.00	3.28	3.41	0.13	19.94	89.97	1.26	1.19	1.26
933.00	3.30	3.36	0.06	19.92	89.82	1.26	1.19	1.26
939.00	3.32	3.33	0.01	19.90	89.83	1.27	1.19	1.26
945.00	3.32	3.28	0.05	19.86	89.72	1.27	1.20	1.26
951.00	3.32	3.23	0.10	19.83	89.76	1.27	1.20	1.27
957.00	3.31	3.18	0.13	19.77	89.72	1.27	1.20	1.27
963.00	3.32	3.15	0.17	19.74	89.75	1.28	1.20	1.27
967.00	3.32	3.12	0.20	19.74	89.72	1.28	1.20	1.28
970.00	3.35	3.12	0.23	19.73	89.70	1.28	1.21	1.28

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



### electrical schematic



For detailed performance specs & shopping online see web site

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