Surface Mount

Power Splitter/Combiner

2 Way-90° 50Ω 315 to 395 MHz

HPQ-04+
HPQ-04

CASE STYLE: AT577
PRICE: Contact Sales Dept.

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

Maximum Ratings

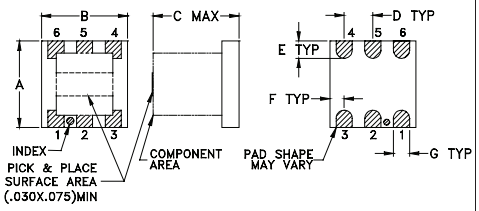
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.

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

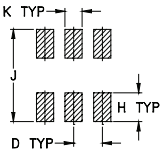
Pin Connections

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

Outline Drawing



PCB Land Pattern



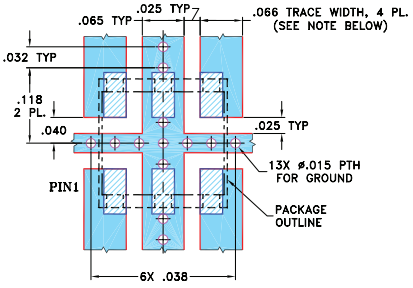
Suggested Layout,
Tolerance to be within ±.002

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 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

Features

- excellent amplitude and phase unbalance
- good insertion loss, 0.2 dB typ.
- good isolation, 24 dB typ.
- aqueous washable
- small size

Applications

- UHF
- image rejection mixers
- balanced amplifiers
- I&Q modulators

Electrical Specifications

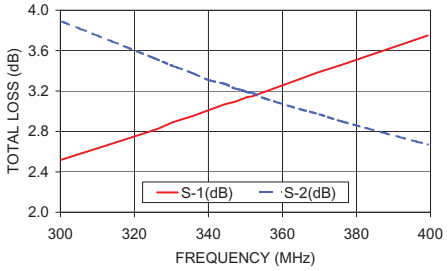
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB		PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)		VSWR (:1)	
f_L-f_U	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	S-Port Typ.	Output Typ.
315-395	**24**	**18**	**0.20**	**0.45**	**0.7**	**3.0**	**1.0**	**1.6**	**1.17**	**1.15**
332-367	27	19	0.17	0.40	0.5	3.0	0.5	1.0	1.17	1.15

Typical Performance Data

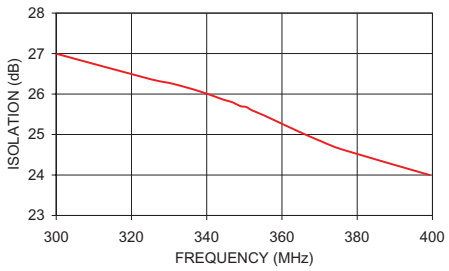
Frequency (MHz)	Total Loss[1] (dB) S-1	Total Loss[1] (dB) S-2	Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
300.25	2.52	3.89	1.38	26.99	90.25	1.13	1.11	1.13
325.00	2.81	3.53	0.71	26.37	90.37	1.13	1.11	1.14
330.25	2.89	3.45	0.55	26.27	90.34	1.13	1.11	1.14
335.50	2.95	3.38	0.43	26.14	90.30	1.13	1.11	1.14
340.00	3.01	3.31	0.30	26.01	90.39	1.13	1.11	1.14
344.50	3.07	3.27	0.21	25.86	90.29	1.14	1.11	1.14
346.75	3.09	3.23	0.14	25.80	90.40	1.14	1.11	1.14
349.00	3.12	3.21	0.09	25.70	90.32	1.14	1.11	1.14
350.50	3.14	3.19	0.05	25.68	90.50	1.14	1.12	1.14
352.00	3.15	3.18	0.03	25.60	90.37	1.14	1.12	1.14
355.00	3.19	3.13	0.06	25.48	90.42	1.14	1.12	1.14
364.75	3.32	3.02	0.30	25.06	90.33	1.14	1.12	1.15
370.00	3.39	2.97	0.42	24.85	90.42	1.14	1.12	1.15
376.00	3.46	2.90	0.55	24.63	90.48	1.14	1.12	1.15
399.25	3.75	2.67	1.08	24.00	90.59	1.15	1.13	1.15

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

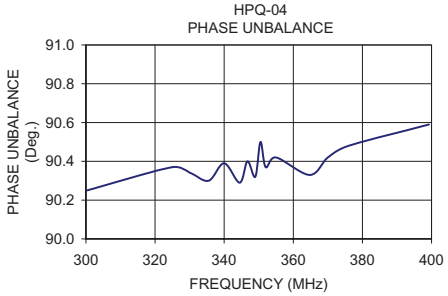
HPQ-04
TOTAL LOSS



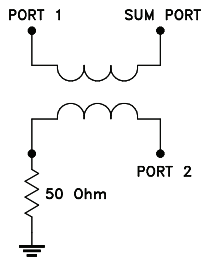
HPQ-04
ISOLATION



HPQ-04
PHASE UNBALANCE



electrical schematic



For detailed performance specs & shopping online see web site

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RVN/TD/CP/AM
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