Surface Mount

Power Splitter/Combiner

HPQ-12W

2 Way-90° 50Ω 940 to 1130 MHz

CASE STYLE: AT577
PRICE: $6.95 ea. QTY (10-49)

Maximum Ratings

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

Pin Connections

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

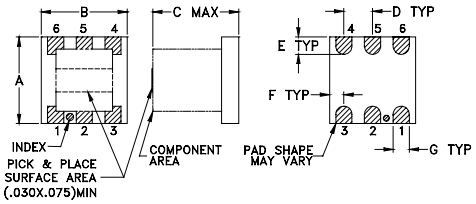
Features

- low insertion loss, 0.3 dB typ.
- excellent input & output VSWR, 1.2:1 typ.
- aqueous washable

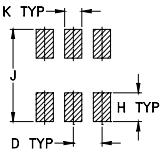
Applications

- cellular
- modulators
- balanced amplifiers

Outline Drawing



PCB Land Pattern



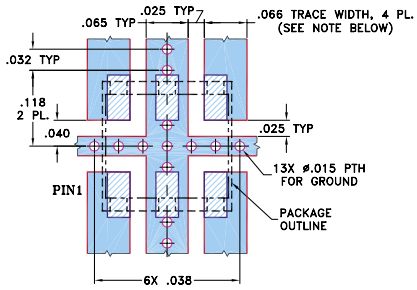
Suggested Layout,
Tolerance to be within ±.002

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

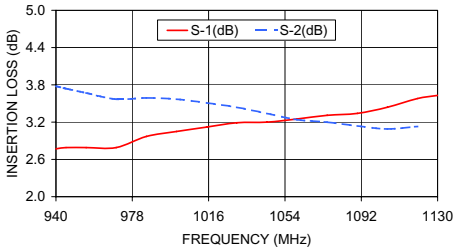
Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) Avg. of Coupled Outputs less 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.
940-1130	21	16	0.3	0.5	1.0	4.0	0.8	1.6	1.2	1.2

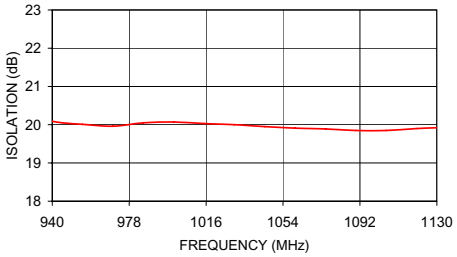
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB) S-1	Insertion Loss (dB) S-2	Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
940.00	2.77	3.78	1.01	20.09	89.80	1.20	1.21	1.22
945.00	2.79	3.74	0.95	20.05	89.85	1.20	1.21	1.22
955.00	2.79	3.67	0.89	20.01	89.73	1.20	1.21	1.23
970.00	2.79	3.57	0.78	19.96	90.04	1.21	1.22	1.23
985.00	2.97	3.59	0.61	20.05	89.97	1.21	1.22	1.24
1000.00	3.05	3.57	0.52	20.07	89.89	1.22	1.23	1.24
1015.00	3.12	3.51	0.39	20.03	90.06	1.22	1.23	1.25
1030.00	3.19	3.44	0.25	20.00	90.07	1.23	1.24	1.26
1045.00	3.20	3.34	0.14	19.95	90.23	1.23	1.24	1.26
1060.00	3.25	3.24	0.01	19.91	89.97	1.24	1.25	1.27
1075.00	3.31	3.20	0.10	19.89	90.06	1.24	1.25	1.27
1090.00	3.34	3.14	0.20	19.85	90.19	1.25	1.26	1.28
1105.00	3.44	3.09	0.35	19.85	90.14	1.25	1.26	1.28
1120.00	3.58	3.13	0.45	19.90	90.10	1.26	1.26	1.29
1130.00	3.63	3.13	0.50	19.92	90.10	1.26	1.27	1.29

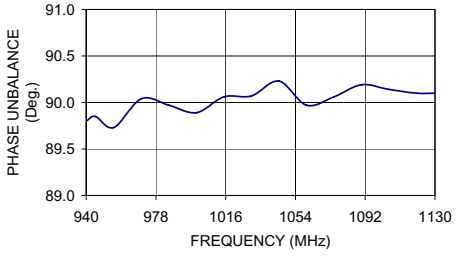
HPQ-12W
INSERTION LOSS



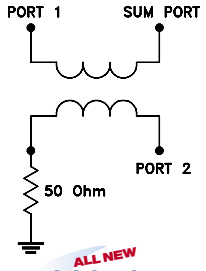
HPQ-12W
ISOLATION



HPQ-12W
PHASE UNBALANCE



electrical schematic



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