

Surface Mount

# Power Splitter/Combiner

## GP2X1+

2 Way-0° 50Ω 2800 to 7200 MHz



CASE STYLE: DQ1225

### Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-65°C to 150°C
Power Input (as a splitter)	1.5W max.
Internal Dissipation	0.75W max.
Permanent damage may occur if any of these limits are exceeded.	

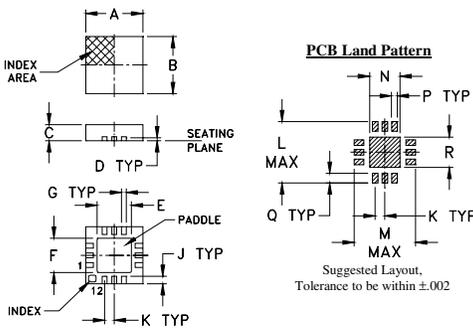
### Pad Connections

SUM PORT	2
PORT 1	7
PORT 2	9
GROUND	1,3,4,5,6,8,10,11,12, paddle

### Product Marking



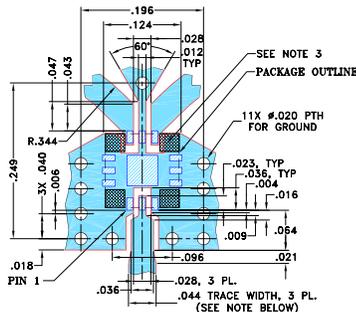
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J
.118	.118	.035	.008	.057	.057	.009	---	.016
3.00	3.00	0.89	0.20	1.45	1.45	0.23	---	0.41
K	L	M	N	P	Q	R	wt	
.020	.127	.127	.049	.010	.020	.049	grams	
0.51	3.23	3.23	1.24	0.25	0.51	1.24	0.02	

### Demo Board MCL P/N: TB-453-GP2X1+ Suggested PCB Layout (PL-282)



- NOTES:**
- TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
  - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
  - SIGNAL TRACES ARE NOT ALLOWED INSIDE HATCHED AREAS (APPROX. .030 X .030) AT 4 PLACES AS SHOWN.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
  - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### Features

- very wide bandwidth, 2800 to 7200 MHz
- excellent amplitude unbalance, 0.1 dB typ.
- good phase unbalance, 3 deg. typ.
- small size, 0.118"x0.118"x0.035"
- high ESD level
- aqueous washable

### Applications

- WIMAX • WLAN
- radar • satellite communication
- ISM • instrumentation

### Electrical Specifications

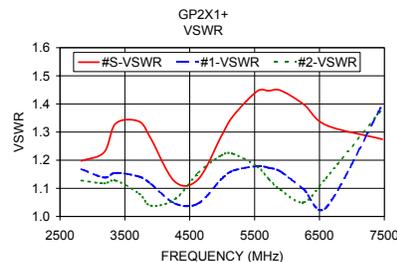
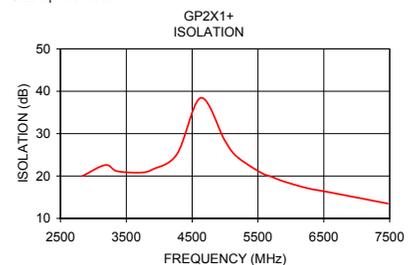
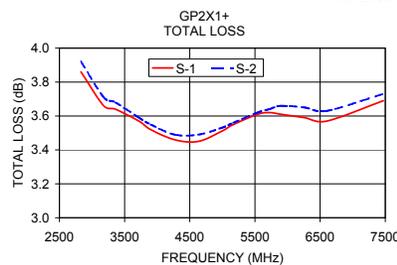
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS* (dB) ABOVE 3.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1) Typ.	
	Typ.	Min.	Typ.	Max.	Max.	Max.	Port S	Ports 1,2
2800-7200	22	10	0.8	1.9	10.0	0.4	1.3	1.2

\* De-embedded from demo board loss.

### 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						
2830.00	3.86	3.92	0.06	19.96	2.37	1.20	1.17	1.13
3180.00	3.66	3.71	0.05	22.58	2.72	1.23	1.14	1.12
3360.00	3.64	3.68	0.04	21.14	2.92	1.33	1.16	1.13
3720.00	3.57	3.59	0.03	20.82	3.20	1.34	1.14	1.08
3900.00	3.52	3.55	0.02	21.57	3.30	1.28	1.12	1.04
4270.00	3.46	3.49	0.04	25.19	3.58	1.12	1.05	1.06
4630.00	3.45	3.49	0.04	38.44	3.97	1.13	1.05	1.15
4990.00	3.51	3.53	0.02	28.55	4.38	1.29	1.13	1.22
5170.00	3.55	3.56	0.01	24.69	4.58	1.36	1.16	1.22
5540.00	3.61	3.62	0.01	20.83	4.94	1.45	1.18	1.18
5720.00	3.62	3.64	0.03	19.75	5.14	1.45	1.17	1.13
5900.00	3.61	3.66	0.05	18.68	5.49	1.45	1.16	1.09
6260.00	3.59	3.65	0.05	17.10	6.01	1.40	1.10	1.05
6600.00	3.57	3.63	0.06	16.13	6.37	1.33	1.03	1.14
7470.00	3.69	3.73	0.04	13.51	7.31	1.27	1.40	1.38

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



### electrical schematic



### ESD Rating

Human Body Model (HBM): Class 1A (250 to < 500V) in accordance with ANSI/ESD STM 5.1 - 2001  
Machine Model (MM): Class M2 (100V to < 250V) in accordance with ANSI/ESD STM 5.2 - 1999

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