



# THE DATASHEET OF GP2X1+





MMIC SURFACE MOUNT

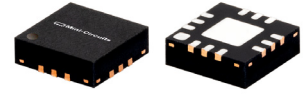
# Power Splitter/Combiner

## GP2X1+

2 Way-0° 50Ω 2800 to 7200 MHz

### 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



Generic photo used for illustration purposes only

CASE STYLE: DQ1225

**+RoHS Compliant**

The +Suffix identifies RoHS Compliance. See our website for methodologies and qualifications

### APPLICATIONS

- WIMAX
- WLAN
- Radar
- Satellite communication
- ISM
- Instrumentation

### ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		2800		7200	MHz
Insertion Loss* (above 3.0 dB)	2800-7200	—	0.8	1.9	dB
Isolation	2800-7200	10	22	—	dB
Amplitude Unbalance	2800-7200	—	—	0.4	dB
Phase Unbalance	2800-7200	—	—	10	deg.
VSWR (Port S)	2800-7200	—	1.3	—	:1
VSWR (Ports 1,2)	2800-7200	—	1.2	—	

\* De-embedded from demo board loss.

### MAXIMUM RATINGS

Parameter	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.

### ELECTRICAL SCHEMATIC



REV. D  
ECO-015315  
GP2X1  
MCL NY  
220906

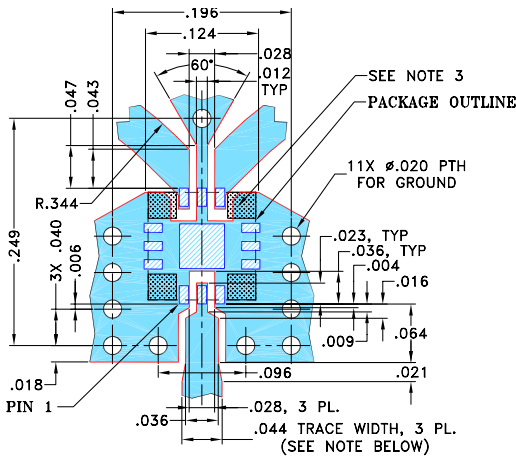




### PAD CONNECTIONS

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

### DEMO BOARD MCL P/N: TB-453-GPX1+ SUGGESTED PCB LAYOUT (PL-282)

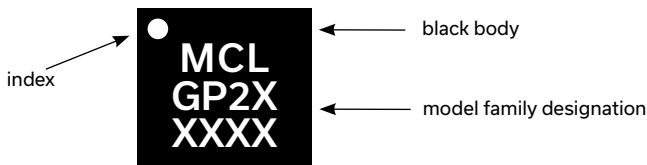


**NOTES:**

1. 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.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. SIGNAL TRACES ARE NOT ALLOWED INSIDE HATCHED AREAS (APPROX. .030 X .030) AT 4 PLACES AS SHOWN.

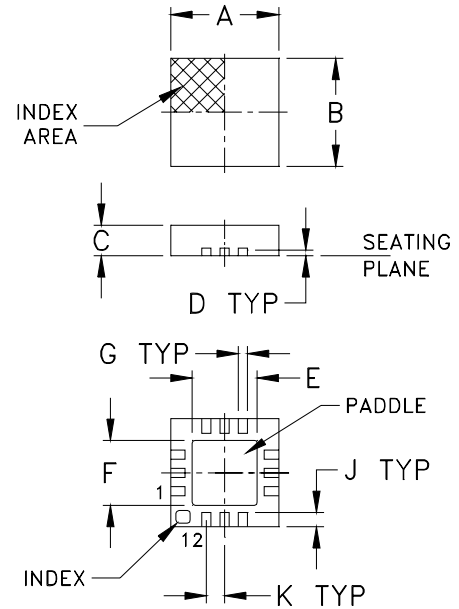
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### PRODUCT MARKING

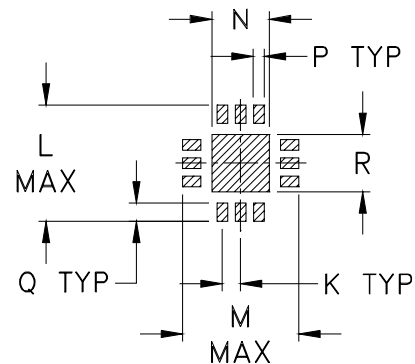


Marking may contain other features or characters for internal lot control

### OUTLINE DRAWING



### PCB Land Pattern



Suggested Layout,  
Tolerance to be within ±.002

### 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

### TAPE & REEL INFORMATION: F66

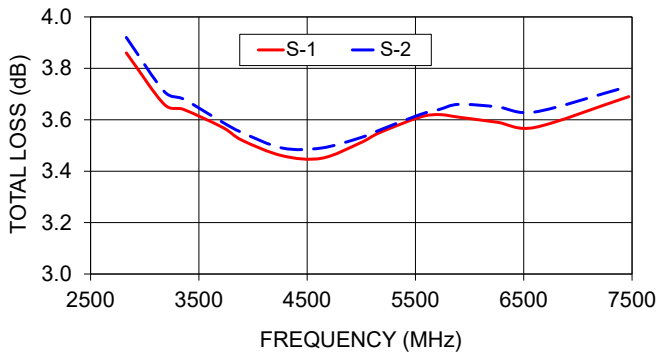


### TYPICAL PERFORMANCE DATA AND CHARTS

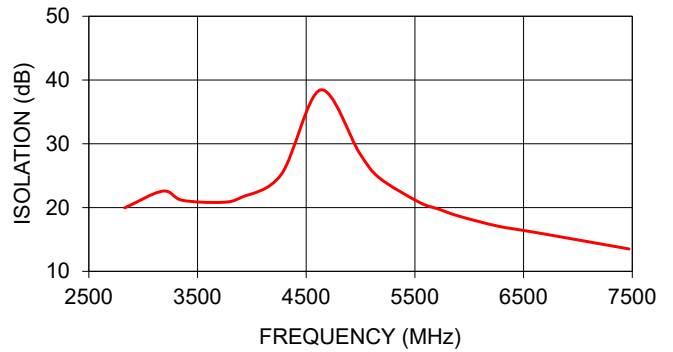
Frequency (MHz)	Total Loss <sup>1</sup> (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
2830.00	3.86	3.92	0.06	19.96	2.37	1.20	1.17	1.13
3180.00	3.66	3.71	0.05	22.58	2.72	1.23	1.14	1.12
3360.00	3.64	3.68	0.04	21.14	2.92	1.33	1.16	1.13
3720.00	3.57	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.

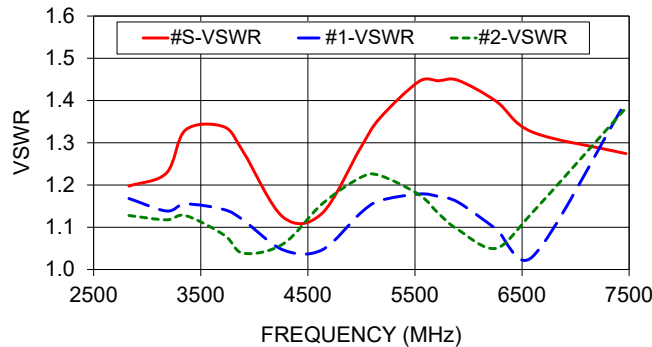
GP2X1+  
TOTAL LOSS



GP2X1+  
ISOLATION



GP2X1+  
VSWR




#### 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.
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