

Power Splitter/Combiner

GP2S1+

2 Way-0° 50Ω 500 to 2500 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.

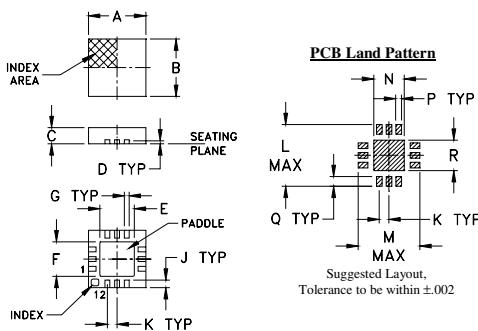
Pad Connections

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

Product Marking



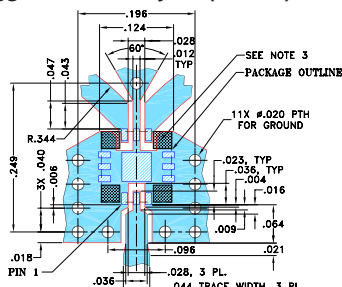
Outline Drawing



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-GP2S1+ 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

Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

Features

- very wide bandwidth, 500 to 2500 MHz
- excellent isolation, 20 dB typ.
- excellent amplitude unbalance, 0.02 dB typ.
- excellent phase unbalance, 0.9 deg. typ.
- small size, 0.118"x0.118"x0.035"
- high ESD level
- aqueous washable

Applications

- cellular • GPS • radar
- WCDMA • GSM • Korea PCS

Electrical Specifications

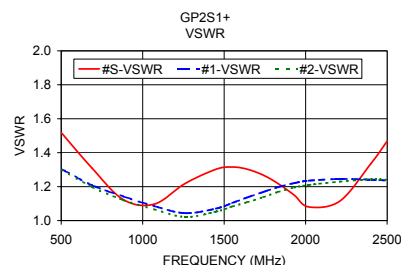
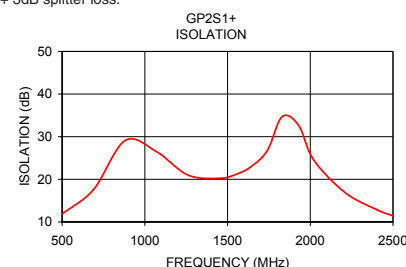
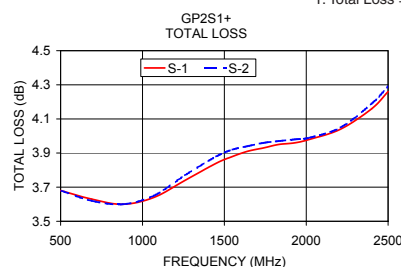
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS* (dB) ABOVE 3.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1) Typ.	
	Typ.	Min.	Typ.	Max.			Port S	Ports 1,2
f _L -f _U					Max.	Max.		
500-2500	20	9	0.9	1.8	5.0	0.2	1.3	1.2

* De-embedded from demo board loss.

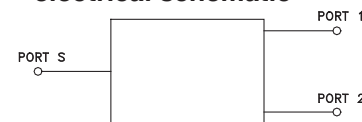
Typical Performance Data

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
500.00	3.68	3.68	0.01	11.86	0.42	1.52	1.30	1.30
690.00	3.63	3.62	0.01	17.62	0.47	1.31	1.21	1.20
880.00	3.60	3.60	0.00	29.08	0.52	1.12	1.14	1.12
1070.00	3.64	3.65	0.01	26.49	0.66	1.10	1.09	1.07
1260.00	3.74	3.77	0.04	21.01	0.78	1.22	1.04	1.02
1450.00	3.84	3.88	0.04	20.24	0.87	1.30	1.07	1.05
1550.00	3.88	3.92	0.04	21.14	0.91	1.32	1.10	1.08
1640.00	3.91	3.94	0.03	22.91	0.97	1.30	1.14	1.11
1740.00	3.93	3.96	0.03	26.76	1.05	1.27	1.17	1.14
1830.00	3.95	3.97	0.02	34.69	1.16	1.22	1.20	1.17
1930.00	3.96	3.98	0.02	32.63	1.28	1.15	1.22	1.19
2020.00	3.98	3.99	0.01	24.55	1.41	1.08	1.24	1.21
2210.00	4.04	4.05	0.02	16.91	1.65	1.11	1.25	1.23
2400.00	4.16	4.19	0.03	12.90	1.80	1.34	1.24	1.24
2500.00	4.26	4.29	0.03	11.43	1.89	1.47	1.24	1.24

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