



Mini-Circuits

MMIC SURFACE MOUNT

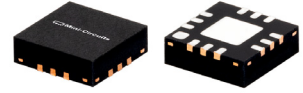
Power Splitter/Combiner

WP4G+

4 Way-0° 50Ω 1420 to 1660 MHz

FEATURES

- Excellent Isolation, Typ. 28 dB
- Good Phase Unbalance, Max. 4 deg.
- Good Amplitude Unbalance, Max. 0.25 dB
- Small Size, 3x3 mm
- High ESD Level
- Aqueous Washable



Generic photo used for illustration purposes only

CASE STYLE: DQ1225

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

APPLICATIONS

- GPS
- Satellite Communication
- Base Station Transceivers

ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		1420		1660	MHz
Insertion Loss* (Above 6.0 dB)	1420-1660		0.7	1.4	dB
Isolation	1420-1660	19	28		dB
Amplitude Unbalance	1420-1660			0.5	dB
Phase Unbalance	1420-1660			4	deg.
VSWR (Port S)	1420-1660		1.25		:1
VSWR (Ports 1,2,3,4)	1420-1660		1.4		:1

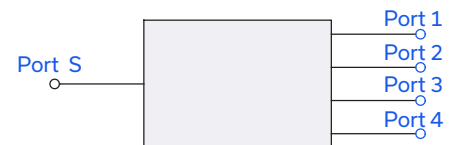
* Includes fixture loss, 0.12 dB typ.

ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C
Power Input (as a Splitter)	1.5 W max.
Internal Dissipation	0.375 W max.

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

ELECTRICAL SCHEMATIC

REV. E
ECO-026468
WP4G+
MCL NY
250806

Mini-Circuits

www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

PAGE 1 OF 3



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OUTLINE DRAWING

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

Figure 1: Dimensions of the package outline. The drawing shows a top-down view of a square package with a central square pad and four trapezoidal leads. Dimensions are provided in inches. The package outline is 0.236 inches wide and 0.224 inches high. The central pad is 0.148 inches wide and 0.085 inches high. The leads are 0.105 inches wide at the base and 0.015 inches wide at the tip. The distance between the center of the central pad and the center of a lead is 0.007 inches. The package has 11x 0.020 inch plated through holes for ground. The coplanar waveguide has a trace width of 0.035 inches, a gap of 0.008 inches, and 5 plating. The package is made of 64 mil thick material with 4 plating layers. The pin 1 location is indicated by a dot. The package is labeled 'SEE NOTE 3'.

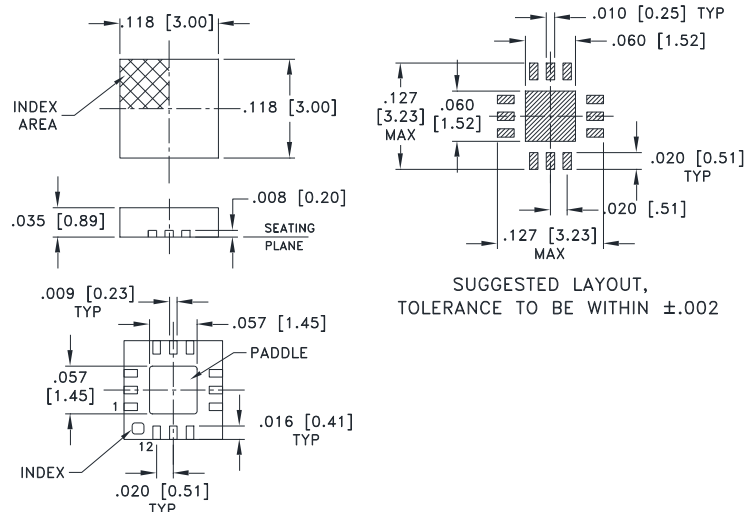
1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. SIGNAL TRACES ARE NOT ALLOWED INSIDE HATCHED AREAS (APPROX. .030 X .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

The diagram shows a black rectangular label with white text. The text is arranged in four lines: a small white circle, 'MCL', 'WP4G', and 'XXXX'. An arrow points from the word 'Index' to the white circle. Two other arrows point from the text 'Black Body' and 'Model Family Designation' to the 'MCL' and 'XXXX' parts of the label, respectively.

Marking may contain other features or characters for internal lot control.

PCB Land Pattern



Weight: .02 Grams
Dimensions are in inches [mm]. Tolerances in inches: 2 Pl. $\pm .01$; 3 Pl. $\pm .004$ inches

TAPE & REEL INFORMATION: F66



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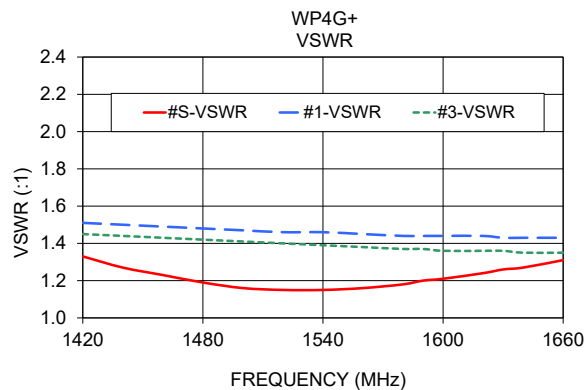
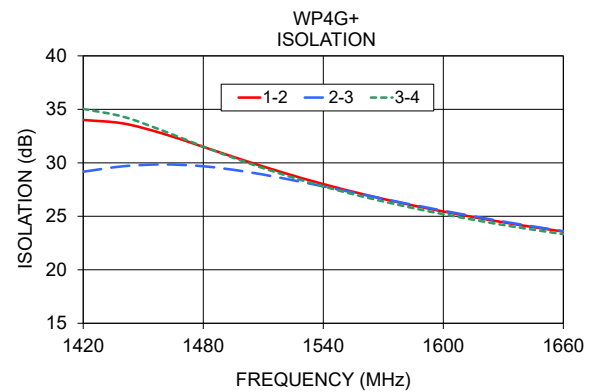
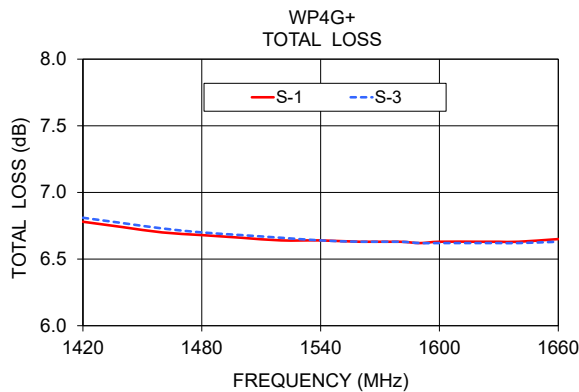
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TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Total Loss ¹ (dB)				Amplitude Unbalance (dB)	Isolation (dB)			Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3	VSWR 4
	S-1	S-2	S-3	S-4		1-2	2-3	3-4						
1420.00	6.78	6.88	6.81	6.70	0.18	34.01	29.17	35.04	0.97	1.33	1.51	1.47	1.45	1.46
1440.00	6.74	6.84	6.77	6.66	0.17	33.68	29.68	34.31	0.91	1.27	1.50	1.46	1.44	1.45
1460.00	6.70	6.80	6.73	6.63	0.17	32.72	29.85	32.99	0.85	1.23	1.49	1.45	1.43	1.45
1480.00	6.68	6.77	6.70	6.61	0.16	31.49	29.68	31.52	0.86	1.19	1.48	1.44	1.42	1.44
1500.00	6.66	6.75	6.68	6.59	0.16	30.25	29.21	30.14	0.87	1.16	1.47	1.43	1.41	1.43
1520.00	6.64	6.73	6.66	6.57	0.16	29.08	28.55	28.90	0.88	1.15	1.46	1.42	1.40	1.42
1540.00	6.64	6.71	6.64	6.56	0.15	28.01	27.80	27.80	0.89	1.15	1.46	1.41	1.39	1.42
1560.00	6.63	6.70	6.63	6.55	0.15	27.06	27.02	26.83	0.92	1.16	1.45	1.40	1.38	1.41
1580.00	6.63	6.70	6.63	6.55	0.14	26.21	26.25	25.97	0.93	1.18	1.44	1.39	1.37	1.41
1590.00	6.62	6.69	6.62	6.55	0.14	25.82	25.89	25.57	0.93	1.20	1.44	1.39	1.37	1.40
1600.00	6.63	6.69	6.62	6.55	0.14	25.45	25.52	25.20	0.95	1.21	1.44	1.39	1.36	1.40
1620.00	6.63	6.69	6.62	6.56	0.14	24.76	24.84	24.51	1.00	1.24	1.44	1.38	1.36	1.40
1630.00	6.63	6.69	6.62	6.56	0.13	24.44	24.51	24.19	1.04	1.26	1.43	1.38	1.36	1.39
1640.00	6.63	6.69	6.62	6.56	0.13	24.13	24.20	23.89	1.08	1.27	1.43	1.38	1.35	1.39
1660.00	6.65	6.70	6.63	6.57	0.13	23.57	23.61	23.33	1.19	1.31	1.43	1.37	1.35	1.39

1. Total Loss = Insertion Loss + 6 dB splitter loss.



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.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. 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/terms/viewterm.html

