Non-Catalog Model

Modulator

JCBM-1000DR

CASE STYLE: BG291

Important Note

This is a non-catalog model and can be manufactured on specific request.
Pricing and delivery information can be supplied upon request.

Please click ”Back”, and then click “Contact Us” for Applications support.

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		**Min.**	**Typ.**	**Max.**	**Units**
Frequency	**LO** (f_L to f_U)	500		1000	MHz
	RF (f_L to f_U)	500		1000	MHz
	Baseband	DC	20		MHz
Insertion Loss			2.7	5.0	dB
Amplitude Unbalance			0.2	0.6	dB
Phase Unbalance Rel. to 180°			±1	±6	Degrees
Supply Current at ±5.0V			12	20	mA

MAXIMUM RATINGS	
Operating Temperature	-20°C to 85°C
Storage Temperature	-55°C to 100°C

PIN CONNECTIONS	
LO (carrier)	8
RF (signal)	1
Baseband	14
+5V	12
-5V	3
Ground Extention	all others

Modulator JCBM-1000DR

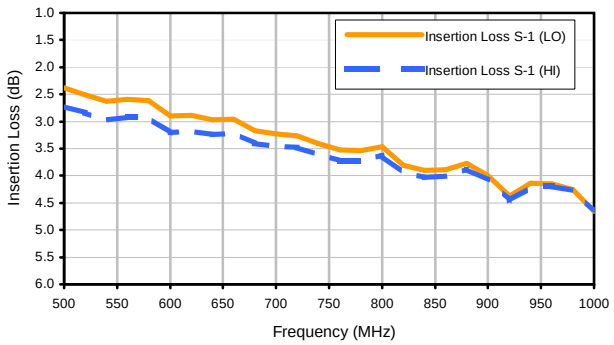
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)		AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE* (deg.)
	S-1 (LO)	S-1 (HI)		
500.0	2.38	2.72	0.34	1.27
520.0	2.51	2.84	0.33	1.42
540.0	2.63	2.97	0.34	1.60
560.0	2.59	2.92	0.32	1.61
580.0	2.62	2.92	0.30	1.83
600.0	2.90	3.20	0.30	1.99
620.0	2.89	3.18	0.28	2.00
640.0	2.97	3.24	0.27	2.10
660.0	2.96	3.22	0.26	2.22
680.0	3.17	3.41	0.24	2.35
700.0	3.23	3.46	0.23	2.29
720.0	3.26	3.48	0.22	2.36
740.0	3.40	3.61	0.21	2.44
760.0	3.52	3.72	0.20	2.44
780.0	3.54	3.72	0.19	2.44
800.0	3.46	3.62	0.16	2.46
820.0	3.81	3.95	0.15	2.50
840.0	3.90	4.03	0.14	2.45
860.0	3.89	4.01	0.12	2.48
880.0	3.77	3.88	0.11	2.38
900.0	4.00	4.08	0.09	2.32
920.0	4.37	4.46	0.09	2.32
940.0	4.14	4.21	0.07	2.27
960.0	4.15	4.20	0.05	2.18
980.0	4.25	4.28	0.03	2.10
1000.0	4.65	4.66	0.01	2.06

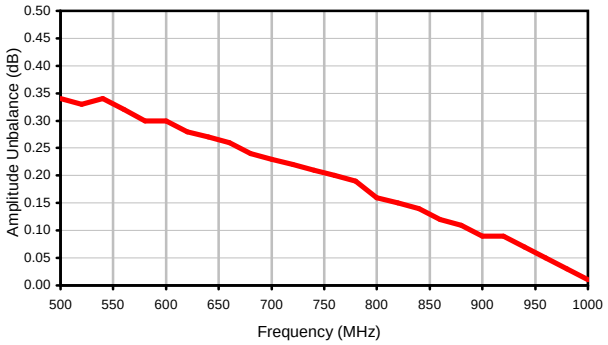
* Phase Unbalance is relative to 180˚

Typical Performance Curves

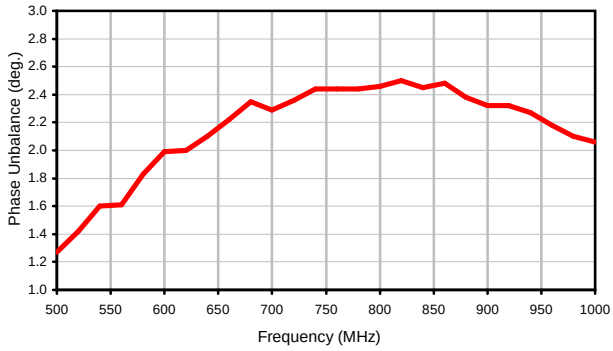
Insertion Loss



Amplitude Unbalance



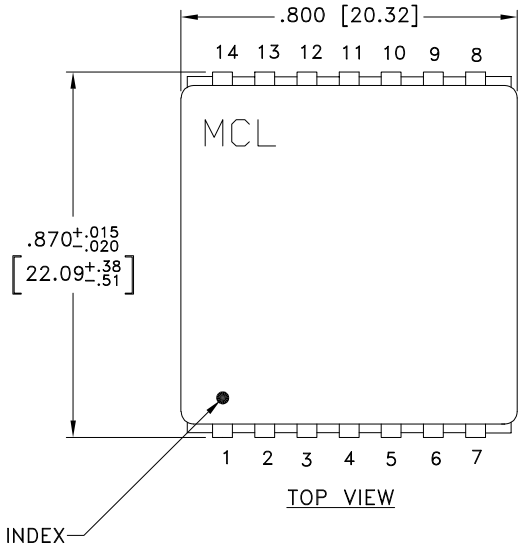
Phase Unbalance*



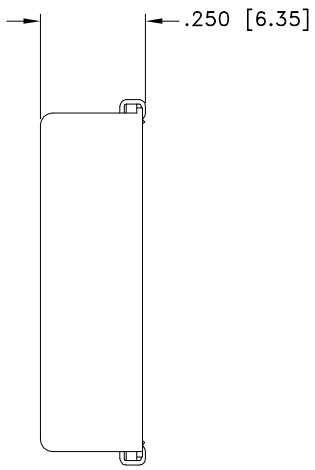
* Phase Unbalance is relative to 180˚

Case Style BG

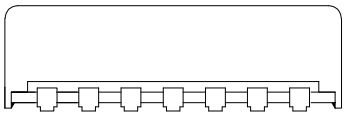
Outline Dimensions BG291



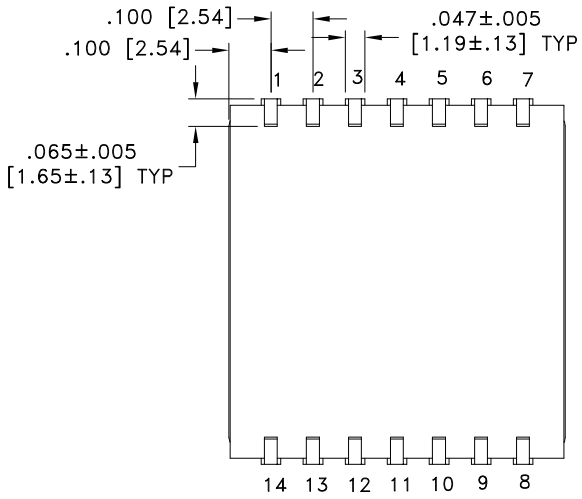
TOP VIEW



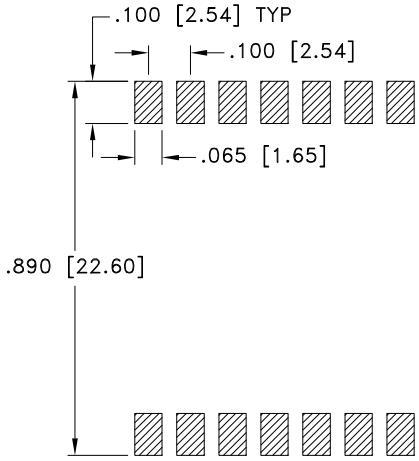
SIDE VIEW



SIDE VIEW



BOTTOM VIEW



SUGGESTED LAYOUT
FOR PCB LAND PATTERN
(TOL ±.002)

DENOTES METALLIZATION

Weight: 4 gram

Dimensions are in inches[mm]. Tolerances: 2PL.±0.03[0.76]; 3 Pl.± 0.015 [0.381] inches[mm], unless otherwise specified

Notes:

1. Case material: Copper-Nickel alloy.
2. Base material: Printed wiring laminate.
3. Termination finish:

   For RoHS Case Styles: Tin plate over Nickel plate. All models, (+) suffix.
   For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.

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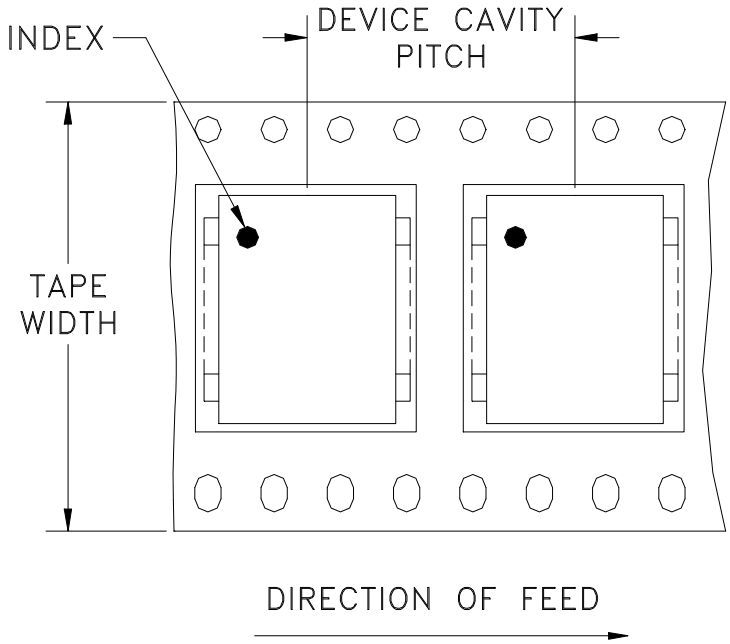
Tape & Reel Packaging TR-F21

DEVICE ORIENTATION IN T&R



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
32	32	13	200

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

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Environmental Specifications ENV02

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-20° to 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, 95% Coverage
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215

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