Engineering Development Model

Power Splitter/Combiner SEPS-ED16099/1

8 Way-0° 50 OHM

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability.
At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.

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

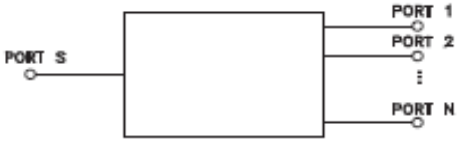
CASE STYLE : BL1543

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		**Min.**	**Typ.**	**Max.**	**Units**
Frequency		600		2500	MHz
Isolation	**600-2500 MHz**		20		dB
Insertion Loss Above 9 dB	**600-2500 MHz**		1.70		dB
Phase Unbalance	**600-2500 MHz**		7.000		deg.
Amplitude Unbalance	**600-2500 MHz**		0.300		dB
VSWR	**SUM Port**		1.60		(:1)
	OUT Ports		1.40		(:1)

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

PIN CONNECTIONS	
SUM PORT	18
PORT 1	1
PORT 2	3
PORT 3	4
PORT 4	6
PORT 5	7
PORT 6	9
PORT 7	10
PORT 8	12
GND	2,5,8,11,13,14,15,16,17,19,20, 21,22,23,24

electrical schematic



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Typical Performance Data

FREQ. (MHz)	TOTAL LOSS[1] (dB)						AMP. UNBAL. (dB)	ISOLATION (dB)				PHASE UNBAL. (deg.)
	S-1	S-2	S-3	S-4	S-6	S-8		1-2	2-3	3-4	6-7	
600.0	10.23	10.25	10.22	10.22	10.19	10.22	0.09	13.64	23.77	13.28	23.56	1.85
650.0	9.99	10.02	10.00	10.00	9.98	9.98	0.07	14.44	23.77	13.98	23.53	2.10
700.0	9.80	9.84	9.83	9.83	9.81	9.80	0.06	15.33	23.65	14.73	23.40	2.31
750.0	9.67	9.71	9.71	9.71	9.69	9.66	0.05	16.29	23.47	15.56	23.23	2.49
800.0	9.59	9.63	9.65	9.65	9.63	9.58	0.07	17.31	23.33	16.43	23.10	2.72
850.0	9.55	9.59	9.63	9.63	9.61	9.55	0.08	18.36	23.30	17.36	23.08	2.95
900.0	9.55	9.60	9.65	9.65	9.64	9.56	0.10	19.40	23.38	18.34	23.17	3.21
950.0	9.59	9.65	9.71	9.70	9.70	9.61	0.11	20.32	23.67	19.33	23.46	3.49
1000.0	9.66	9.72	9.79	9.79	9.78	9.70	0.13	21.09	24.14	20.37	23.94	3.76
1100.0	9.89	9.95	10.02	10.02	10.01	9.94	0.13	21.85	26.04	22.42	25.75	4.44
1200.0	10.16	10.22	10.26	10.26	10.25	10.23	0.10	21.69	29.98	24.04	29.42	5.05
1300.0	10.40	10.47	10.45	10.44	10.44	10.49	0.09	21.12	40.45	24.56	38.19	5.53
1400.0	10.55	10.61	10.52	10.51	10.51	10.65	0.15	20.50	35.56	23.94	36.71	5.72
1500.0	10.56	10.62	10.47	10.48	10.47	10.69	0.23	20.07	27.91	22.94	28.35	5.57
1600.0	10.47	10.52	10.35	10.38	10.34	10.61	0.27	19.89	24.35	22.11	24.48	5.34
1700.0	10.36	10.42	10.25	10.30	10.22	10.52	0.31	19.94	22.37	21.57	22.34	5.10
1800.0	10.33	10.38	10.22	10.29	10.18	10.50	0.33	20.23	21.34	21.38	21.24	5.45
1900.0	10.39	10.43	10.29	10.37	10.23	10.57	0.34	20.93	20.94	21.78	20.85	5.84
2000.0	10.50	10.54	10.39	10.49	10.33	10.69	0.36	22.40	21.00	23.29	20.85	6.26
2050.0	10.56	10.60	10.45	10.54	10.39	10.76	0.37	23.61	21.18	24.73	20.94	6.66
2100.0	10.61	10.65	10.49	10.60	10.44	10.82	0.38	25.22	21.38	26.96	21.06	7.34
2150.0	10.65	10.69	10.54	10.65	10.50	10.88	0.38	27.34	21.62	30.75	21.20	8.09
2200.0	10.67	10.71	10.58	10.71	10.56	10.94	0.39	29.63	21.82	39.37	21.35	8.87
2250.0	10.69	10.73	10.64	10.76	10.62	11.00	0.42	30.34	21.92	40.17	21.49	9.72
2300.0	10.70	10.75	10.70	10.83	10.69	11.06	0.45	28.05	21.94	29.94	21.62	10.64
2350.0	10.70	10.75	10.77	10.91	10.78	11.12	0.49	25.05	21.80	25.19	21.67	11.54
2400.0	10.71	10.76	10.85	11.00	10.89	11.19	0.53	22.47	21.58	22.08	21.65	12.50
2450.0	10.73	10.78	10.95	11.10	11.02	11.27	0.56	20.40	21.26	19.81	21.49	13.42
2500.0	10.78	10.82	11.07	11.21	11.17	11.36	0.60	18.72	20.87	18.05	21.22	14.38

FREQ. (MHz)	VSWR (:1)		
	S	1	8
600.0	2.37	1.50	1.52
650.0	2.02	1.46	1.48
700.0	1.74	1.42	1.45
750.0	1.50	1.40	1.42
800.0	1.31	1.37	1.39
850.0	1.17	1.35	1.37
900.0	1.12	1.33	1.35
950.0	1.19	1.32	1.35
1000.0	1.31	1.32	1.34
1100.0	1.57	1.33	1.35
1200.0	1.81	1.35	1.38
1300.0	1.97	1.40	1.43
1400.0	1.99	1.45	1.49
1500.0	1.87	1.51	1.54
1600.0	1.63	1.57	1.60
1700.0	1.36	1.62	1.65
1800.0	1.13	1.66	1.69
1900.0	1.07	1.68	1.72
2000.0	1.17	1.68	1.72
2050.0	1.20	1.68	1.70
2100.0	1.21	1.66	1.68
2150.0	1.19	1.63	1.66
2200.0	1.17	1.60	1.62
2250.0	1.13	1.55	1.59
2300.0	1.08	1.51	1.55
2350.0	1.05	1.47	1.51
2400.0	1.07	1.43	1.47
2450.0	1.14	1.41	1.44
2500.0	1.22	1.40	1.44

[1]Total Loss = Insertion Loss + 9dB Splitter Loss

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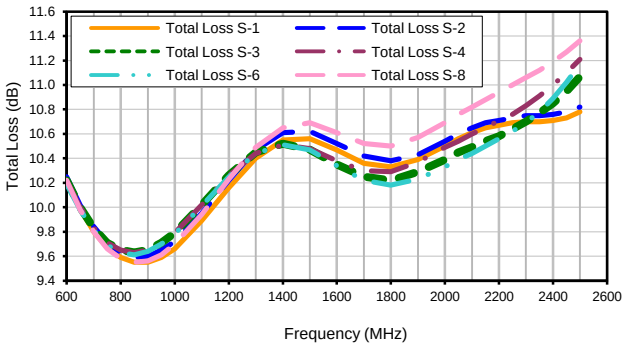
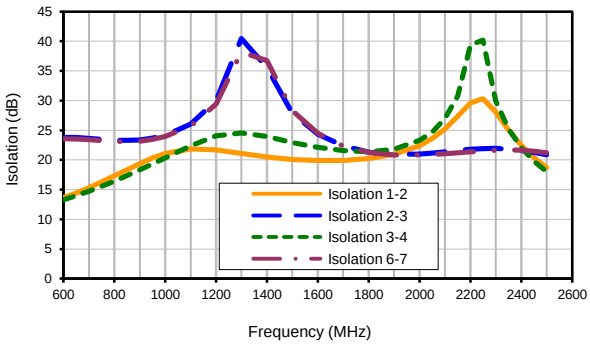
Typical Performance Curves

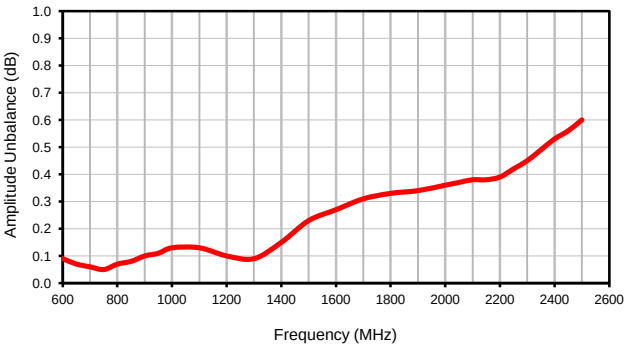
Total Loss



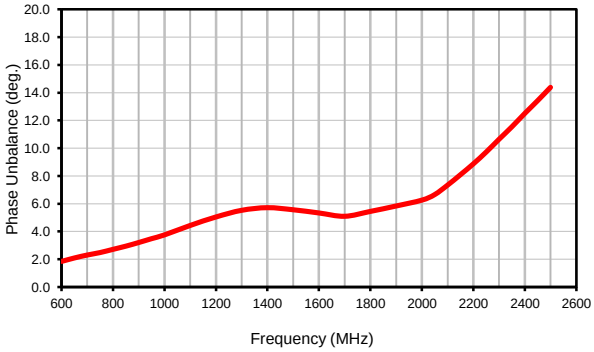
Isolation



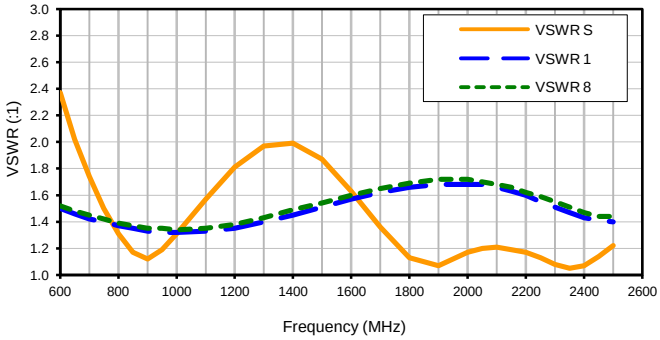
Amplitude Unbalance



Phase Unbalance



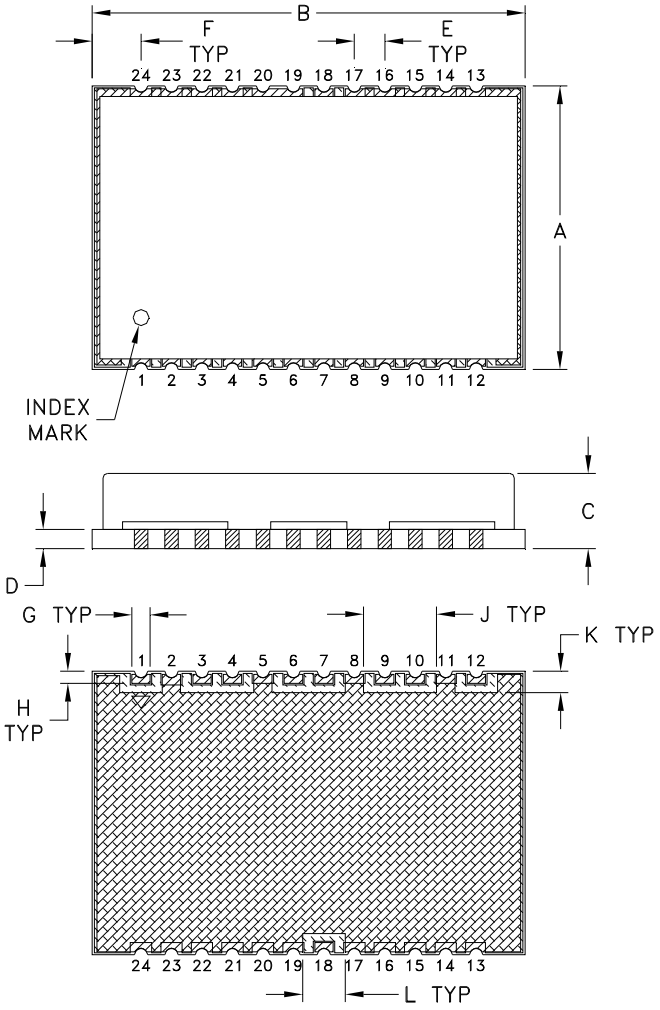
VSWR



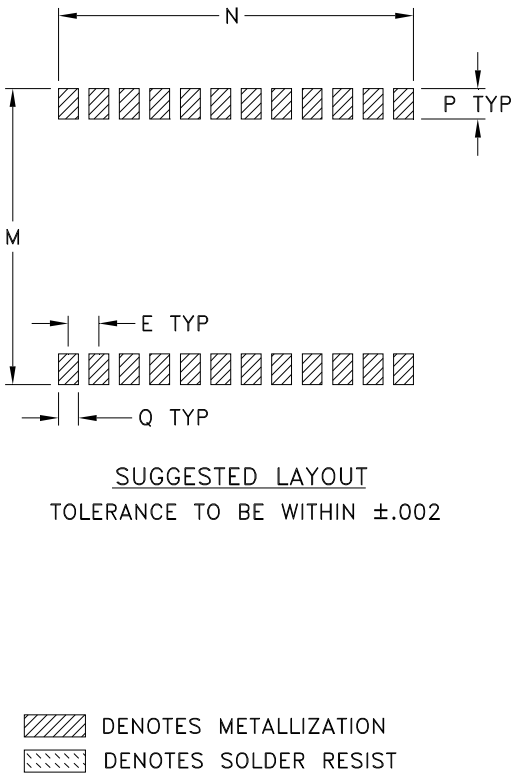
Case Style BL

Outline Dimensions

BL1543



PCB Land Pattern



CASE #	A	B	C	D	E	F	G	H	J	K	L	M
BL1543	.93 (23.62)	1.42 (36.07)	.25 (6.35)	.063 (1.60)	.100 (2.54)	.160 (4.06)	.060 (1.52)	.040 (1.02)	.240 (6.10)	.070 (1.78)	.140 (3.56)	.970 (24.64)

CASE #	N	P	Q	WT. GRAM
BL1543	1.165 (29.59)	.100 (2.54)	.065 (1.65)	6.5

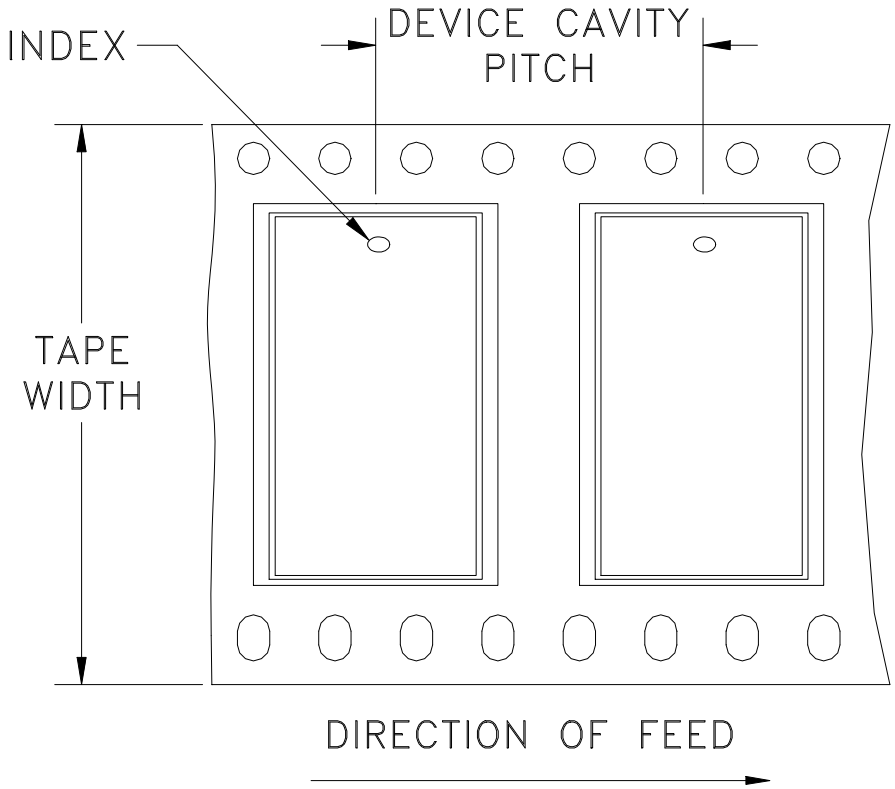
Dimensions are in inches (mm). Tolerances: 2Pl. ± .01; 3Pl. ± .005

Notes:

1. Case material: Copper-Nickel alloy.
2. Base material: Printed wiring laminate.
3. Termination finish: 3-5µinch (.08-.13 microns) Gold over 120-240µinch (3.05-6.10 microns) Nickel plate. All models, (+) suffix.

Tape & Reel Packaging TR-F89

DEVICE ORIENTATION IN T&R



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
56	32	13	100

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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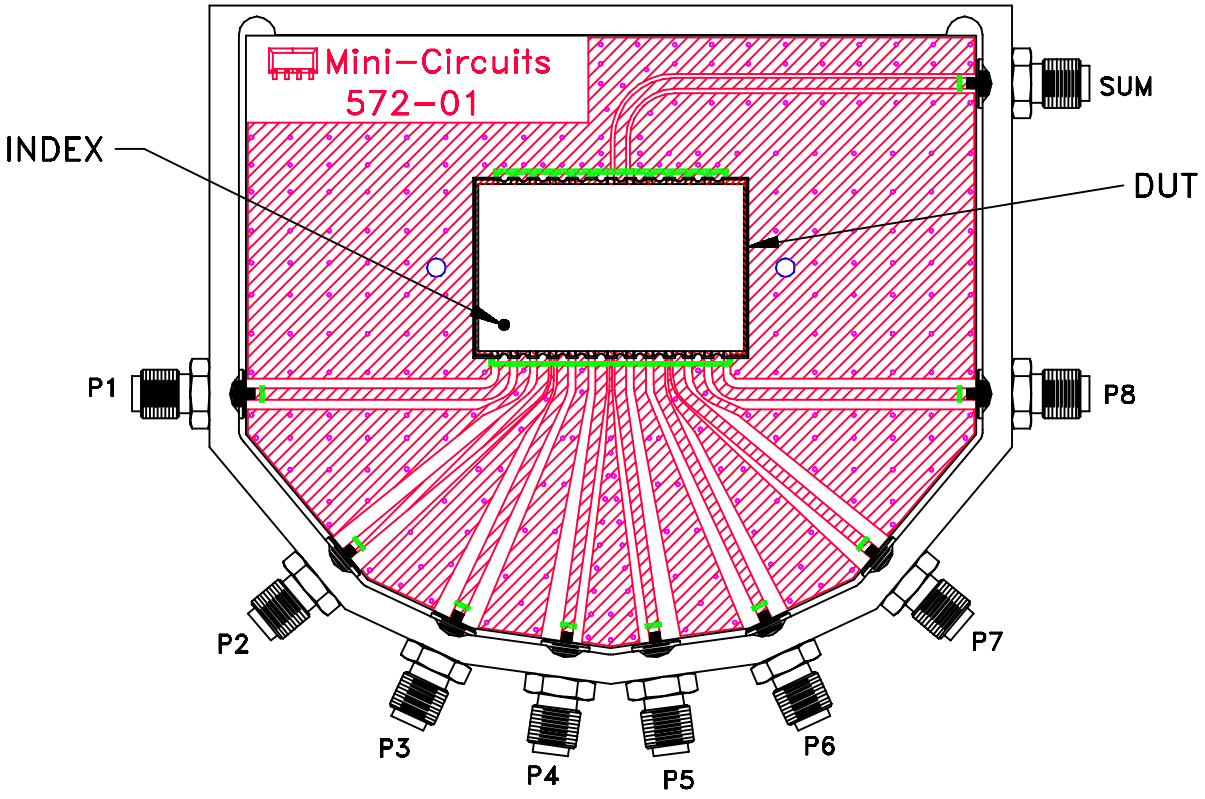
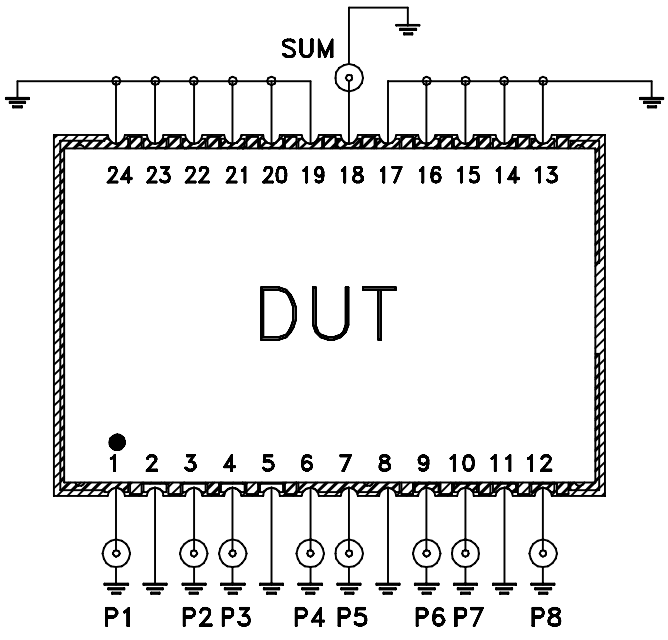
Evaluation Board and Circuit



TB-583+



Schematic Diagram

NOTES:

1. SMA Female connectors.
2. PCB material: Rogers RO4350 or equivalent, dielectric constant=3.5, dielectric thickness=.030 inch.

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Environmental Specifications ENV02T1

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	-40° 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