

Engineering Development Model

Power Splitter/Combiner

8 Way-0°

SCPA-ED13425/1

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: HU1371

ELECTRICAL SPECIFICATIONS 75Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency		5		1000	MHz
Isolation	5-50 MHz		35		dB
	50-500 MHz		25		dB
	500-1000 MHz		20		dB
Insertion Loss Above 9.0 dB	5-50 MHz		0.85		dB
	50-500 MHz		1.00		dB
	500-1000 MHz		1.90		dB
Phase Unbalance	5-50 MHz		0.20		deg.
	50-500 MHz		1.06		deg.
	500-1000 MHz		4.85		deg.
Amplitude Unbalance	5-50 MHz		0.10		dB
	50-500 MHz		0.20		dB
	500-1000 MHz		0.50		dB
VSWR	SUM Port		1.40		(:1)
	OUT Ports		1.23		(:1)

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

PIN CONNECTIONS	
SUM PORT	1
PORT 1	3
PORT 2	4
PORT 3	5
PORT 4	6
PORT 5	9
PORT 6	10
PORT 7	11
PORT 8	12
GROUND	2,7,8,13,14

Functional Diagram



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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Typical Performance Data

FREQ. (MHz)	TOTAL LOSS ¹ (dB)						AMP. UNBAL. (dB)	ISOLATION (dB)				PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR (:1)		
	S-1	S-2	S-3	S-4	S-6	S-8		1-2	1-8	2-4	6-8			S	1	8
5.0	9.90	9.90	9.90	9.91	9.92	9.92	0.02	34.37	35.70	36.61	36.92	0.14	5.0	1.46	1.27	1.27
6.0	9.88	9.88	9.87	9.87	9.89	9.89	0.02	34.26	35.97	36.36	36.58	0.13	6.0	1.44	1.25	1.25
7.0	9.86	9.86	9.86	9.86	9.87	9.87	0.02	34.13	36.25	36.30	36.68	0.15	7.0	1.43	1.24	1.24
8.0	9.84	9.84	9.84	9.84	9.86	9.86	0.02	33.98	36.45	36.13	36.50	0.10	8.0	1.43	1.23	1.24
9.0	9.83	9.83	9.83	9.83	9.85	9.84	0.02	33.82	36.57	36.15	36.46	0.14	9.0	1.42	1.23	1.23
10.0	9.82	9.81	9.82	9.82	9.83	9.83	0.02	33.79	36.65	35.71	36.32	0.12	10.0	1.42	1.22	1.22
20.0	9.81	9.81	9.81	9.81	9.81	9.81	0.01	32.89	36.90	35.51	35.79	0.14	20.0	1.40	1.21	1.21
30.0	9.81	9.81	9.82	9.82	9.82	9.82	0.01	32.37	36.73	35.27	35.27	0.23	30.0	1.39	1.21	1.21
40.0	9.83	9.82	9.83	9.83	9.83	9.83	0.01	31.84	36.83	34.90	34.82	0.33	40.0	1.38	1.21	1.21
50.0	9.84	9.84	9.84	9.84	9.84	9.83	0.01	31.27	36.90	34.47	34.22	0.35	50.0	1.38	1.20	1.20
60.0	9.85	9.84	9.85	9.85	9.85	9.84	0.01	30.72	36.93	34.03	33.66	0.46	60.0	1.37	1.20	1.20
70.0	9.86	9.86	9.87	9.86	9.86	9.86	0.02	30.21	36.99	33.40	33.08	0.57	70.0	1.36	1.20	1.20
80.0	9.87	9.87	9.88	9.87	9.87	9.86	0.02	29.68	36.97	32.92	32.53	0.63	80.0	1.36	1.19	1.19
90.0	9.88	9.88	9.89	9.88	9.88	9.88	0.01	29.18	36.95	32.39	31.99	0.73	90.0	1.35	1.19	1.19
100.0	9.90	9.89	9.90	9.89	9.89	9.89	0.01	28.71	36.99	31.93	31.45	0.79	100.0	1.34	1.18	1.18
150.0	9.94	9.92	9.94	9.92	9.94	9.93	0.02	26.50	37.01	29.60	29.09	1.22	150.0	1.30	1.17	1.17
200.0	10.00	9.98	9.98	9.95	9.99	9.99	0.04	24.77	36.84	27.75	27.16	1.62	200.0	1.26	1.15	1.14
250.0	10.05	10.03	10.03	9.99	10.05	10.05	0.06	23.41	36.67	26.20	25.65	2.01	250.0	1.25	1.14	1.12
300.0	10.11	10.08	10.08	10.03	10.11	10.12	0.09	22.28	36.37	24.88	24.39	2.32	300.0	1.25	1.13	1.11
350.0	10.21	10.17	10.15	10.09	10.18	10.22	0.13	21.42	35.94	23.80	23.33	2.59	350.0	1.29	1.13	1.10
400.0	10.28	10.24	10.23	10.14	10.28	10.30	0.17	20.74	35.40	22.83	22.47	2.94	400.0	1.33	1.14	1.11
450.0	10.40	10.34	10.31	10.21	10.36	10.42	0.21	20.25	34.70	22.02	21.73	3.18	450.0	1.39	1.14	1.13
500.0	10.50	10.44	10.42	10.31	10.48	10.54	0.23	19.94	33.98	21.37	21.16	3.45	500.0	1.43	1.17	1.15
550.0	10.61	10.52	10.51	10.38	10.59	10.65	0.27	19.80	33.23	20.81	20.71	3.72	550.0	1.47	1.19	1.18
600.0	10.73	10.64	10.58	10.49	10.68	10.79	0.30	19.83	32.56	20.41	20.34	3.92	600.0	1.49	1.22	1.21
650.0	10.81	10.70	10.67	10.57	10.80	10.88	0.31	20.03	31.87	20.10	20.13	4.17	650.0	1.50	1.24	1.24
700.0	10.89	10.77	10.72	10.65	10.88	10.98	0.32	20.34	31.28	19.92	19.91	4.40	700.0	1.49	1.27	1.28
750.0	10.95	10.82	10.75	10.73	10.95	11.07	0.34	20.76	30.79	19.86	19.83	4.60	750.0	1.50	1.30	1.31
800.0	10.95	10.83	10.77	10.77	11.04	11.11	0.34	21.22	30.34	19.86	19.78	4.86	800.0	1.50	1.32	1.35
850.0	10.99	10.87	10.76	10.83	11.08	11.19	0.43	21.69	30.01	19.89	19.77	5.23	850.0	1.50	1.36	1.38
900.0	10.99	10.89	10.77	10.87	11.15	11.26	0.50	22.06	29.86	19.93	19.70	5.61	900.0	1.50	1.38	1.41
950.0	11.01	10.92	10.79	10.92	11.25	11.36	0.56	22.44	29.81	19.89	19.73	6.16	950.0	1.47	1.41	1.44
1000.0	11.09	11.01	10.81	11.01	11.36	11.53	0.72	22.72	30.09	19.77	19.55	6.85	1000.0	1.44	1.42	1.47

¹Total Loss = Insertion Loss + 9dB Splitter Loss



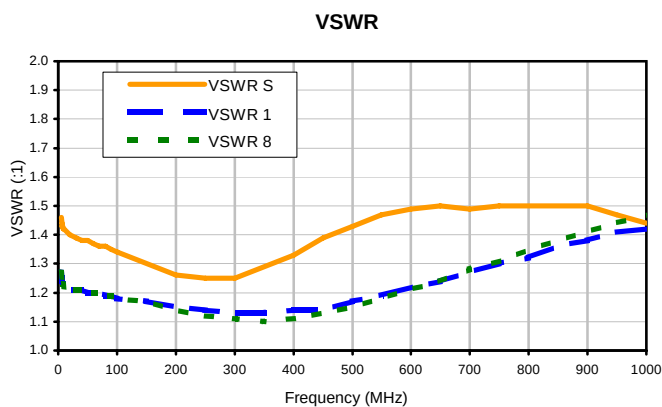
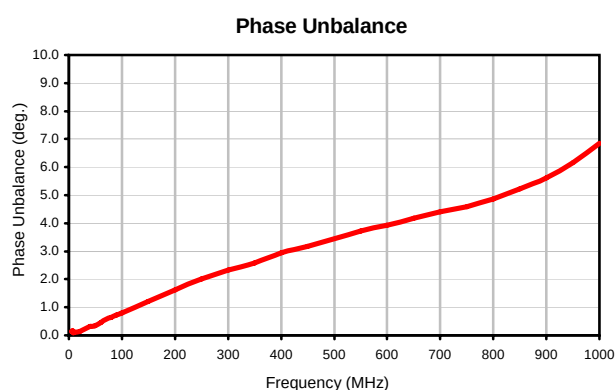
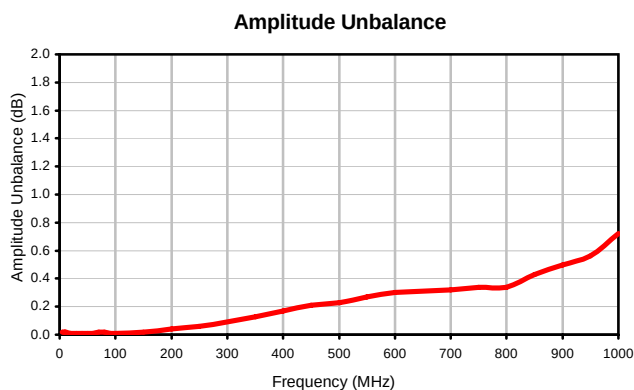
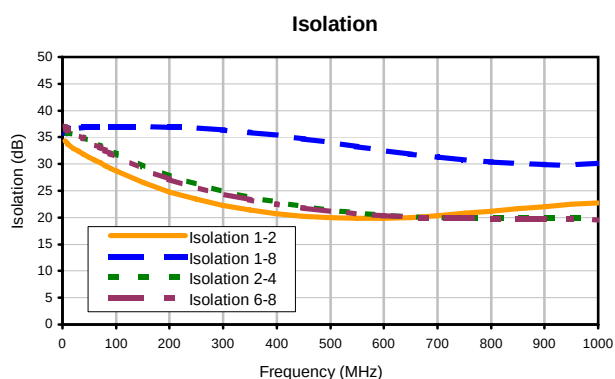
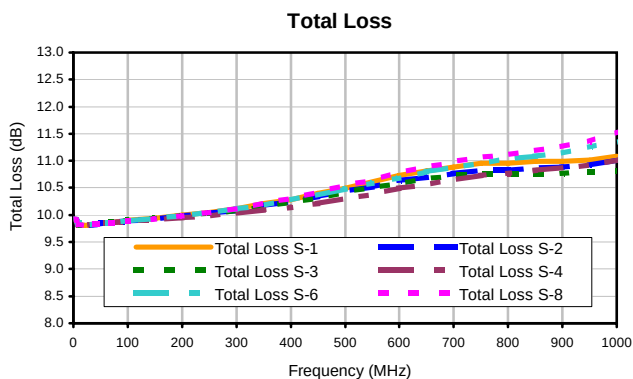
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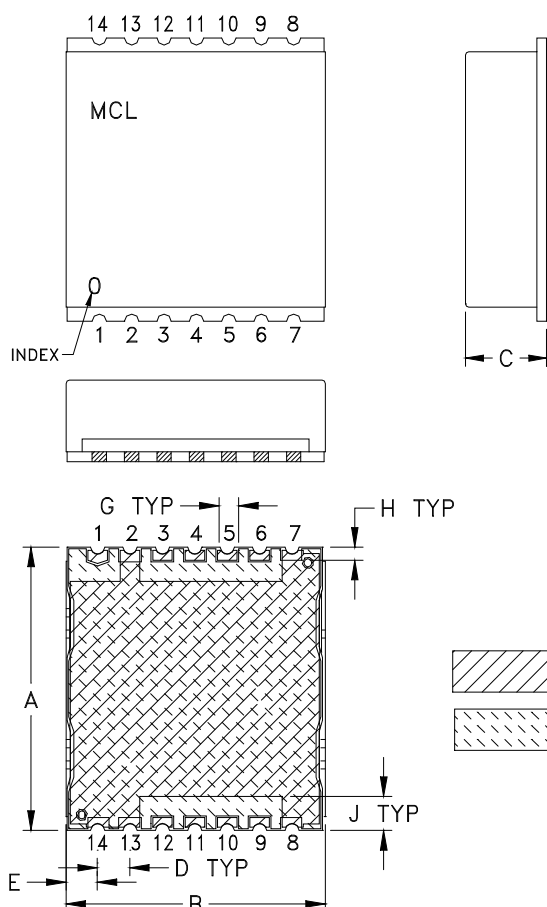
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Typical Performance Curves

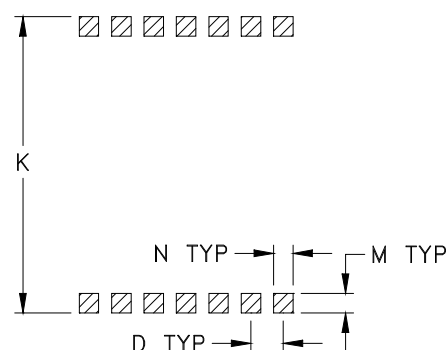


Outline Dimensions

HU1371



PCB Land Pattern



Suggested Layout,
Tolerance to be within $\pm .002$

CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N	P	WT, GRAM
HU1371	.870 (22.10)	.800 (20.32)	.25 (6.35)	.100 (2.54)	.097 (2.46)	-	.060 (1.52)	.040 (1.02)	.105 (2.67)	.910 (23.11)	-	.060 (1.52)	.060 (1.52)	-	2.85

Dimensions are in inches (mm). Tolerances: 2PL. +/- .03; 3PL. +/- .015

Notes:

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

For RoHS Case Styles: 2-5 μ inch (.05-.13 microns) Gold over .120-.240 μ inch (3.05-6.10 microns) Nickel plate. All models (+) suffix.



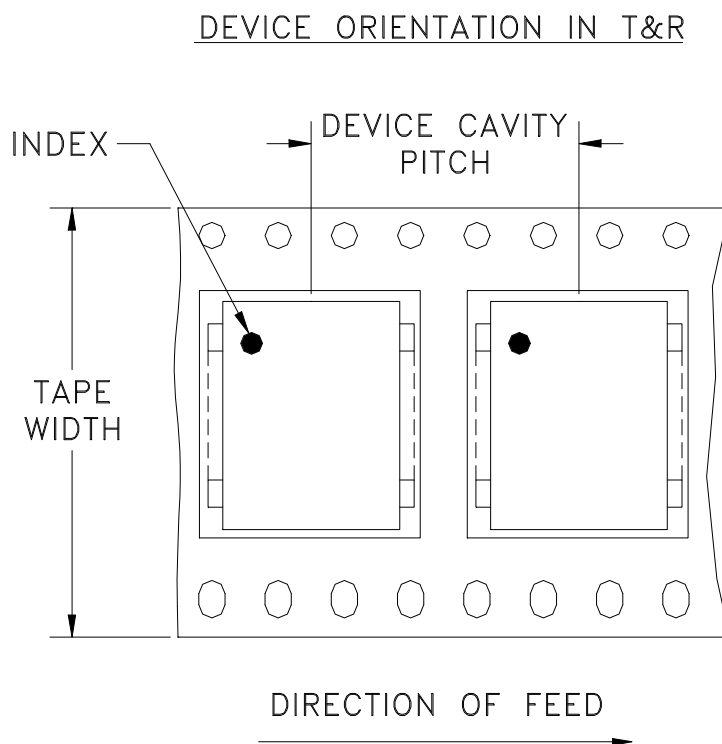
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Tape & Reel Packaging TR-F21



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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Mini-Circuits ISO 9001 & ISO 14001 Certified



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