

8 Way-0° 75Ω 5 to 1250 MHz

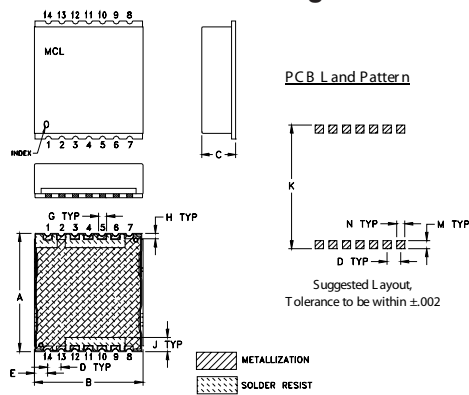
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Internal Dissipation	0.875W max.
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

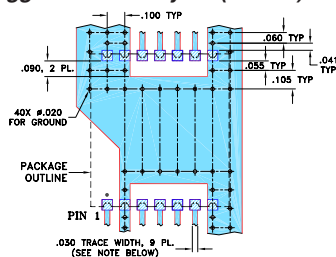
SUM PORT	1
PORT 1	3
PORT 2	4
PORT 3	5
PORT 4	6
PORT 5	9
PORT 6	10
PORT 7	11
PORT 8	12
GROUND	2,7,8,13,14

Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
.870	.800	.250	.100	.097	-	.060	.040
22.10	20.32	6.35	2.54	2.46	-	1.52	1.02
J	K	L	M	N	P	wt	
.105	.910	-	.060	.060	-	grams	
2.67	23.11	-	1.52	1.52	-	2.85	

Demo Board MCL P/N: TB-487+
Suggested PCB Layout (PL-295)

- NOTE: 1. TRACE WIDTH IS SHOWN FOR OAK-602 WITH DIELECTRIC THICKNESS .022" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

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-Circuit's 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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp

Features

- wideband, 5 to 1250 MHz
- good isolation, 25 dB typ.
- aqueous washable
- shielded metal case

Applications

- DOCSIS® 3.1 Systems
- VHF/UHF
- CATV
- instrumentation
- cellular



CASE STYLE: HU1371

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



Available Tape and Reel
at no extra cost

Reel Size	Devices/Reel
13"	200

Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		5		1250	MHz
Insertion Loss (above theoretical 9.0 dB)	5 - 50	—	0.9	1.5	dB
	50 - 500	—	1.6	2.5	
	500 - 1000	—	2.6	3.5	
	1000-1250	—	4.0	5.8	
Isolation	5 - 50	25	30	—	dB
	50 - 1000	15	20	—	
	1000 - 1250	13	18	—	
Phase Unbalance	5 - 50	—	0.7	8.0	Degree
	50 - 500	—	5.0	9.0	
	500 - 1000	—	7.0	10.0	
	1000-1250	—	10.0	18.0	
Amplitude Unbalance	5 - 50	—	0.1	0.3	dB
	50 - 500	—	0.4	0.8	
	500 - 1000	—	0.8	2.0	
	1000 - 1250	—	1.6	2.8	
VSWR (Port S)	5 - 50	—	1.4	—	:1
	50 - 500	—	1.3	—	
	500 - 1000	—	1.5	—	
VSWR (Port 1-8)	5 - 50	—	1.3	—	:1
	50 - 500	—	1.2	—	
	500 - 1000	—	1.4	—	
	1000 - 1250	—	1.6	—	

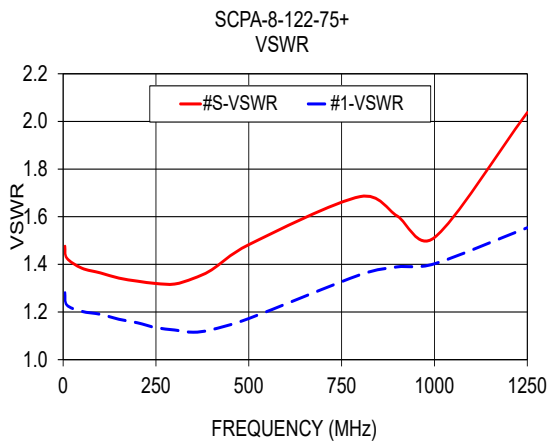
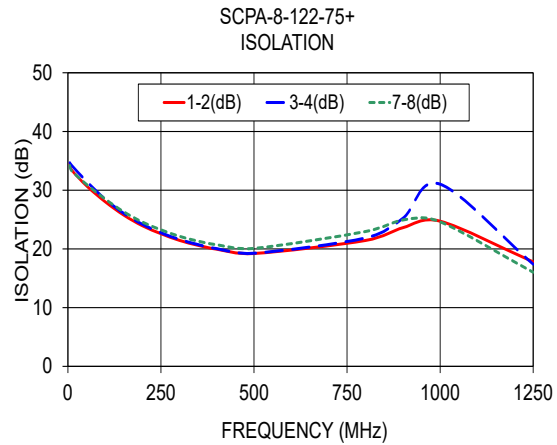
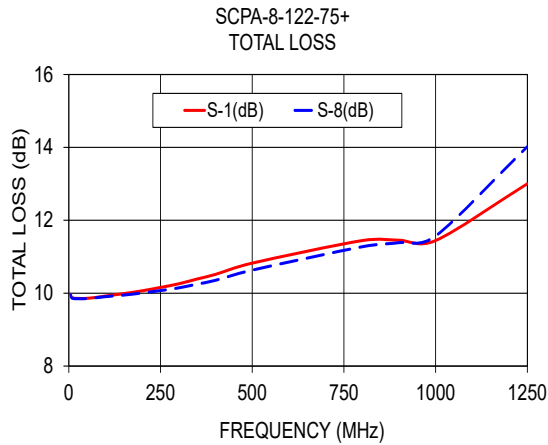
Electrical Schematic



Typical Performance Data

Freq. (MHz)	Total Loss ¹ (dB)						Ampl. Unbl. (dB)	Isolation (dB)				Phase Unbl. (deg.)	VSWR S	VSWR 1	VSWR 8
	S-1	S-2	S-3	S-4	S-6	S-8		1-2	1-7	3-4	5-7				
5.00	9.97	9.98	9.97	9.97	9.95	9.96	0.03	34.54	34.68	34.25	34.22	0.17	1.48	1.28	1.27
10.00	9.87	9.87	9.87	9.87	9.85	9.86	0.02	33.46	34.23	33.30	33.30	0.08	1.43	1.23	1.22
50.00	9.86	9.86	9.86	9.86	9.85	9.84	0.02	30.74	31.51	30.78	30.99	0.46	1.38	1.20	1.20
100.00	9.92	9.92	9.91	9.90	9.89	9.91	0.03	28.03	28.48	28.06	28.50	0.97	1.36	1.19	1.18
150.00	9.99	9.97	9.97	9.96	9.94	9.95	0.05	25.76	26.06	25.78	26.32	1.46	1.34	1.17	1.16
200.00	10.07	10.04	10.03	10.01	9.99	10.01	0.07	23.95	24.20	23.97	24.58	1.93	1.33	1.15	1.15
250.00	10.16	10.11	10.10	10.08	10.06	10.07	0.10	22.59	22.75	22.62	23.25	2.47	1.32	1.13	1.12
300.00	10.26	10.19	10.18	10.16	10.13	10.15	0.13	21.45	21.61	21.50	22.14	2.87	1.32	1.12	1.11
350.00	10.39	10.31	10.28	10.27	10.22	10.25	0.17	20.61	20.73	20.66	21.32	3.40	1.34	1.12	1.10
400.00	10.52	10.41	10.40	10.38	10.33	10.35	0.18	19.95	20.05	20.05	20.71	3.79	1.38	1.13	1.11
500.00	10.82	10.70	10.66	10.67	10.59	10.63	0.24	19.22	19.26	19.38	20.09	4.63	1.48	1.17	1.15
800.00	11.44	11.35	11.27	11.21	11.23	11.27	0.28	21.45	21.87	22.70	22.97	6.15	1.68	1.36	1.35
900.00	11.45	11.43	11.27	11.15	11.31	11.39	0.31	23.62	25.22	26.94	24.93	6.32	1.60	1.39	1.39
1000.00	11.44	11.49	11.14	11.11	11.42	11.57	0.46	24.72	31.02	31.51	24.61	5.23	1.51	1.40	1.40
1250.00	13.00	13.21	12.40	12.49	13.78	14.02	1.62	17.80	17.40	15.20	16.02	8.54	2.04	1.55	1.47

1. Total Loss = Insertion Loss + 9dB splitter theoretical loss.



Notes

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8 Way Power Splitter/Combiner

SCPA-8-122-75+

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	1-7	3-4	5-7			S	1	8
3	10.11	10.11	10.11	10.11	10.08	10.08	0.03	35.61	34.46	35.03	35.06	0.21	3	1.54	1.36	1.35
4	10.02	10.03	10.02	10.02	10.00	10.00	0.03	34.96	34.56	34.56	34.54	0.19	4	1.50	1.31	1.30
5	9.97	9.98	9.97	9.97	9.95	9.96	0.03	34.54	34.68	34.25	34.22	0.17	5	1.48	1.28	1.27
6	9.94	9.94	9.93	9.94	9.91	9.92	0.03	34.29	34.60	33.96	33.94	0.12	6	1.46	1.26	1.26
7	9.91	9.92	9.91	9.91	9.89	9.90	0.03	34.03	34.50	33.76	33.70	0.13	7	1.45	1.25	1.24
8	9.90	9.90	9.89	9.89	9.87	9.88	0.03	33.79	34.42	33.58	33.54	0.11	8	1.44	1.24	1.23
9	9.88	9.89	9.88	9.88	9.86	9.87	0.03	33.64	34.33	33.43	33.40	0.08	9	1.43	1.23	1.23
10	9.87	9.87	9.87	9.87	9.85	9.86	0.02	33.46	34.23	33.30	33.30	0.08	10	1.43	1.23	1.22
20	9.84	9.85	9.84	9.83	9.82	9.83	0.02	32.53	33.44	32.49	32.52	0.14	20	1.40	1.21	1.21
30	9.84	9.85	9.84	9.84	9.83	9.83	0.02	31.91	32.80	31.91	32.00	0.25	30	1.39	1.21	1.20
40	9.85	9.85	9.85	9.84	9.83	9.84	0.02	31.32	32.14	31.34	31.49	0.37	40	1.39	1.21	1.20
50	9.86	9.86	9.86	9.85	9.84	9.85	0.02	30.74	31.51	30.78	30.99	0.46	50	1.38	1.20	1.20
60	9.87	9.87	9.87	9.86	9.85	9.86	0.02	30.18	30.87	30.21	30.48	0.56	60	1.38	1.20	1.20
70	9.88	9.88	9.88	9.87	9.86	9.87	0.02	29.61	30.25	29.64	29.96	0.67	70	1.38	1.20	1.19
80	9.90	9.90	9.89	9.88	9.87	9.88	0.02	29.07	29.63	29.11	29.48	0.78	80	1.37	1.20	1.19
90	9.91	9.91	9.90	9.89	9.88	9.89	0.03	28.54	29.03	28.57	28.99	0.88	90	1.37	1.19	1.19
100	9.92	9.92	9.91	9.90	9.89	9.91	0.03	28.03	28.48	28.06	28.50	0.97	100	1.36	1.19	1.18
150	9.99	9.97	9.97	9.96	9.94	9.95	0.05	25.76	26.06	25.78	26.32	1.46	150	1.34	1.17	1.16
200	10.07	10.04	10.03	10.01	9.99	10.01	0.07	23.95	24.20	23.97	24.58	1.93	200	1.33	1.15	1.15
250	10.16	10.11	10.10	10.08	10.06	10.07	0.10	22.59	22.75	22.62	23.25	2.47	250	1.32	1.13	1.12
300	10.26	10.19	10.18	10.16	10.13	10.15	0.13	21.45	21.61	21.50	22.14	2.87	300	1.32	1.12	1.11
350	10.39	10.31	10.28	10.27	10.22	10.25	0.17	20.61	20.73	20.66	21.32	3.40	350	1.34	1.12	1.10
400	10.52	10.41	10.40	10.38	10.33	10.35	0.18	19.95	20.05	20.05	20.71	3.79	400	1.38	1.13	1.11
450	10.67	10.55	10.52	10.52	10.45	10.49	0.23	19.49	19.56	19.59	20.29	4.13	450	1.43	1.14	1.13
500	10.82	10.70	10.66	10.67	10.59	10.63	0.24	19.22	19.26	19.38	20.09	4.63	500	1.48	1.17	1.15
550	10.97	10.83	10.79	10.81	10.72	10.76	0.26	19.12	19.15	19.36	20.06	4.76	550	1.55	1.20	1.19
600	11.12	10.98	10.91	10.96	10.84	10.91	0.28	19.16	19.24	19.46	20.19	5.08	600	1.61	1.24	1.22
650	11.24	11.10	11.05	11.07	10.99	11.03	0.28	19.45	19.52	19.90	20.60	5.30	650	1.65	1.28	1.25
700	11.34	11.20	11.13	11.16	11.07	11.13	0.29	19.85	20.04	20.46	21.12	5.36	700	1.68	1.31	1.29
750	11.43	11.30	11.21	11.22	11.15	11.22	0.30	20.54	20.82	21.37	21.94	5.96	750	1.70	1.34	1.32
800	11.44	11.35	11.27	11.21	11.23	11.27	0.28	21.45	21.87	22.70	22.97	6.15	800	1.68	1.36	1.35
850	11.48	11.42	11.26	11.21	11.25	11.34	0.27	22.53	23.33	24.39	24.08	6.08	850	1.65	1.38	1.37
900	11.45	11.43	11.27	11.15	11.31	11.39	0.31	23.62	25.22	26.94	24.93	6.32	900	1.60	1.39	1.39
950	11.43	11.43	11.23	11.10	11.38	11.44	0.34	24.33	27.73	29.41	24.97	5.60	950	1.55	1.40	1.39
1000	11.44	11.49	11.14	11.11	11.42	11.57	0.46	24.72	31.02	31.51	24.61	5.23	1000	1.51	1.40	1.40
1250	13.00	13.21	12.40	12.49	13.78	14.02	1.62	17.80	17.40	15.20	16.02	8.54	1250	2.04	1.55	1.47

¹Total Loss = Insertion Loss + 9dB Splitter Loss



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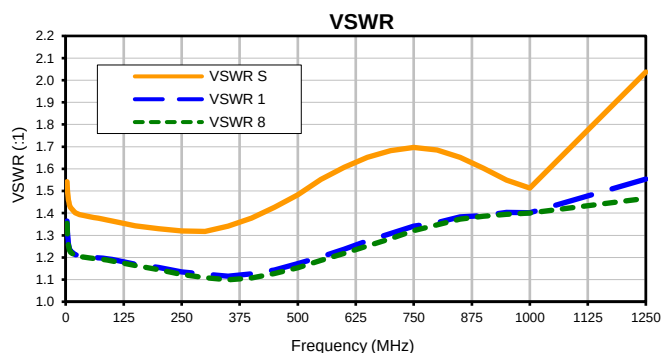
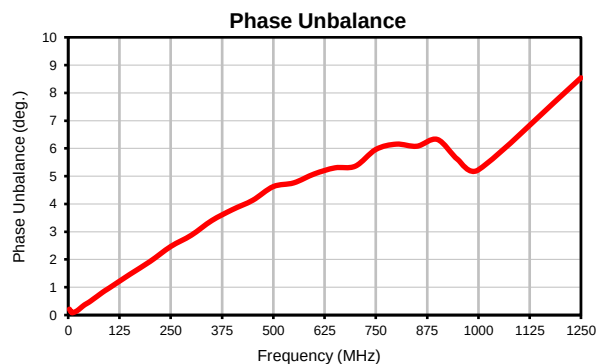
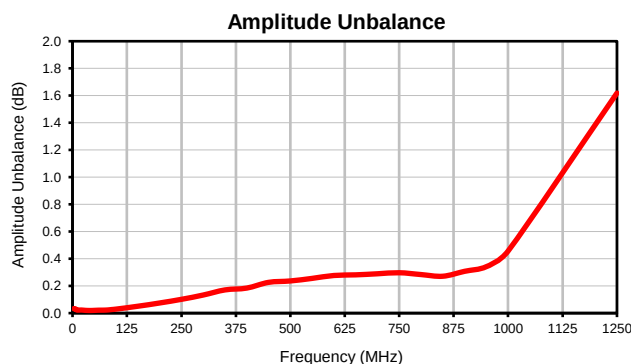
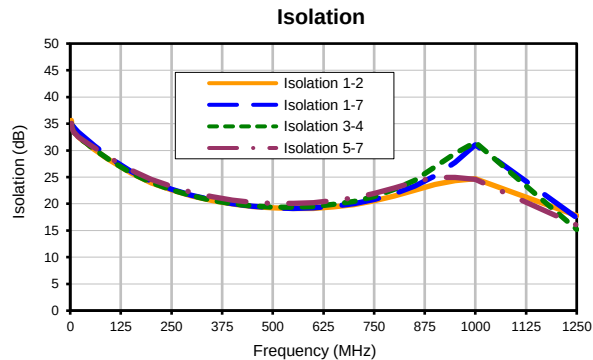
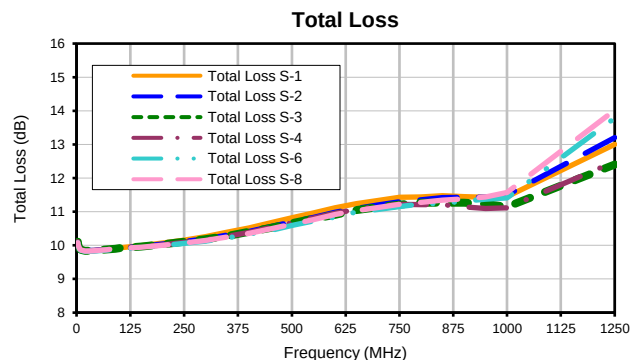
IF/RF MICROWAVE COMPONENTS

REV. OR
SCPA-8-122-75+
7/13/2015
Page 1 of 1

8 Way Power Splitter/Combiner

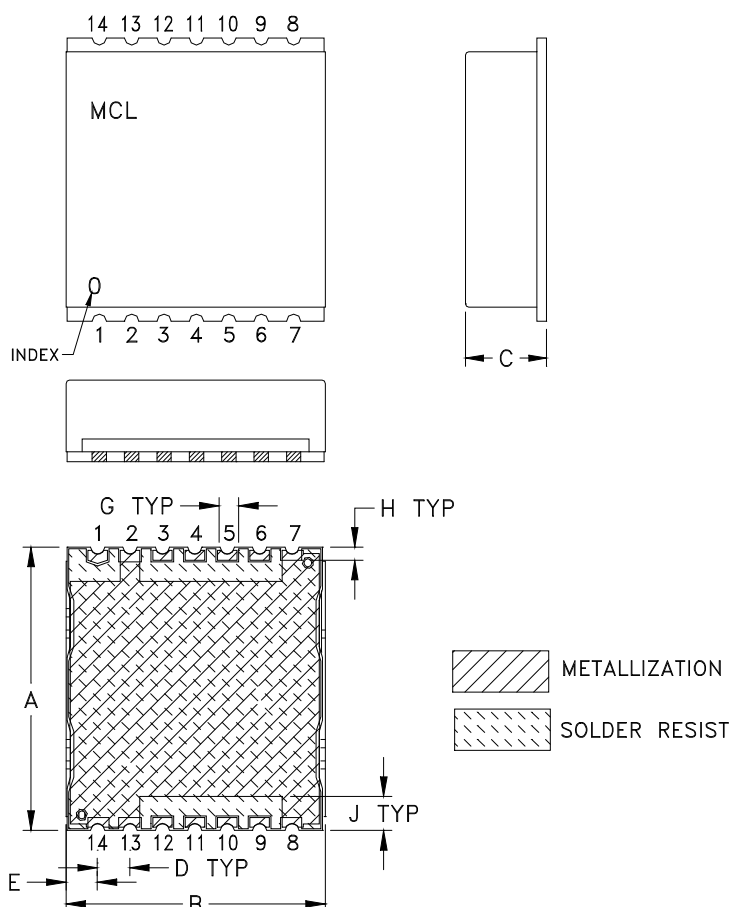
SCPA-8-122-75+

Typical Performance Curves

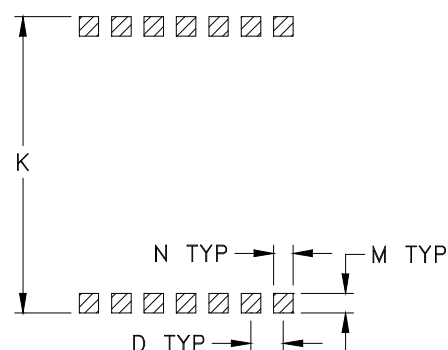


Outline Dimensions

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.



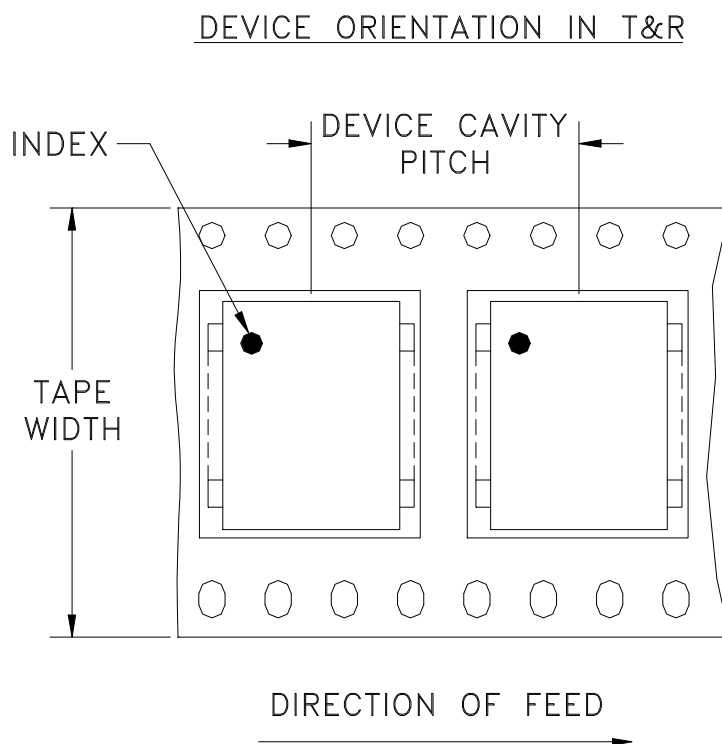
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RF/IF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F21



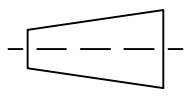
Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
32	32	13	200

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REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M122073	NEW RELEASE	03/26/09	MMG	WP

- NOTE: 1. TRACE WIDTH IS SHOWN FOR OAK-602 WITH DIELECTRIC THICKNESS .022" $\pm$.0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.



DENOTES PCB COPPER LAYOUT WITH SMOBC
(SOLDER MASK OVER BARE COPPER)



DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

UNLESS OTHERWISE SPECIFIED

INITIALS

DATE _____

DIMENSIONS ARE IN INCHES

DRAWN

MMG

03/20/09

TOLERANCES ON:

QUEKED

03/26/09

2 PL DECIMALS $\pm$

CHECKED
APPROVED

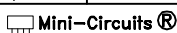
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**3 PL DECIMAL
ANGLES ±**

APPROVE _____

03/28/09

FRACTIONS $\pm$



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Brooklyn NY 11235

PL, 14SP02, 75, HU1371, TB-487+

SIZE

CODE IDENT

DRAWING NO:

98-PL-295

REV:

OR

FILE:	98PL295
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SCALE: 3:1

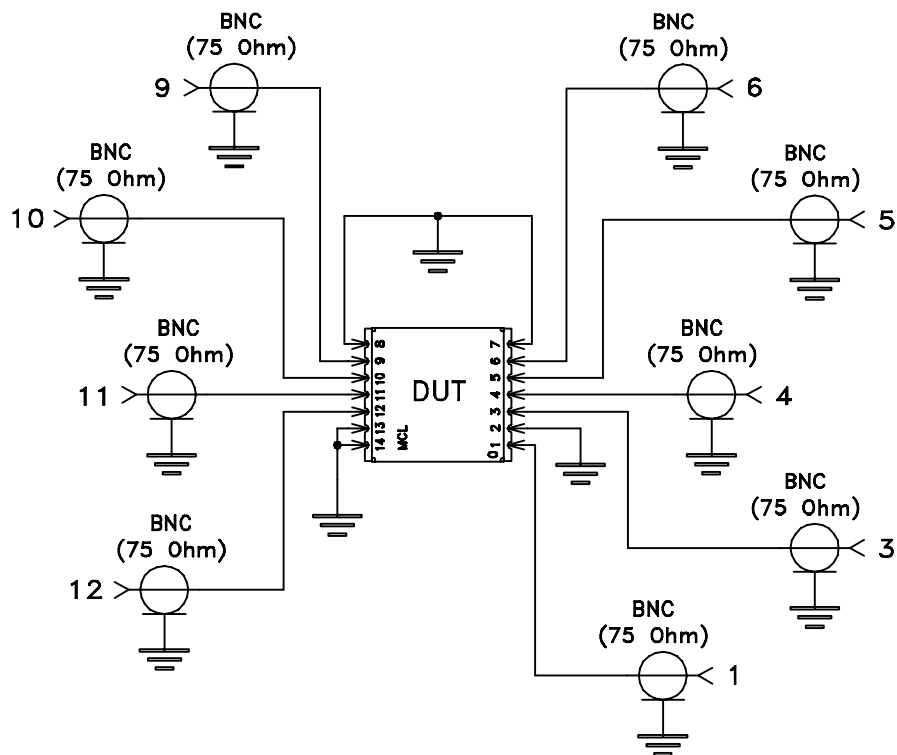
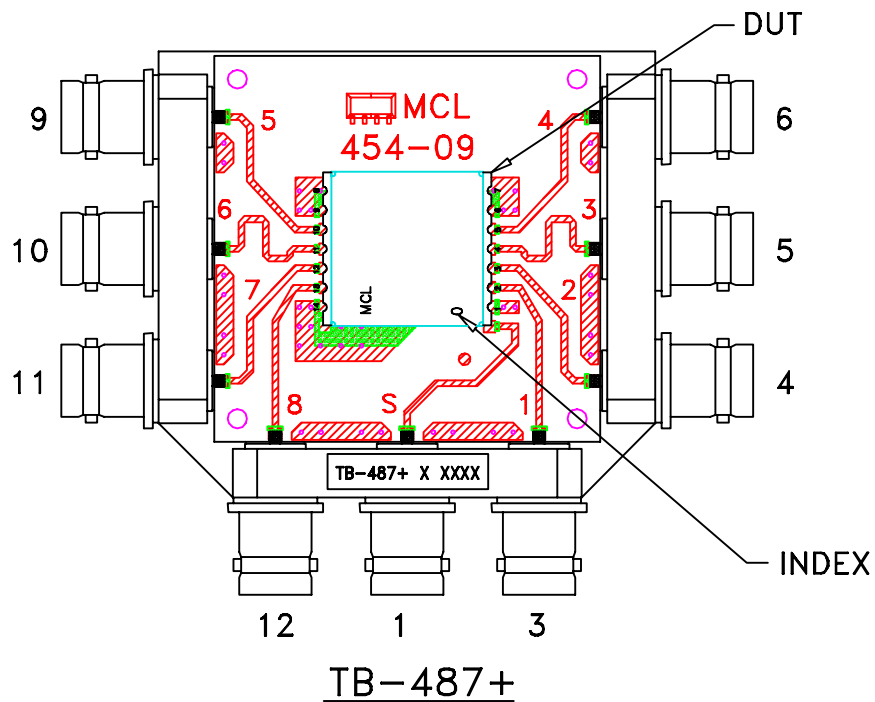
SHEET:

1 OF 1

ASHEETA1.DWG REV:A DATE:01/12/95

Evaluation Board and Circuit

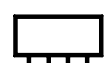
For Pin Connections refer to Data Sheet of the DUT



Schematic Diagram

Notes:

1. 75 Ohm BNC Female connectors.
2. PCB Material: OAK or equivalent,
Dielectric Constant=2.5, Thickness=.022 inch.

 Mini-Circuits®



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