

Engineering Development Model

Power Splitter/Combiner

TCP-ED10349/1

2 Way-0°

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 : DB714

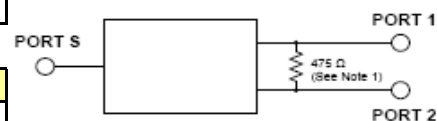
ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency		20		3000	MHz
Isolation	20 - 200 MHz		30		dB
	200 - 1500 MHz		25		dB
	1500 - 3000 MHz		15		dB
Insertion Loss (Above 3.0 dB)	20 - 200 MHz		0.60		dB
	200 - 1500 MHz		0.60		dB
	1500 - 3000 MHz		0.90		dB
Phase Unbalance	20 - 200 MHz		0.02		deg.
	200 - 1500 MHz		0.75		deg.
	1500 - 3000 MHz		2.84		deg.
Amplitude Unbalance	20 - 200 MHz		0.03		dB
	200 - 1500 MHz		0.13		dB
	1500 - 3000 MHz		0.35		dB
VSWR	SUM Port		2.00		(:1)
	OUT Ports		2.00		(:1)

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

PIN CONNECTIONS (NOTE 1)	
SUM PORT	6, 5, 2
PORT 1	3
PORT 2	4
GND EXT	0

NOTE 1: EXTERNAL RESISTOR 475Ω SHOULD BE CONNECTED BETWEEN PINS 3,4.

Functional Diagram



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Typical Performance Data

FREQ. (MHz)	TOTAL LOSS ¹ (dB)		AMP. UNBAL. (dB)	ISOLATION (dB) 1-2	PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR (:1)		
	S-1	S-2					S	1	2
1.0	3.52	3.54	0.02	11.97	0.10	1.0	2.00	1.65	1.66
20.0	3.53	3.57	0.04	33.89	0.01	20.0	1.99	1.98	1.99
90.0	3.55	3.58	0.03	33.59	0.02	90.0	1.98	1.92	1.93
160.0	3.56	3.57	0.01	32.12	0.04	160.0	1.97	1.90	1.91
230.0	3.59	3.60	0.01	32.10	0.08	230.0	1.95	1.90	1.90
300.0	3.61	3.63	0.02	32.61	0.22	300.0	1.94	1.89	1.90
380.0	3.60	3.63	0.03	33.59	0.33	380.0	1.93	1.89	1.91
460.0	3.57	3.60	0.03	34.92	0.48	460.0	1.91	1.89	1.92
540.0	3.54	3.59	0.05	36.83	0.54	540.0	1.90	1.90	1.94
620.0	3.52	3.58	0.07	39.14	0.62	620.0	1.88	1.90	1.95
700.0	3.56	3.64	0.09	41.15	0.66	700.0	1.86	1.90	1.96
780.0	3.61	3.72	0.11	40.63	0.74	780.0	1.84	1.91	1.98
860.0	3.55	3.67	0.12	37.65	0.80	860.0	1.82	1.92	2.00
940.0	3.42	3.55	0.13	34.41	0.84	940.0	1.80	1.93	2.01
1020.0	3.46	3.62	0.16	31.82	0.86	1020.0	1.78	1.93	2.03
1045.0	3.47	3.62	0.15	31.11	0.90	1045.0	1.77	1.94	2.03
1047.0	3.47	3.64	0.17	31.07	0.91	1047.0	1.77	1.94	2.03
1049.0	3.48	3.64	0.17	31.00	0.89	1049.0	1.77	1.94	2.03
1051.0	3.49	3.66	0.17	30.97	0.92	1051.0	1.77	1.94	2.04
1053.0	3.51	3.67	0.16	30.92	0.92	1053.0	1.77	1.94	2.04
1055.0	3.51	3.68	0.17	30.90	0.91	1055.0	1.77	1.94	2.04
1150.0	3.52	3.71	0.19	28.50	1.01	1150.0	1.74	1.95	2.05
1245.0	3.55	3.77	0.21	26.51	1.02	1245.0	1.71	1.96	2.07
1340.0	3.55	3.79	0.23	24.79	1.05	1340.0	1.67	1.97	2.09
1435.0	3.54	3.79	0.25	23.29	1.13	1435.0	1.63	1.98	2.11
1530.0	3.55	3.83	0.28	21.98	1.26	1530.0	1.59	1.99	2.12
1625.0	3.61	3.90	0.29	20.84	1.41	1625.0	1.55	2.00	2.14
1720.0	3.71	4.02	0.31	19.88	1.57	1720.0	1.49	2.01	2.14
1815.0	3.77	4.10	0.33	18.97	1.74	1815.0	1.44	2.01	2.15
1910.0	3.74	4.09	0.35	18.06	1.85	1910.0	1.39	2.01	2.15
2005.0	3.64	3.98	0.34	17.14	1.98	2005.0	1.33	2.00	2.15
2105.0	3.51	3.84	0.34	16.22	2.22	2105.0	1.27	2.00	2.15
2205.0	3.42	3.76	0.33	15.39	2.48	2205.0	1.21	2.00	2.15
2305.0	3.44	3.79	0.35	14.72	2.88	2305.0	1.16	1.99	2.15
2405.0	3.52	3.87	0.35	14.14	3.07	2405.0	1.12	1.98	2.15
2505.0	3.56	3.90	0.34	13.57	3.34	2505.0	1.10	1.97	2.15
2605.0	3.57	3.89	0.32	12.97	3.82	2605.0	1.13	1.97	2.15
2705.0	3.57	3.89	0.32	12.38	4.44	2705.0	1.17	1.97	2.15
2805.0	3.68	4.03	0.35	11.93	5.00	2805.0	1.23	1.97	2.16
2905.0	3.83	4.19	0.36	11.53	5.51	2905.0	1.29	1.97	2.17
3005.0	3.94	4.29	0.35	11.08	6.08	3005.0	1.37	1.98	2.17

¹ Total Loss = Insertion Loss + 3dB Splitter Loss

REV. X2

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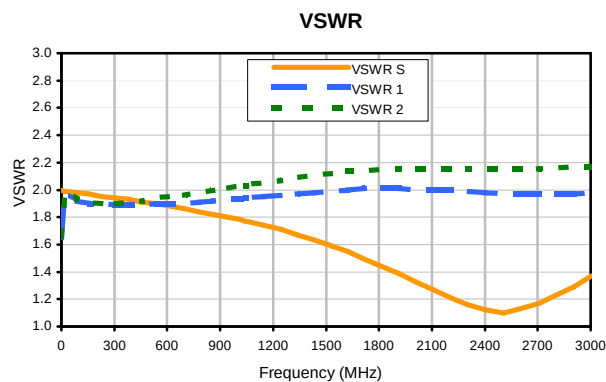
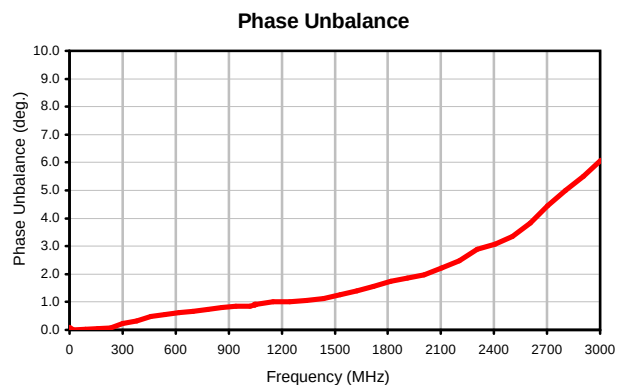
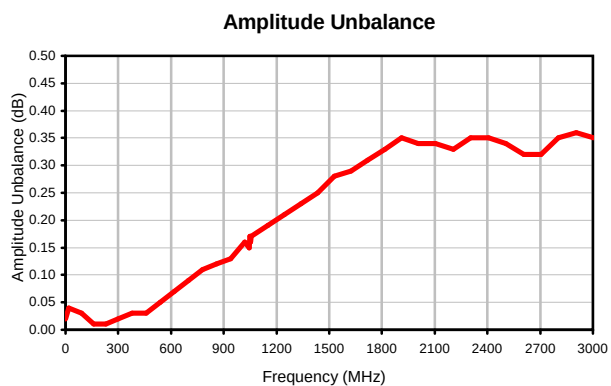
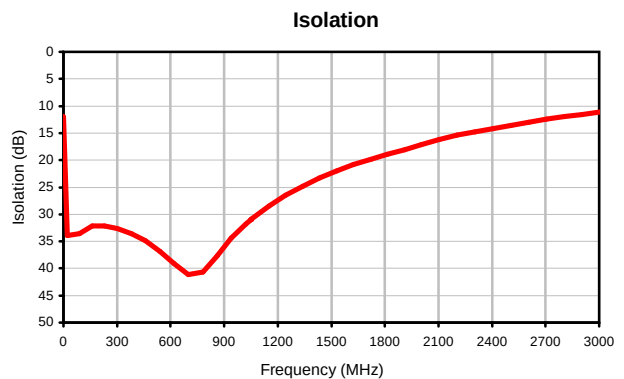
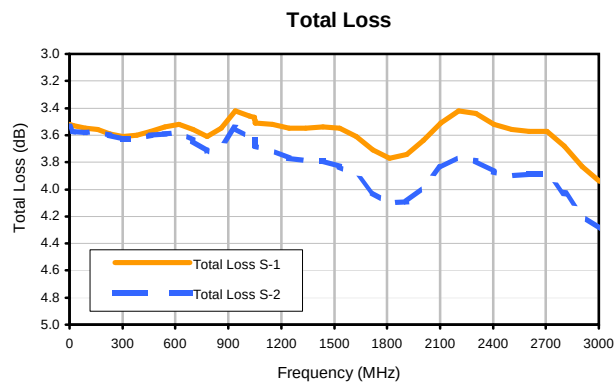
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Typical Performance Curves



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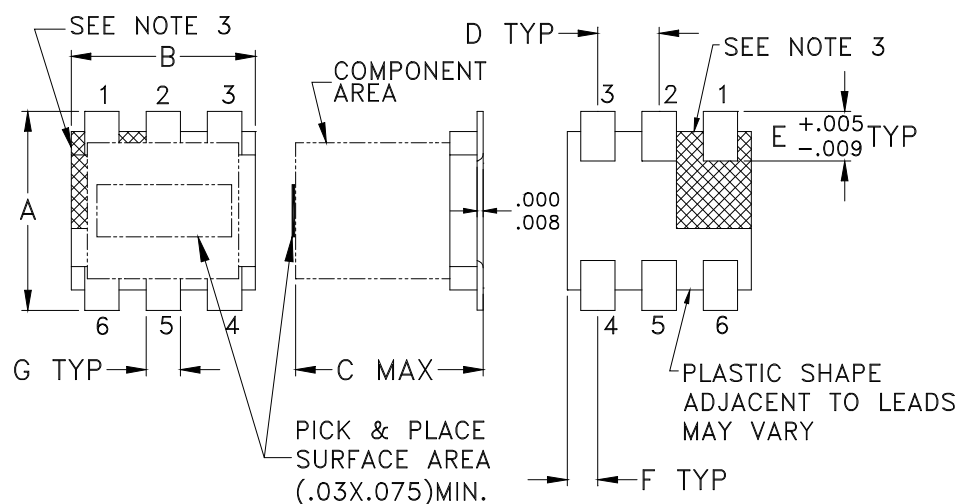
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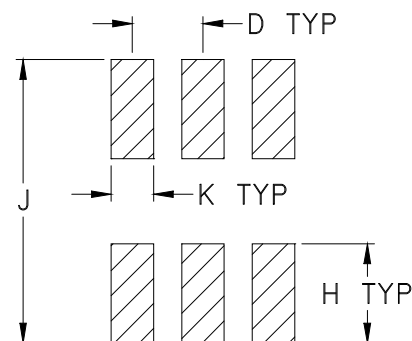


Outline Dimensions

DB714



PCB Land Pattern



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

CASE #	A	B	C	D	E	F	G	H	J	K	WT. GRAM
DB714	.160 (4.06)	.150 (3.81)	.160 (4.06)	.050 (1.27)	.040 (1.02)	.025 (0.64)	.028 (0.71)	.065 (1.65)	.190 (4.83)	.030 (0.76)	.15

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

Notes:

- Case material: Plastic.
- 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.
- Lead #1 identifier shall be located in the cross-hatched area shown.
Identifier may be either a molded or marked feature.



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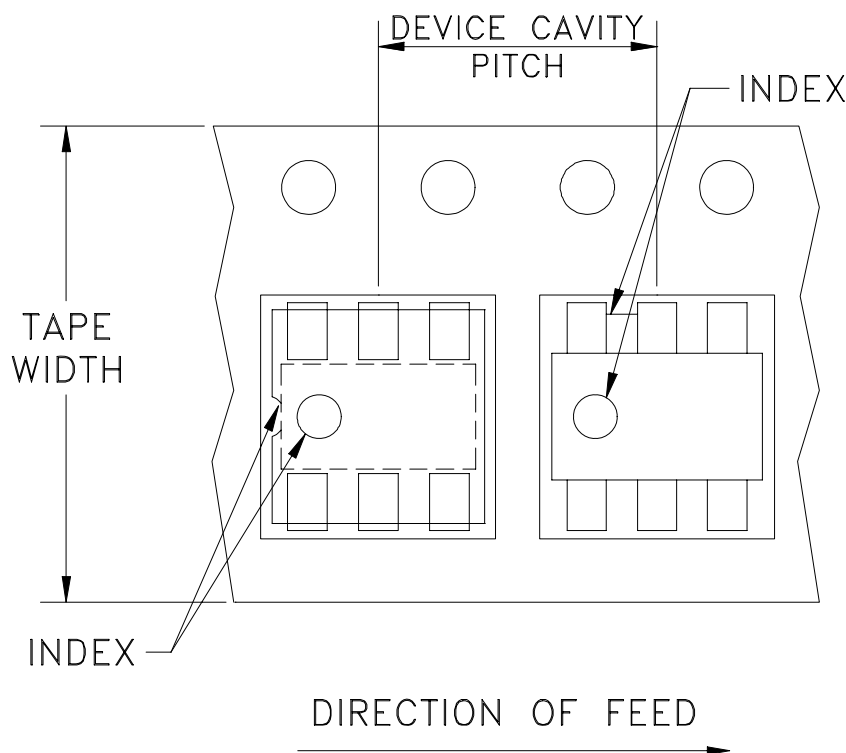


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RF/IF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F47

DEVICE ORIENTATION IN T&R



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel see note
12	8	13	1000, 2000
		7	20, 50, 100, 200, 500

Note: Please consult individual model data sheet to determine device per reel availability.

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.

Go to: www.minicircuits.com/pages/pdfs/tape.pdf



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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