Engineering Development Model

Power Splitter/Combiner JYPSJ-ED11697A/3

2 Way-180°

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 : BJ293

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		**Min.**	**Typ.**	**Max.**	**Units**
Frequency		500		2200	MHz
Isolation	**500-2200 MHz**		22.5		dB
Insertion Loss Above 3 dB	**500-2200 MHz**		1.15		dB
Phase Unbalance	**500-2200 MHz**		2.60		deg.
Amplitude Unbalance	**500-2200 MHz**		0.25		dB
VSWR	**SUM Ports**		1.20		(:1)
	OUT Ports		1.17		(:1)

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

PIN CONNECTIONS	
SUM PORT	1
PORT 1	4
PORT 2	5
GND EXT	2,3,6,7,8
CASE GND	2,3,6,7,8

Functional Diagram

2 Way-180° Power Splitter/Combiner JYPSJ-ED11697A/3

Typical Performance Data

FREQUENCY (MHz)	TOTAL LOSS[1] (dB)		AMPLITUDE UNBALANCE (dB)	ISOLATION (dB)	PHASE UNBALANCE (deg.)
	S-1	S-2		1-2	
500.0	4.01	3.65	0.36	16.62	179.09
700.0	3.84	3.71	0.13	19.25	177.90
900.0	3.72	3.79	0.07	21.56	177.29
1000.0	3.69	3.85	0.16	22.68	177.22
1050.0	3.69	3.88	0.20	23.19	177.22
1100.0	3.69	3.92	0.23	23.69	177.25
1150.0	3.70	3.96	0.26	24.16	177.30
1200.0	3.71	3.99	0.29	24.55	177.39
1250.0	3.72	4.04	0.31	24.83	177.48
1300.0	3.74	4.07	0.33	25.04	177.60
1350.0	3.76	4.11	0.35	25.09	177.71
1400.0	3.79	4.14	0.36	25.06	177.82
1450.0	3.82	4.18	0.36	24.89	177.91
1500.0	3.86	4.21	0.35	24.65	178.00
1550.0	3.90	4.25	0.35	24.31	178.09
1600.0	3.95	4.28	0.33	23.94	178.14
1650.0	4.00	4.31	0.31	23.53	178.16
1700.0	4.06	4.35	0.28	23.12	178.13
1750.0	4.13	4.38	0.25	22.72	178.07
1800.0	4.21	4.41	0.20	22.29	177.92
1850.0	4.29	4.45	0.16	21.91	177.73
1900.0	4.40	4.50	0.10	21.49	177.44
1950.0	4.51	4.55	0.04	21.10	177.09
2000.0	4.64	4.61	0.03	20.72	176.61
2100.0	4.95	4.75	0.20	19.94	175.38
2150.0	5.14	4.83	0.31	19.55	174.60
2200.0	5.34	4.92	0.42	19.15	173.72

FREQUENCY (MHz)	VSWR (:1)		
	S	1	2
500.0	1.66	1.65	1.69
700.0	1.45	1.43	1.48
900.0	1.26	1.24	1.28
1000.0	1.18	1.18	1.21
1050.0	1.15	1.15	1.17
1100.0	1.11	1.13	1.15
1150.0	1.09	1.11	1.13
1200.0	1.06	1.10	1.12
1250.0	1.04	1.09	1.11
1300.0	1.03	1.08	1.11
1350.0	1.02	1.08	1.11
1400.0	1.02	1.07	1.11
1450.0	1.01	1.07	1.12
1500.0	1.01	1.06	1.12
1550.0	1.01	1.05	1.11
1600.0	1.01	1.04	1.11
1650.0	1.03	1.04	1.10
1700.0	1.05	1.05	1.09
1750.0	1.08	1.07	1.07
1800.0	1.12	1.10	1.05
1850.0	1.16	1.14	1.03
1900.0	1.22	1.18	1.02
1950.0	1.28	1.23	1.03
2000.0	1.35	1.29	1.06
2100.0	1.52	1.44	1.14
2150.0	1.62	1.53	1.18
2200.0	1.73	1.62	1.23

[1]Total Loss = Insertion Loss + 3dB Splitter Loss

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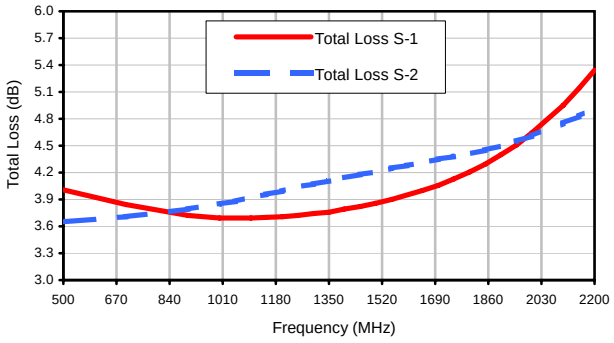
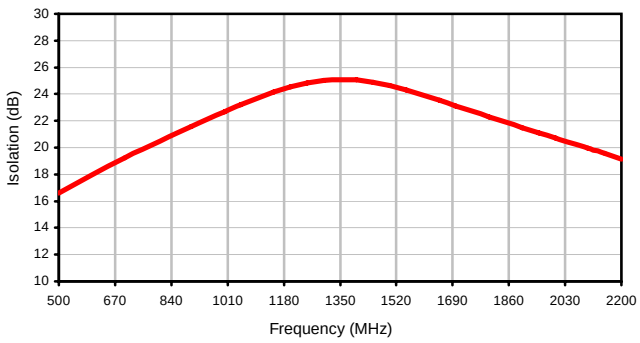
Typical Performance Curves

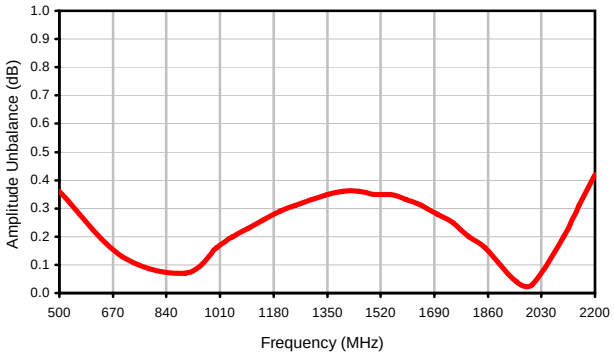
Total Loss



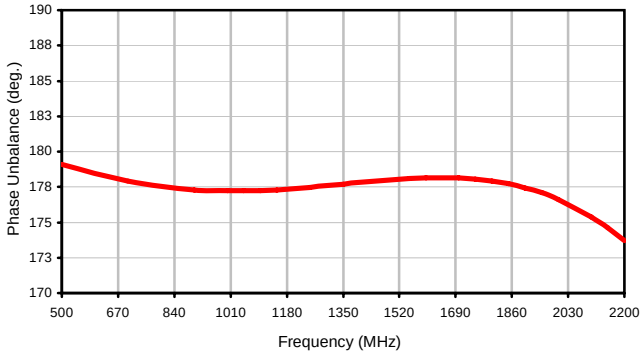
Isolation



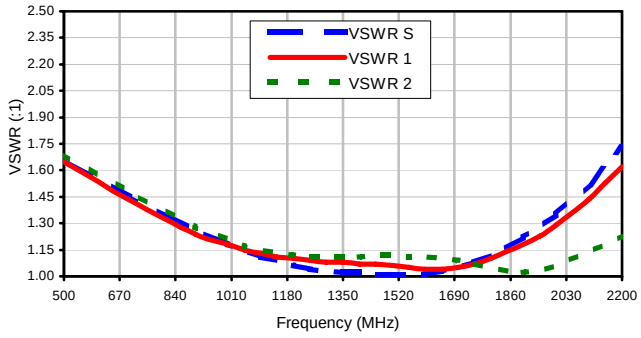
Amplitude Unbalance



Phase Unbalance



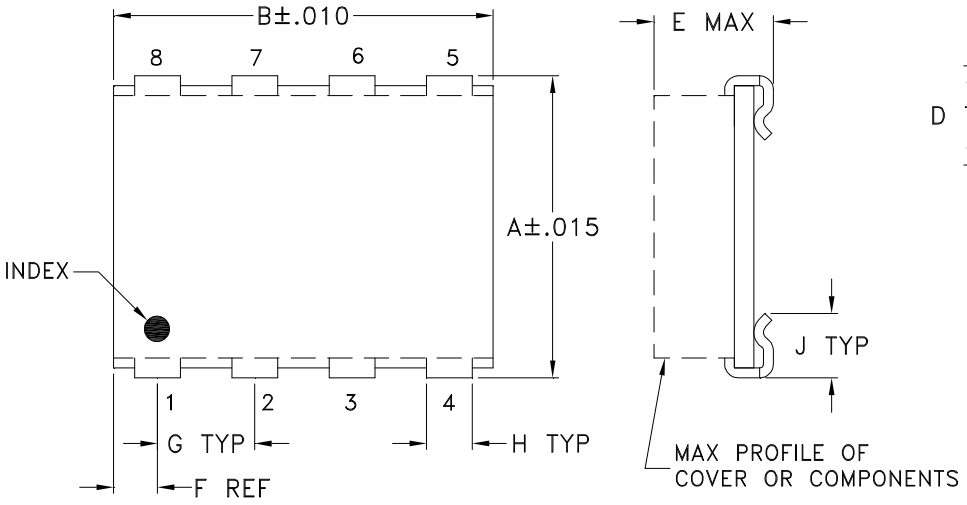
VSWR



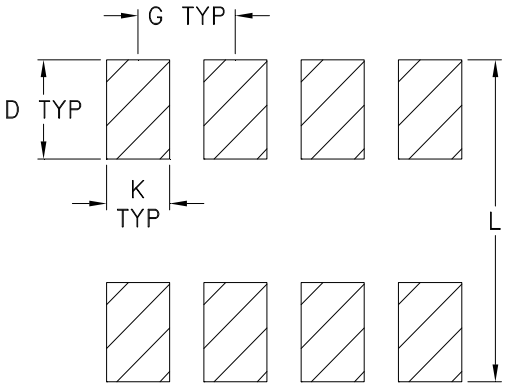
Case Style BJ

BJ293
BJ398

Outline Dimensions



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

CASE#	A	B	C	D	E	F	G	H	J	K	L	WT. GRAMS
BJ293	.395 (10.03)	.500 (12.70)	-- --	.100 (2.54)	.230 (5.84)	.100 (2.54)	.100 (2.54)	.047 (1.19)	.065 (1.65)	.065 (1.65)	.425 (10.80)	.80
BJ398	.305 (7.75)	.390 (9.91)	-- --	.100 (2.54)	.105 (2.67)	.045 (1.14)	.100 (2.54)	.047 (1.19)	.065 (1.65)	.065 (1.65)	.325 (8.26)	.20

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

Notes:
1. Case material: Plastic.
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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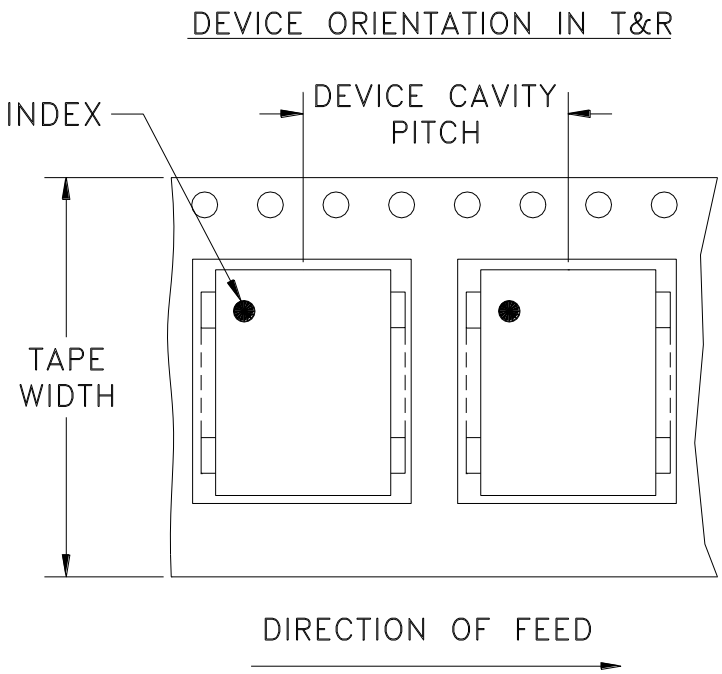

Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
24	16	7	10,20,50,100
		13	200,500

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

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

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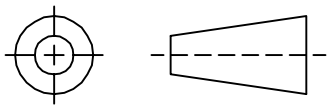
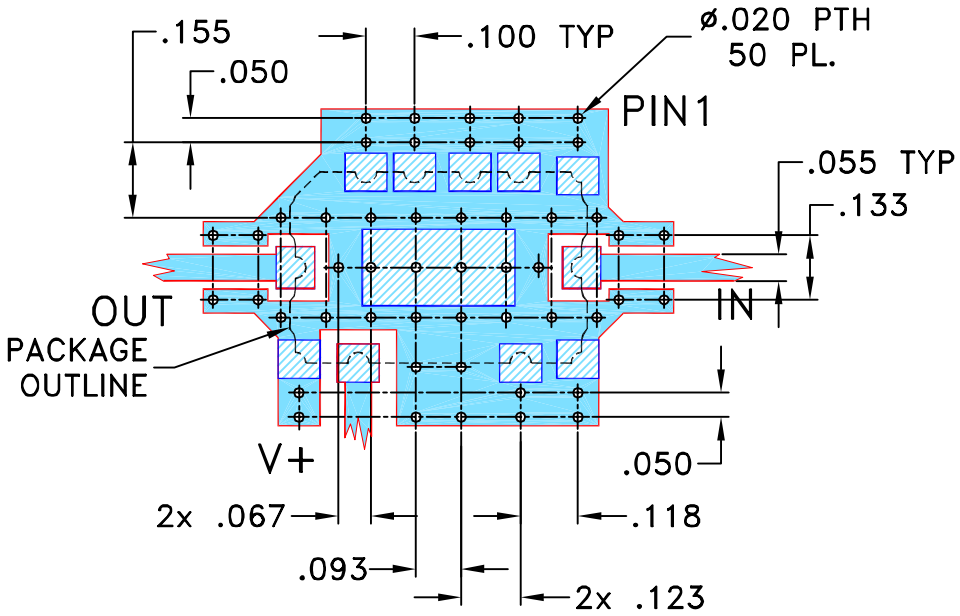
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M119697	NEW RELEASE	10/08	HB	HH
A	M120556	UPDATE GROUND PLANE DIM.	12/08	HB	HH
A	R75063	UPDATE GROUND PLANE DIM.	12/08	HB	HH

SUGGESTED MOUNTING CONFIGURATION FOR JQ1382 CASE STYLE, "11AM01" PIN CODE



NOTES:

1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002; COPPER 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINOUS 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	HB	05.10.08
TOLERANCES ON:	CHECKED	DH	28.10.08
2 PL DECIMALS ±	APPROVED	HH	29.10.08
3 PL DECIMALS ± .005			
ANGLES ±			
FRACTIONS ±			

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

Mini-Circuits® 13 Neptune Avenue Brooklyn NY 11235

PL, 11AM01, JQ1382, TAMP, TB-468

SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-293	A

FILE:	SCALE:	SHEET:
98PL293	2.5:1	1 OF 1

Mini-Circuits

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