

Directional Coupler

JDC-ED12163/1

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 : BH292

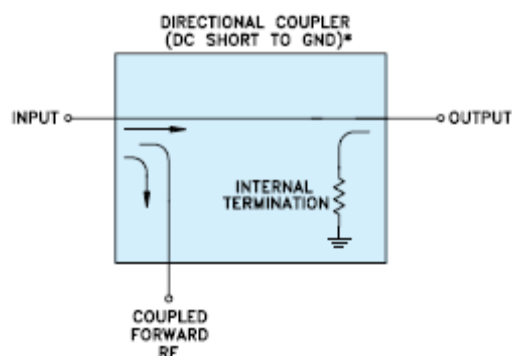
ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency		2		500	MHz
Coupling	Nominal		19.5 ± 0.5		dB
	Flatness		± 0.095		dB
Mainline Loss **	2-20 MHz		0.50		dB
	20-250 MHz		0.50		dB
	250-500 MHz		0.60		dB
Directivity	2-20 MHz		27		dB
	20-250 MHz		26		dB
	250-500 MHz		23		dB
VSWR	2-500 MHz		1.1		(:1)
RF Power Input	2-500 MHz			0.5	W

Note: ** Mainline loss includes theoretical coupled power loss of 0.049 dB at 19.5 dB coupling.

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

PIN CONNECTIONS	
INPUT	1
OUTPUT	6
COUPLED FORWARD	3
NOT USED	4
GROUND	2,5

Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) THAT ROUTES DC FROM RF PORTS TO GROUND.

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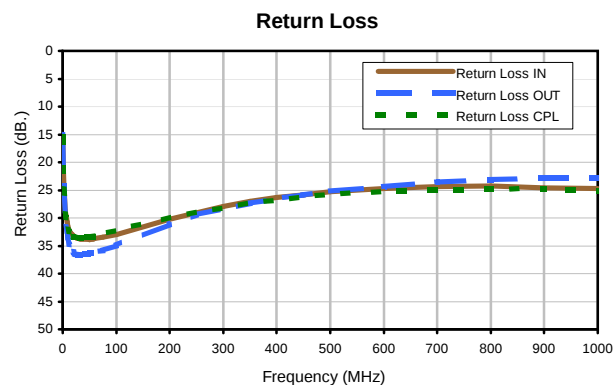
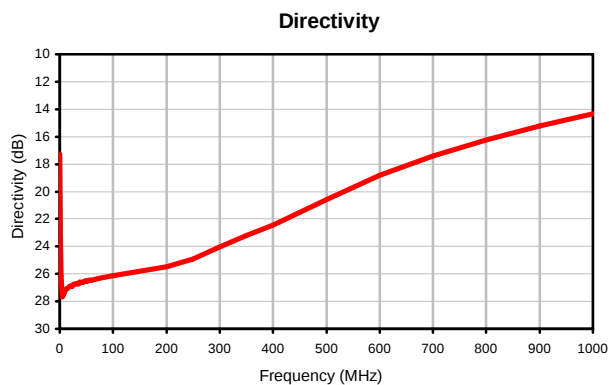
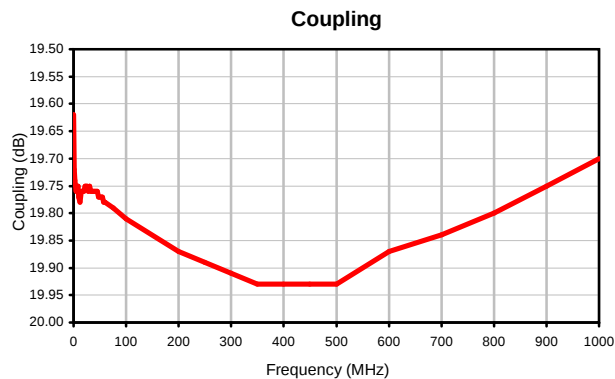
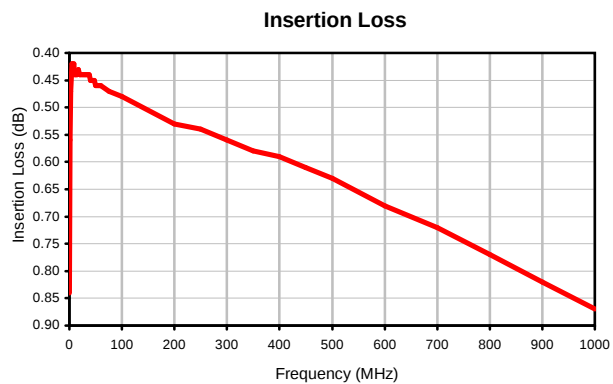
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	COUPLING (dB)	DIRECTIVITY (dB)	RETURN LOSS		
				IN	(dB) OUT	CPL
0.3	0.84	19.62	17.26	15.08	15.06	15.50
1.0	0.56	19.72	23.19	21.32	21.64	21.62
2.0	0.47	19.74	26.13	24.51	25.14	24.81
5.0	0.42	19.76	27.65	28.71	30.00	29.20
6.0	0.42	19.75	27.58	29.52	31.00	29.99
8.0	0.42	19.75	27.40	30.73	32.56	31.11
10.0	0.44	19.77	27.23	31.55	33.73	31.85
12.5	0.44	19.78	27.10	32.25	34.78	32.48
15.0	0.44	19.76	27.05	32.73	35.38	32.90
17.5	0.43	19.76	26.92	33.04	35.85	33.16
20.0	0.44	19.76	26.89	33.27	36.22	33.34
22.5	0.44	19.75	26.90	33.46	36.44	33.45
25.0	0.44	19.75	26.79	33.58	36.55	33.48
27.5	0.44	19.76	26.74	33.65	36.64	33.56
30.0	0.44	19.75	26.73	33.73	36.71	33.59
32.5	0.44	19.76	26.69	33.76	36.68	33.57
35.0	0.44	19.76	26.72	33.82	36.67	33.61
37.5	0.44	19.76	26.62	33.81	36.61	33.55
40.0	0.45	19.76	26.64	33.82	36.58	33.54
42.5	0.45	19.76	26.58	33.84	36.52	33.46
45.0	0.45	19.76	26.61	33.81	36.44	33.47
47.5	0.45	19.77	26.52	33.84	36.39	33.43
50.0	0.46	19.77	26.55	33.86	36.34	33.41
52.5	0.46	19.77	26.50	33.84	36.28	33.38
55.0	0.46	19.77	26.46	33.80	36.24	33.28
57.5	0.46	19.78	26.45	33.74	36.19	33.28
60.0	0.46	19.78	26.47	33.71	36.12	33.23
75.0	0.47	19.79	26.34	33.45	35.86	32.84
100.0	0.48	19.81	26.13	33.04	34.89	32.19
200.0	0.53	19.87	25.47	30.23	31.16	29.93
250.0	0.54	19.89	24.90	29.08	29.42	28.92
300.0	0.56	19.91	24.02	27.89	28.41	28.11
350.0	0.58	19.93	23.20	27.06	27.41	27.23
400.0	0.59	19.93	22.44	26.34	26.50	26.75
450.0	0.61	19.93	21.52	25.82	25.86	26.19
500.0	0.63	19.93	20.59	25.31	25.19	25.74
600.0	0.68	19.87	18.79	24.72	24.32	25.25
700.0	0.72	19.84	17.41	24.37	23.57	25.09
800.0	0.77	19.80	16.27	24.29	23.13	24.82
900.0	0.82	19.75	15.20	24.56	22.90	24.75
1000.0	0.87	19.70	14.34	24.69	22.77	25.13

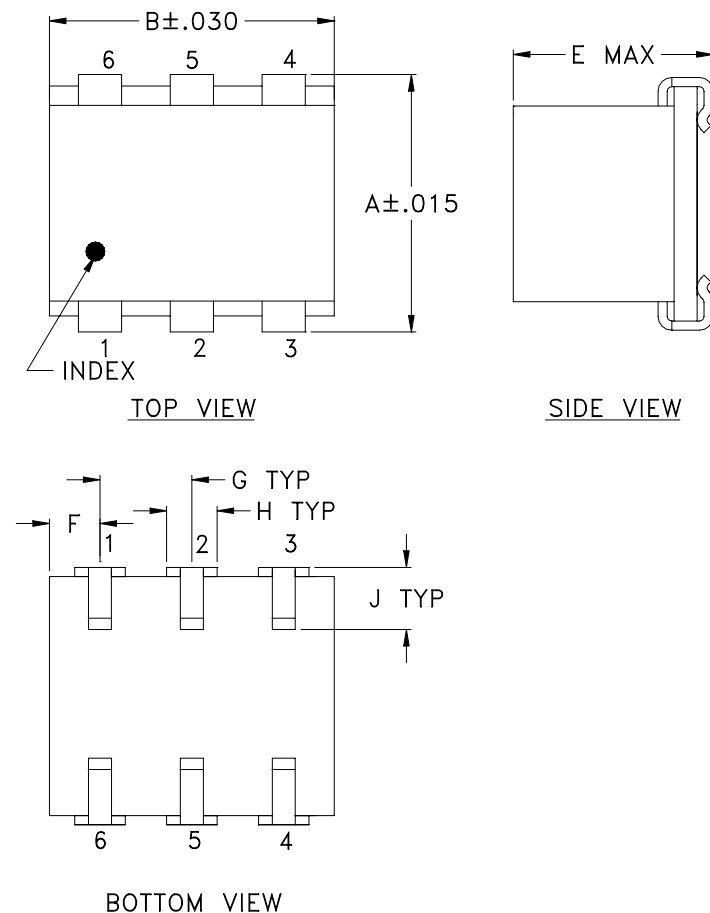
Directional Coupler

Typical Performance Curves

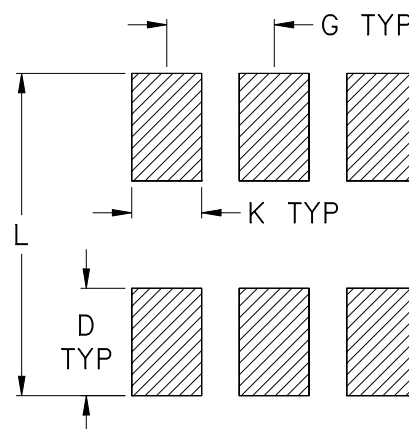
JDC-ED12163/1



Outline Dimensions



PCB Land Pattern



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

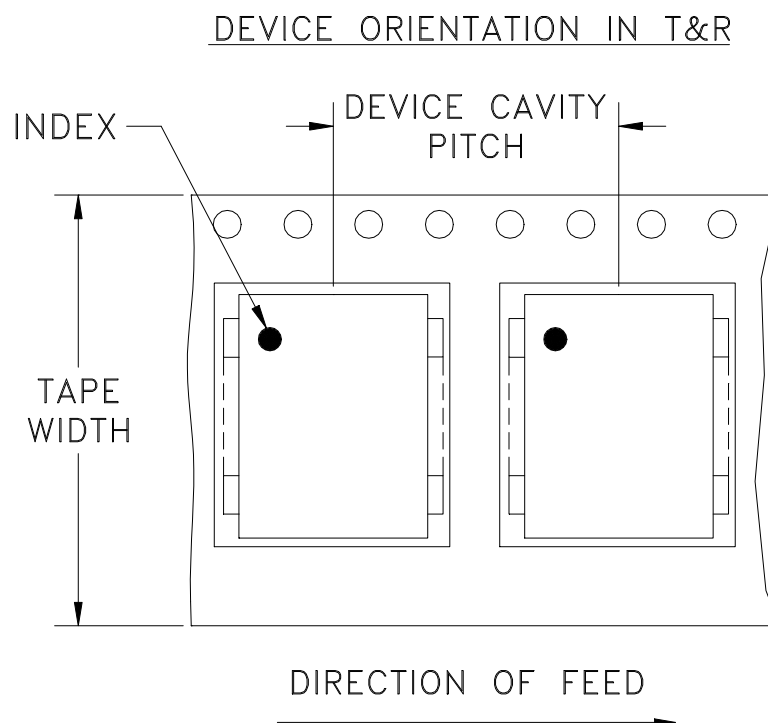
CASE #	A	B	C	D	E	F	G	H	J	K	L	WT. GRAM
BH292	.280 (7.11)	.310 (7.87)	- -	.100 (2.54)	.225 (5.72)	.055 (1.40)	.100 (2.54)	.047 (1.19)	.065 (1.65)	.065 (1.65)	.300 (7.62)	.45

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

Notes:

- Case material: Ceramic.
- 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.

Tape & Reel Packaging TR-F24



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
16	12	13	500

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



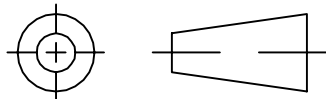
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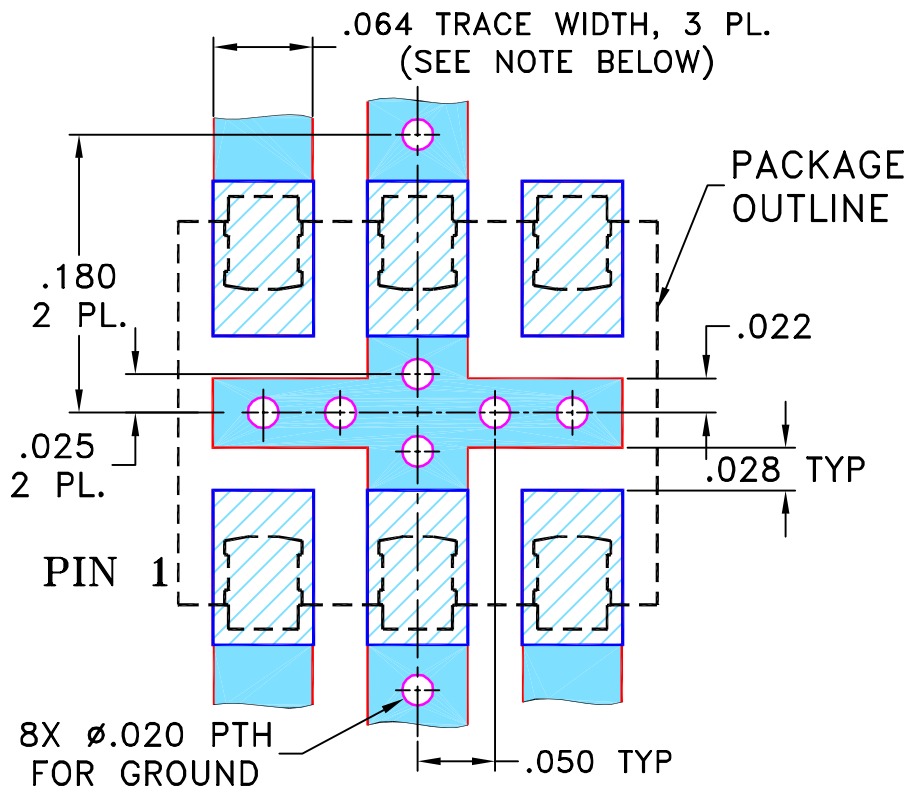
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M81463	NEW RELEASE	07/23/02	MMG	LC
A	M102713	ADDED NOTE 2 & "...WITH SMOBC"	01/17/06	MMG	IL

SUGGESTED MOUNTING CONFIGURATION FOR BH292 CASE STYLE, "hz" PIN CONNECTION



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" $\pm$.002"; 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

DIMENSIONS ARE IN INCHES

TOLERANCES ON:
2 PL DECIMALS $\pm$
3 PL DECIMALS $\pm$.005
ANGLES $\pm$
FRACTIONS $\pm$

INITIALS

DATE

DRAWN

MMG

07/08/02

CHECKED

AV

07/23/02

APPROVED

LC

07/23/02



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PL, hz, BH292, JDC, TB-185

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

SIZE

A

CODE IDENT

15542

DRAWING NO:

98-PL-046

REV:

A

FILE: 98PL046

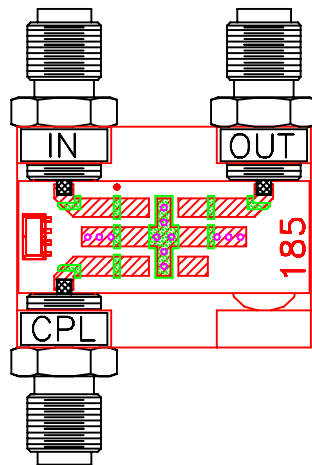
SCALE:

8:1

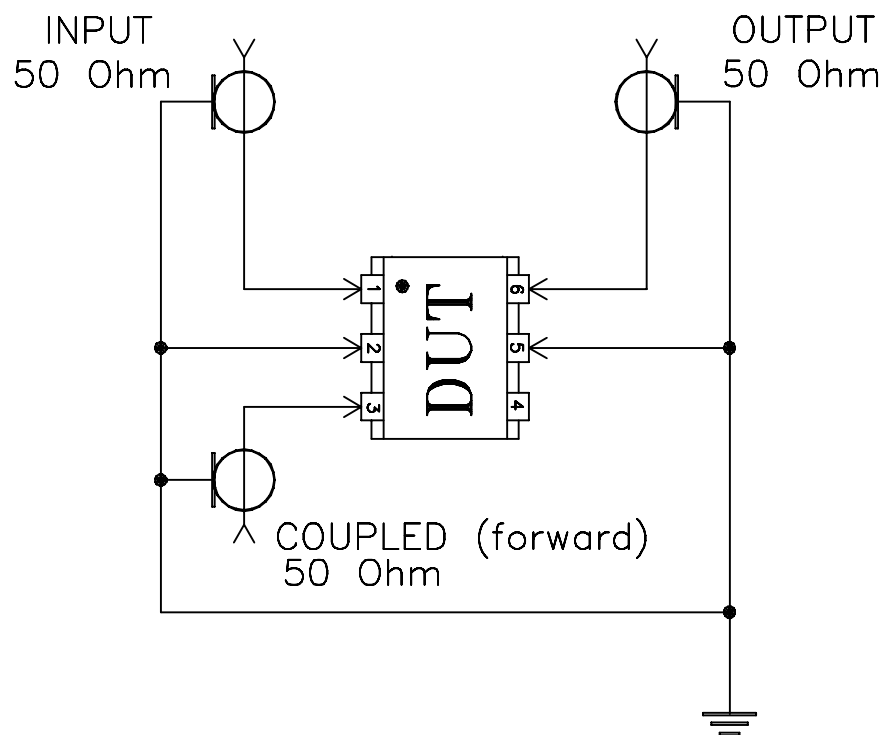
SHEET:

1 OF 1

Evaluation Board and Circuit



TB-185



Schematic Diagram

Notes:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent,
Dielectric Constant=3.5, Thickness=.030 inch.

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