

Non-Catalog Model

Power Splitter/Combiner

QBA-22

2 Way-90°

Important Note

This is a non-catalog model and can be manufactured on specific request. Pricing and delivery information can be supplied upon request.



Please click "Back", and then click "Contact Us" for Applications support.

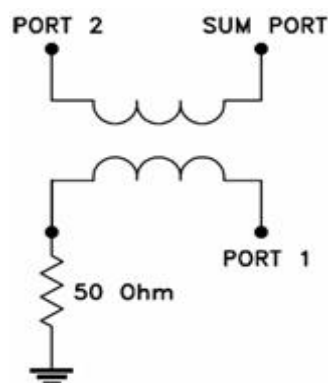
CASE STYLE : SM1

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency		1800		2400	MHz
Isolation	1800 - 2400 MHz	13	18		dB
Insertion Loss					
Average of Coupled Outputs above 3.0 dB	1800 - 2400 MHz		0.60	1.00	dB
Phase Unbalance	1800 - 2400 MHz		1.065	5.000	deg.
Amplitude Unbalance	1800 - 2400 MHz		0.446	1.000	dB
VSWR	SUM Port		1.27		(:1)
	OUT Ports		1.33		(:1)

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

PIN CONNECTIONS	
SUM PORT	1
PORT 1	10(0)
PORT 2	6(-90)
GND EXT	2, 3, 4, 7, 8, 9
ISOLATE	5

Functional Diagram



2 Way-90° Power Splitter/Combiner

QBA-22

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	AVG.					S	1	2
1700.0	3.44	3.54	3.49	0.10	16.12	87.59	1700.0	1.30	1.39	1.35
1750.0	3.54	3.51	3.53	0.03	16.31	87.82	1750.0	1.30	1.39	1.35
1800.0	3.50	3.39	3.45	0.10	16.44	87.95	1800.0	1.29	1.38	1.34
1850.0	3.66	3.44	3.55	0.22	16.71	88.12	1850.0	1.29	1.37	1.34
1900.0	3.57	3.30	3.44	0.27	16.81	88.28	1900.0	1.28	1.36	1.34
2000.0	3.68	3.26	3.47	0.42	17.22	88.68	2000.0	1.27	1.34	1.33
2100.0	3.81	3.30	3.56	0.51	17.67	88.94	2100.0	1.27	1.33	1.33
2150.0	3.67	3.11	3.39	0.55	17.67	89.15	2150.0	1.26	1.32	1.33
2200.0	3.89	3.32	3.61	0.56	18.08	89.15	2200.0	1.26	1.32	1.34
2250.0	3.66	3.07	3.37	0.59	17.98	89.40	2250.0	1.26	1.31	1.34
2300.0	3.89	3.34	3.62	0.56	18.41	89.39	2300.0	1.26	1.30	1.34
2350.0	3.72	3.14	3.43	0.58	18.34	89.62	2350.0	1.25	1.30	1.35
2400.0	3.83	3.28	3.56	0.55	18.61	89.60	2400.0	1.25	1.29	1.36
2450.0	3.76	3.25	3.51	0.51	18.65	89.95	2450.0	1.25	1.29	1.36
2500.0	3.76	3.29	3.53	0.46	18.75	89.79	2500.0	1.25	1.29	1.37

¹ Total Loss = Insertion Loss + 3dB Splitter Loss

REV. X2
QBA-22
100627
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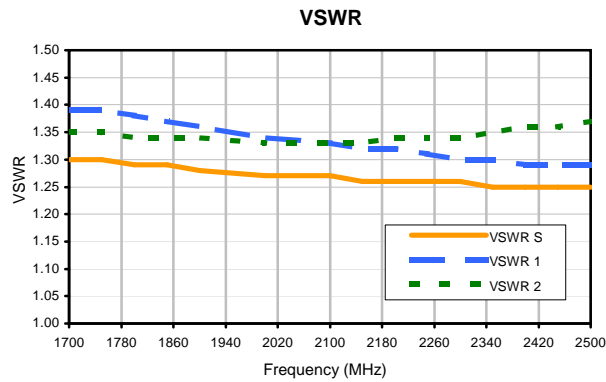
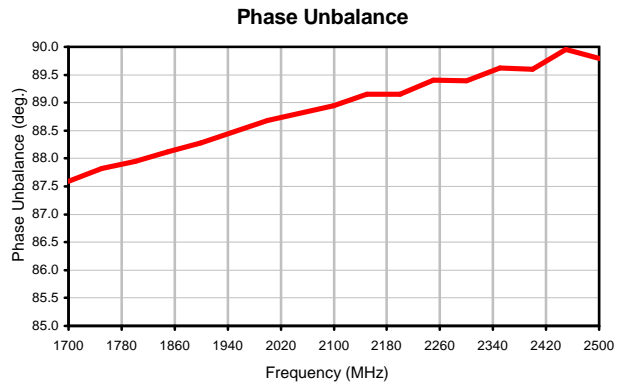
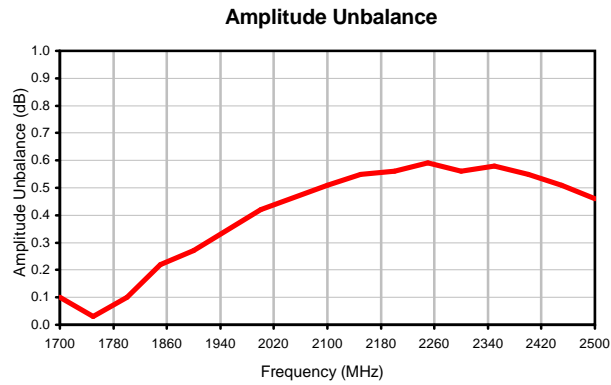
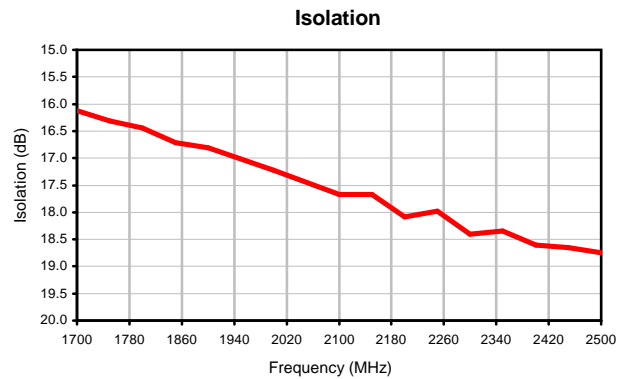
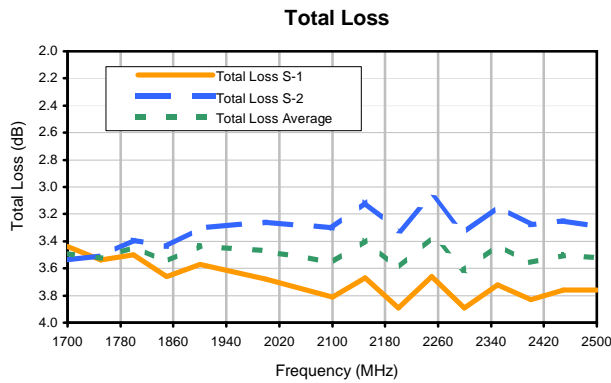
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The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



Typical Performance Curves

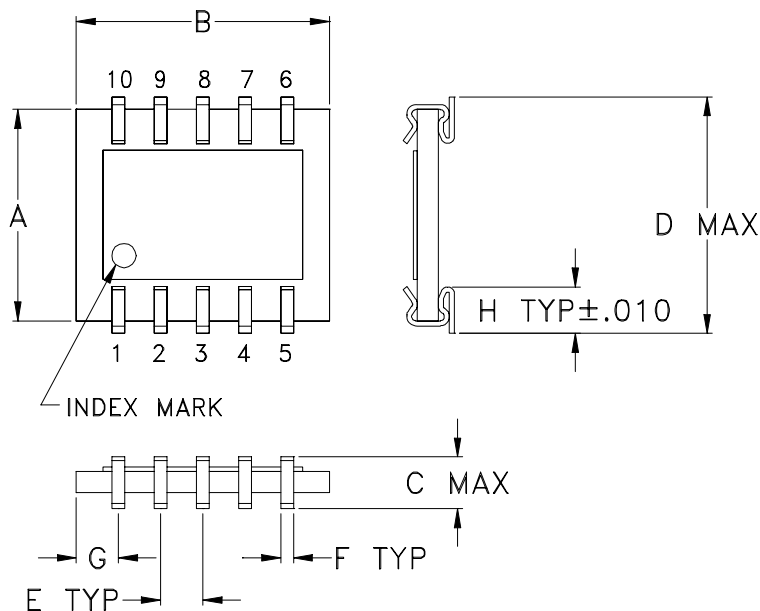


Case Style

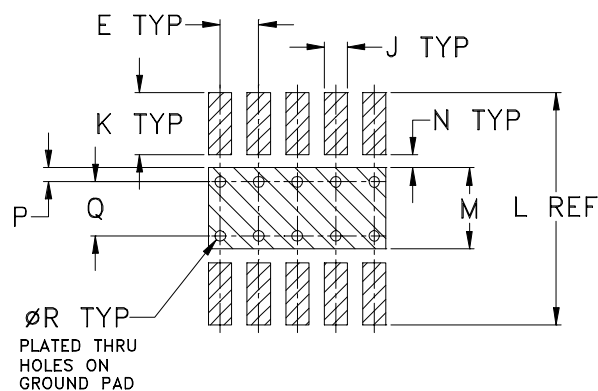
SM1

SM1

Outline Dimensions



PCB Land Pattern



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

ADJACENT GROUND PINS SHALL BE CONNECTED
TO EACH OTHER AND TO GROUND PAD

CASE #	A	B	C	D	E	F	G	H	J	K	L	M	N	P
SM1	.250 (6.35)	.300 (7.62)	.070 (1.78)	.290 (7.37)	.050 (1.27)	.015 (0.38)	.050 (1.27)	.060 (1.52)	.030 (0.76)	.080 (2.03)	.300 (7.62)	.100 (2.54)	.020 (0.51)	.015 (0.38)

CASE #	Q	R	WT. GRAM
SM1	.070 (1.78)	.014 (0.36)	.3

Dimensions are in inches (mm). Tolerances: $\pm .005$

Notes:

1. Open style, ceramic base.
2. Termination finish:
For RoHS Case Styles: Tin plate over Nickel plate.
For RoHS-5 Case Styles: Tin-Lead plate.



INTERNET <http://www.minicircuits.com>

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Tape & Reel Packaging TR-F34



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel see note	
16	12	7	Small quantity standard (see note)	20
				50
				100
				200
		13	Standard	500
				1000

Note: Availability of small reel quantity varies by model.
Refer to pricing and availability on individual model dashboard.

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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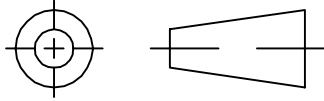
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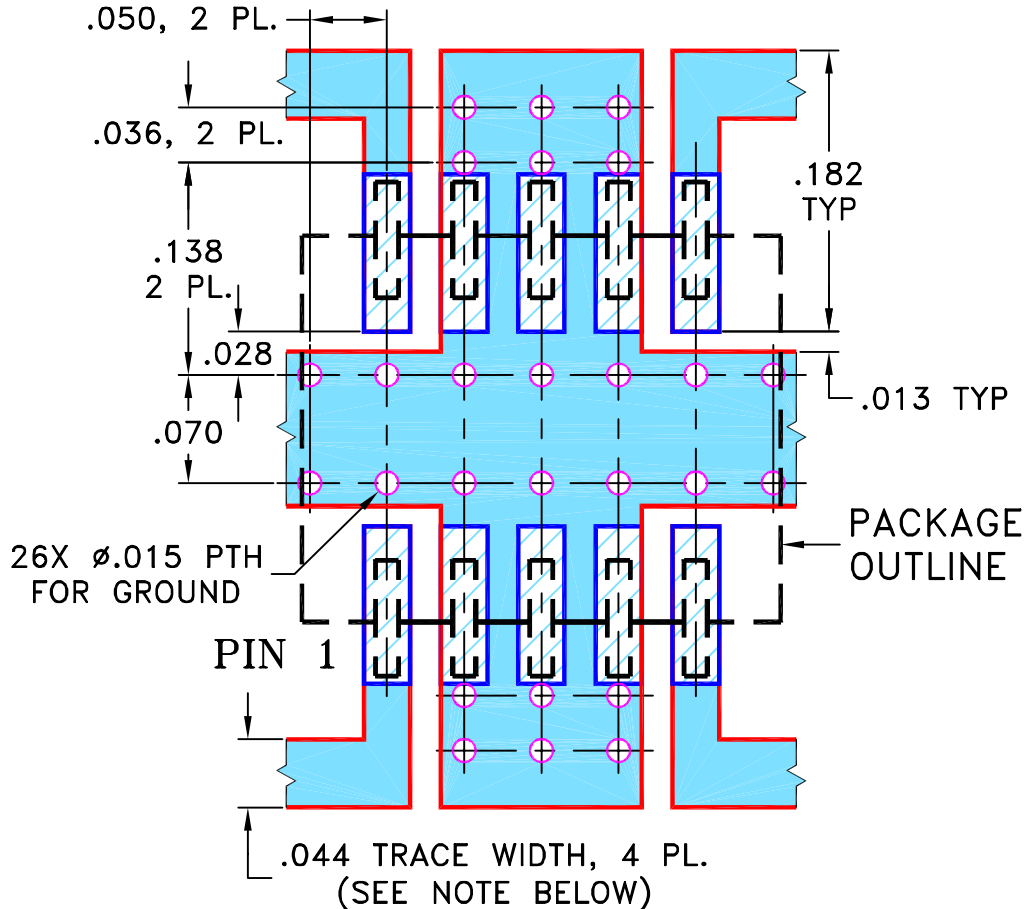
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
A	M82377	UPDATED DRAWING	07/31/02	AV	DB
B	M101085	UPDATED DRAWING, ADDED DZ944 CASE STYLE & NOTE 2	10/06/05	MMG	HY
C	M102713	UPDATED NOTES	01/10/06	MMG	ABD

**SUGGESTED MOUNTING CONFIGURATION FOR
SM1L/SM33/DZ944 CASE STYLES, "lf/nl" PIN CONNECTIONS**



- NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS $.020 \pm .0015$; 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	MMG	04/12/00
TOLERANCES ON:	WP	04/27/00
2 PL DECIMALS \pm	DB	04/27/00
3 PL DECIMALS \pm .005		
ANGLES \pm		
FRACTIONS \pm		

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Brooklyn NY 11235

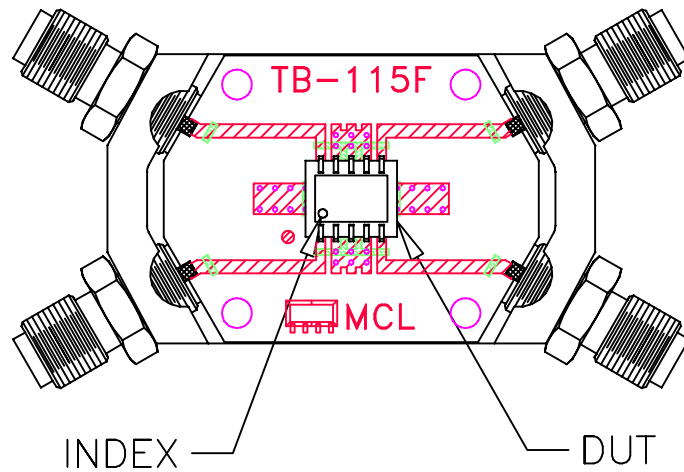
PL, lf/nl, SM1L/SM33/DZ944, BDCA/QBA, TB-115

SIZE A	CODE IDENT 15542	DRAWING NO: 98-PL-004	REV: C
FILE: 98PL004	SCALE: 8:1	SHEET: 1 OF 1	

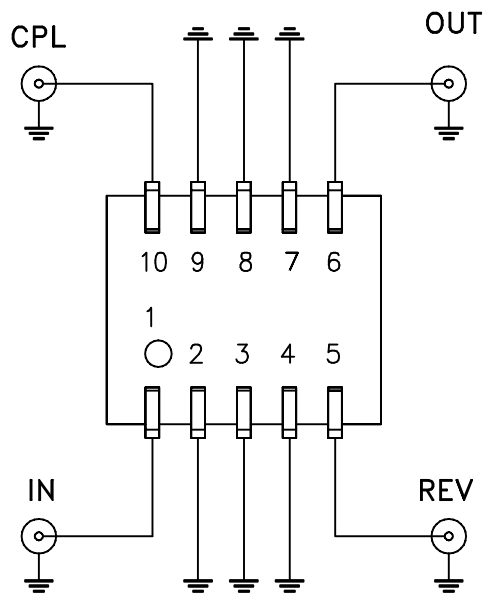
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ASHEETA1.DWG REV:A DATE:01/12/95

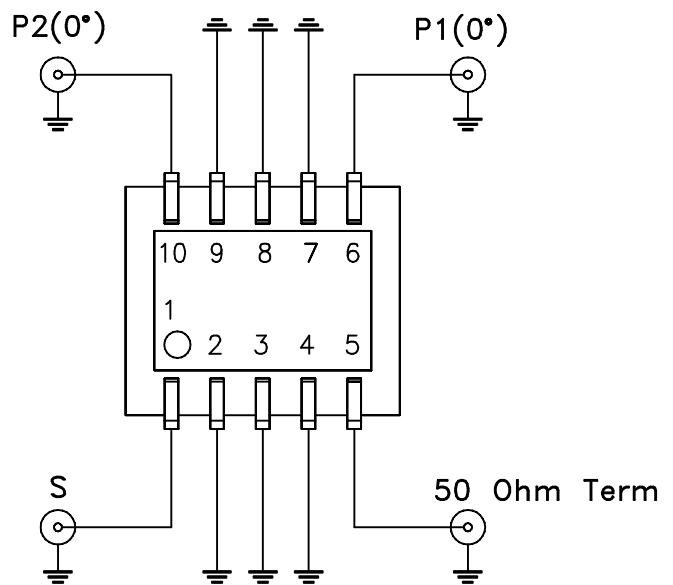
Evaluation Board and Circuit



TB-115+



BDCA MODELS



QBA MODELS

SCHEMATIC DIAGRAM

Notes:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent, Dielectric Constant=3.5, Thickness=.020 inch.

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