

Engineering Development Model

Power Splitter/Combiner

LRPS-ED4257/1

3 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 : QQQ130

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C				
Parameter		Min.	Typ.	Max. Units
Frequency		5		910 MHz
Isolation	5 - 50 MHz		22	dB
	50 - 455 MHz		24	dB
	455 - 910 MHz		26	dB
Insertion Loss Above 4.8 dB	5 - 50 MHz		0.39	dB
	50 - 455 MHz		0.55	dB
	455 - 910 MHz		0.92	dB
Phase Unbalance	5 - 50 MHz		0.123	deg.
	50 - 455 MHz		1.093	deg.
	455 - 910 MHz		2.227	deg.
Amplitude Unbalance	5 - 50 MHz		0.018	dB
	50 - 455 MHz		0.052	dB
	455 - 910 MHz		0.526	dB
VSWR	SUM Port		1.24	(:1)
	OUT Ports		1.23	(:1)

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

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

Functional Diagram



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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		1-2	2-3			S	1	2	3
5.0	5.12	5.13	5.14	0.01	22.39	17.19	0.08	5.0	1.43	1.79	1.78	2.01
6.0	5.14	5.16	5.16	0.02	23.19	18.28	0.02	6.0	1.39	1.62	1.62	1.79
7.0	5.17	5.18	5.19	0.02	23.66	19.05	0.10	7.0	1.37	1.52	1.52	1.66
8.0	5.18	5.20	5.20	0.02	23.99	19.61	0.10	8.0	1.36	1.46	1.45	1.58
9.0	5.19	5.19	5.21	0.02	24.23	20.04	0.09	9.0	1.35	1.41	1.41	1.52
10.0	5.20	5.22	5.20	0.02	24.42	20.38	0.05	10.0	1.34	1.38	1.38	1.48
30.0	5.21	5.22	5.22	0.01	25.62	22.53	0.22	30.0	1.28	1.18	1.17	1.22
50.0	5.20	5.22	5.22	0.02	25.81	22.97	0.32	50.0	1.26	1.13	1.13	1.16
131.3	5.27	5.29	5.28	0.02	25.77	22.95	0.69	131.3	1.24	1.08	1.07	1.09
212.5	5.32	5.35	5.31	0.04	25.76	22.49	1.00	212.5	1.23	1.07	1.05	1.06
293.8	5.40	5.42	5.36	0.06	25.91	22.05	1.31	293.8	1.23	1.06	1.04	1.04
375.0	5.45	5.46	5.37	0.08	26.20	21.71	1.57	375.0	1.23	1.07	1.04	1.02
400.0	5.48	5.48	5.39	0.09	26.35	21.64	1.67	400.0	1.23	1.07	1.04	1.02
516.7	5.59	5.56	5.42	0.17	27.50	21.58	1.97	516.7	1.22	1.08	1.06	1.02
633.3	5.71	5.61	5.42	0.29	30.06	22.14	2.10	633.3	1.18	1.09	1.08	1.05
750.0	5.86	5.71	5.40	0.46	32.62	23.70	2.17	750.0	1.10	1.08	1.09	1.08
790.0	5.94	5.75	5.40	0.55	30.66	24.48	2.09	790.0	1.06	1.07	1.09	1.09
830.0	6.05	5.79	5.39	0.66	27.61	25.15	2.06	830.0	1.02	1.06	1.09	1.10
870.0	6.17	5.90	5.44	0.73	24.49	25.26	2.36	870.0	1.07	1.04	1.08	1.12
910.0	6.34	6.05	5.52	0.82	21.60	24.11	2.84	910.0	1.16	1.02	1.08	1.13

¹ Total Loss = Insertion Loss + 4.8dB Splitter Loss

REV. X2

LRPS-ED4257/1

100707

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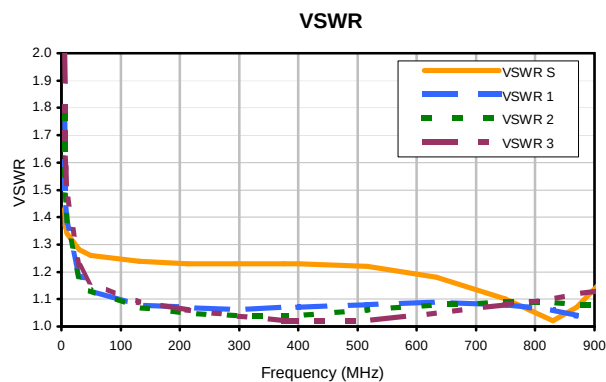
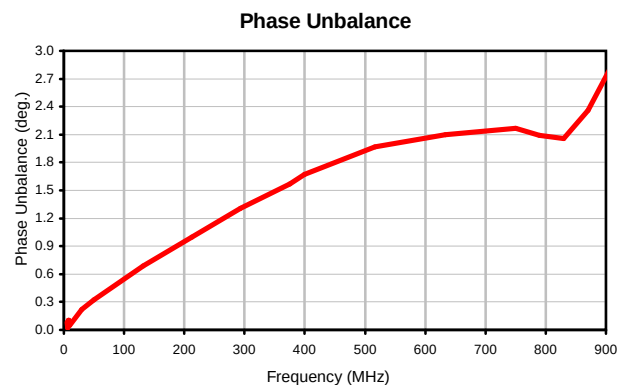
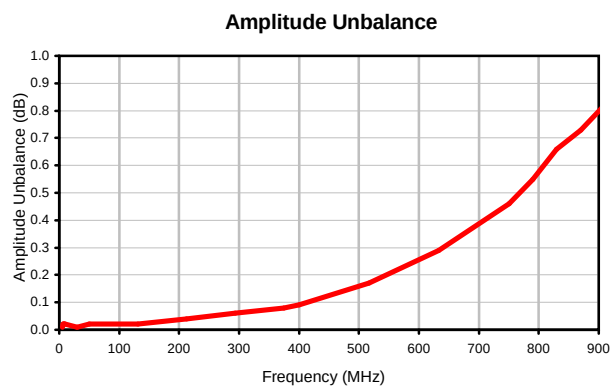
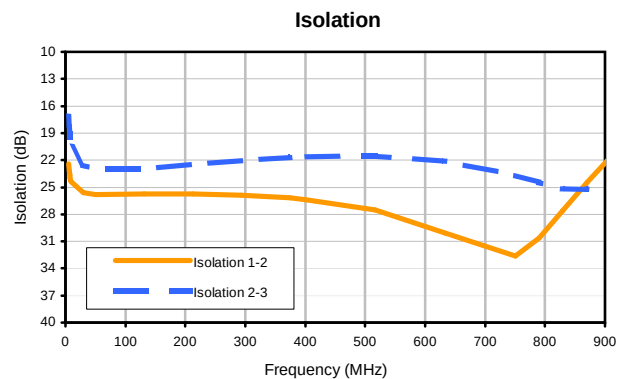
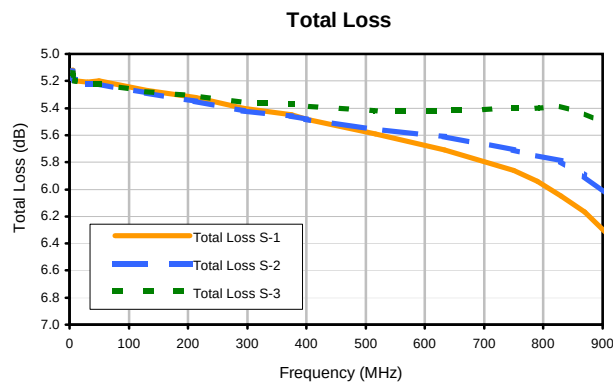
The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



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Typical Performance Curves

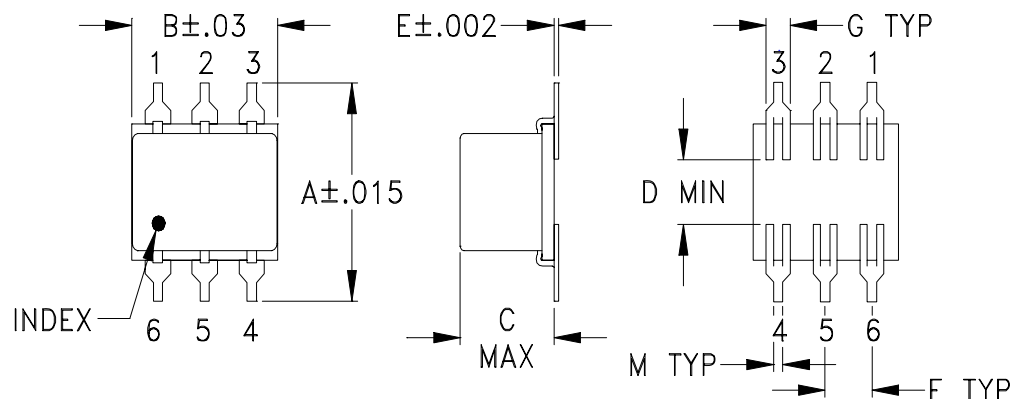


Case Style

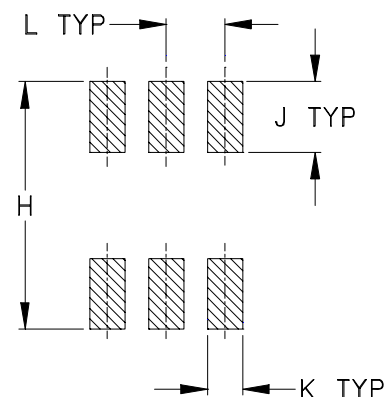
QQQ

Outline Dimensions

QQQ130 (non-waterproof)
QQQ828 (washable)



PCB Land Pattern



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

CASE#	A	B	C	D	E	F	G	H	J	K	L	M	WT, GRAM
QQQ130	.400 (10.16)	.31 (7.87)	.200 (5.08)	.10 (2.54)	.010 (.25)	.100 (2.54)	.050 (1.27)	.420 (10.67)	.120 (3.05)	.060 (1.52)	.100 (2.54)	.020 (.51)	.55
QQQ828			.050 (1.27)										.20

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

Notes:

- Case material: Ceramic.
- Termination finish:
 - For RoHS Case Styles: Tin plate over Nickel plate.
 - For RoHS-5 Case Styles: Tin-Lead plate.



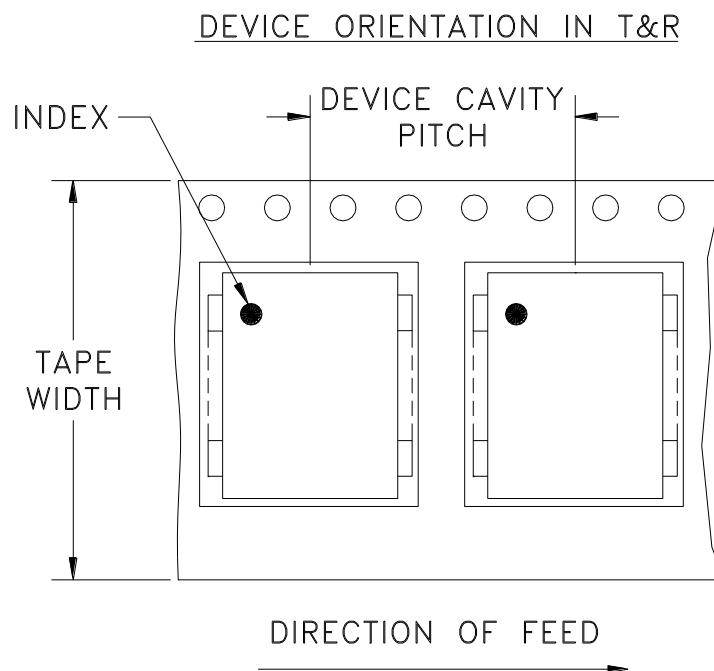
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Tape & Reel Packaging TR-F10



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.



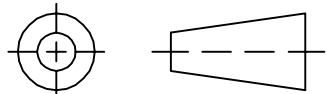
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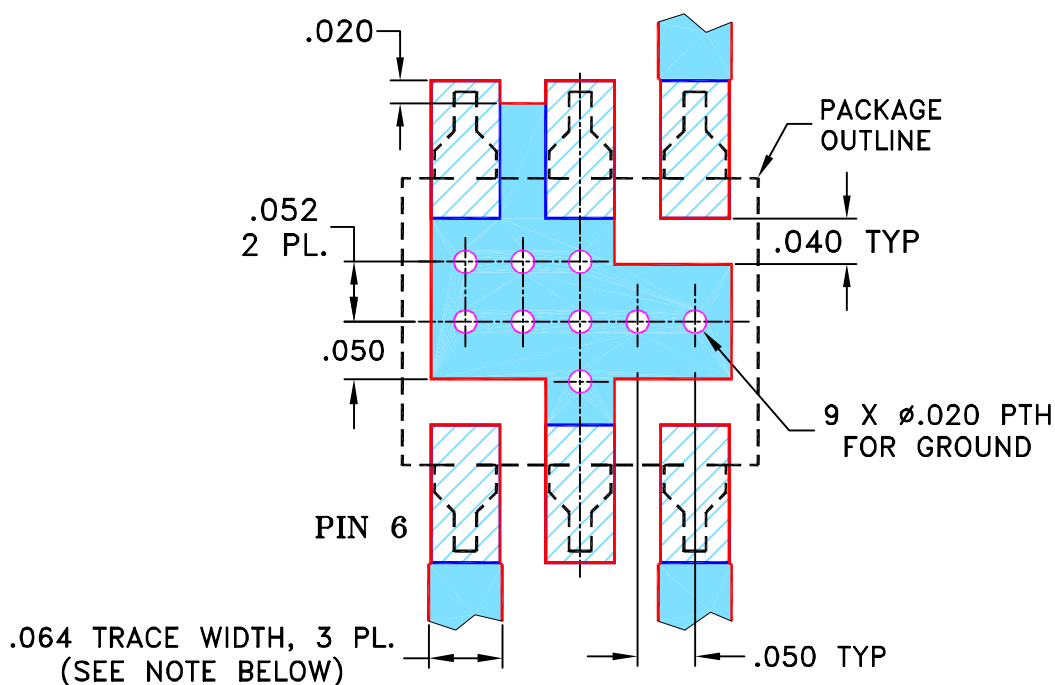
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M82272	NEW RELEASE	08/05/02	GF	DJ
A	M102713	ADDED NOTE 2 & "...WITH SMOBC",	01/18/06	MMG	LC
		QQQ130/828 WAS QQQ569/828 CASE STYLE			

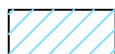
SUGGESTED MOUNTING CONFIGURATION FOR QQQ130/828 CASE STYLE, "gn" PIN CONNECTION



- 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

INITIALS

DATE

DIMENSIONS ARE IN INCHES

TOLERANCES ON:

2 PL DECIMALS $\pm$ 3 PL DECIMALS $\pm$.005ANGLES $\pm$ FRACTIONS $\pm$

DRAWN

GF

07/17/02

CHECKED

HY

08/01/02

APPROVED

DJ

08/05/02



Mini-Circuits®

13 Neptune Avenue
Brooklyn NY 11235

PL, gn, QQQ130/828, LRPS/SCL, TB-100

SIZE
A

CODE IDENT
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DRAWING NO:

98-PL-057

REV:

A

FILE:

98PL057

SCALE:

6:1

SHEET:

1 OF 1

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



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