



Mini-Circuits

SURFACE MOUNT

Power Splitter/Combiner

SCA-3-11+

3 Way-0° 50Ω 100 to 940 MHz

FEATURES

- Wideband, 100 to 940 MHz
- Good input port matching VSWR, 1.10 typ.
- Small surface mount package
- Protected by U.S. Patent 6,965,280



Generic photo used for illustration purposes only

CASE STYLE: DZ943

+RoHS Compliant

The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- Cellular
- ISM
- Land mobile

ELECTRICAL SPECIFICATIONS AT 25°C¹

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		100		940	MHz
Insertion Loss, above 4.8 dB	100-940		0.7	1.5	dB
Isolation	100-940	14	20		dB
Phase Unbalance	100-940			7.0	Degree
Amplitude Unbalance	100-940			0.7	dB

1. Tested on Evaluation Board TB-SCA-3-11+

MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-45°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W max.
Internal Dissipation	0.25W max.

Permanent damage may occur if any of these limits are exceeded.

ELECTRICAL SCHEMATIC





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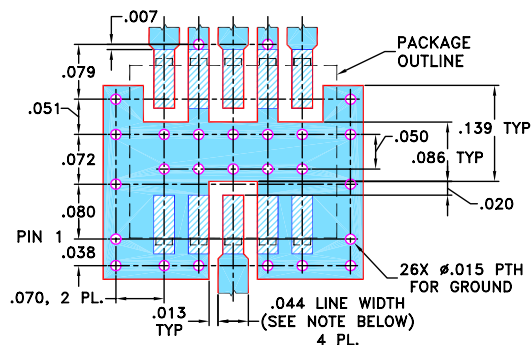
3 Way-0° 50Ω 100 to 940 MHz

PIN CONNECTIONS

SUM PORT (PORT S)	3
PORT 1	6
PORT 2	8
PORT 3	10
GROUND	1,2,4,5,7,9

*PRODUCT MARKING: SCA-3-11

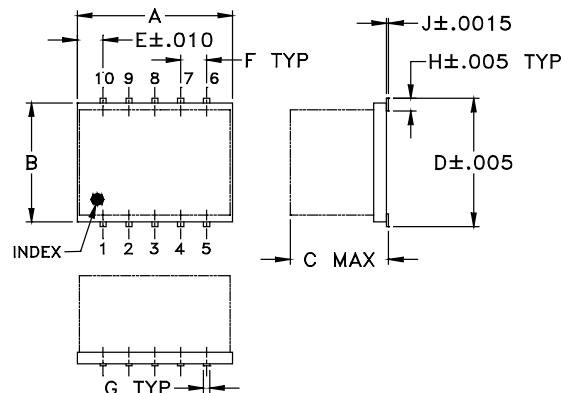
*Marking may contain other features or characters for internal lot control

EVALUATION BOARD MCL P/N: TB-SCA-3-11+
SUGGESTED PCB LAYOUT (PL-144)

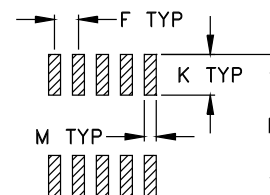
NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS $0.020" \pm 0.0015"$; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

OUTLINE DRAWING



PCB Land Pattern



OUTLINE DIMENSIONS (Inches/mm)

A	B	C	D	E	F	G
.30	.250	.190	.266	.050	.050	.012
7.62	6.35	4.83	6.76	1.27	1.27	0.30
H	J	K	L	M		wt
.029	.004	.085	.296	.030		grams
0.74	0.10	2.16	7.52	0.76		0.5

TAPE & REEL INFORMATION: F34





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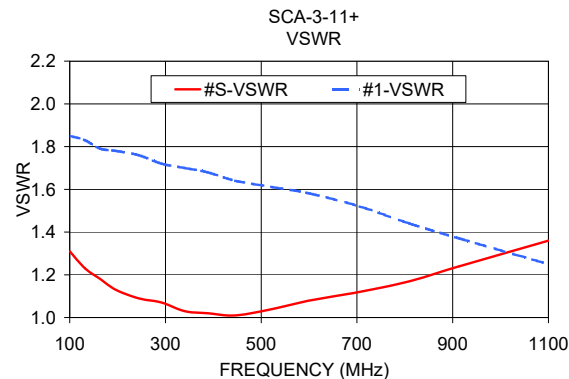
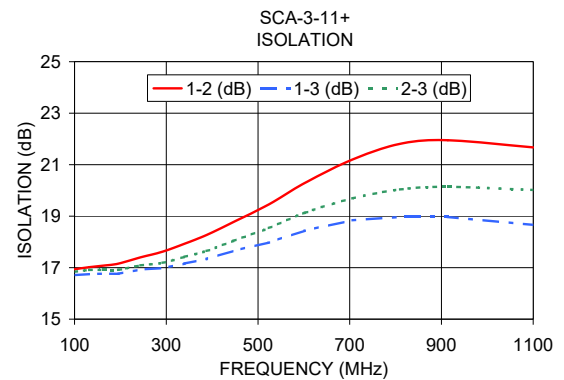
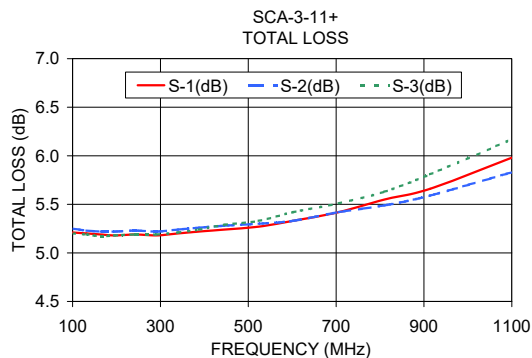
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TYPICAL PERFORMANCE DATA

Frequency (MHz)	Total Loss ¹ (dB)			Amplitude Unbalance (dB)	Isolation (dB)			Phase Unbalance (deg.)	VSWR (:1)		
	S-1	S-2	S-3		1-2	1-3	2-3		S	1	2
100.00	5.21	5.25	5.20	0.05	16.94	16.71	16.84	0.44	1.31	1.85	1.88
132.00	5.20	5.23	5.19	0.04	17.02	16.75	16.91	0.50	1.23	1.83	1.86
164.00	5.19	5.22	5.17	0.05	17.08	16.77	16.91	0.62	1.18	1.79	1.83
196.00	5.18	5.22	5.18	0.04	17.16	16.76	16.92	0.71	1.13	1.78	1.81
244.00	5.19	5.23	5.19	0.04	17.40	16.93	17.09	0.92	1.09	1.76	1.80
292.00	5.18	5.22	5.19	0.04	17.62	16.98	17.19	1.04	1.07	1.72	1.77
340.00	5.20	5.24	5.21	0.04	17.93	17.16	17.42	1.38	1.03	1.70	1.76
388.00	5.22	5.26	5.24	0.04	18.27	17.34	17.65	1.45	1.02	1.68	1.73
446.00	5.24	5.28	5.29	0.05	18.77	17.65	18.04	1.70	1.01	1.64	1.72
524.00	5.27	5.30	5.33	0.06	19.46	17.98	18.54	1.89	1.04	1.61	1.70
602.00	5.33	5.33	5.42	0.09	20.29	18.44	19.13	2.07	1.08	1.58	1.66
706.00	5.42	5.42	5.51	0.09	21.20	18.84	19.69	2.46	1.12	1.52	1.61
810.00	5.55	5.49	5.63	0.14	21.81	18.97	20.04	3.09	1.17	1.44	1.54
914.00	5.66	5.59	5.81	0.22	21.95	18.97	20.14	3.32	1.24	1.37	1.47
1100.00	5.98	5.83	6.17	0.33	21.67	18.66	20.02	3.83	1.36	1.25	1.32

1. Total Loss = Insertion Loss + 4.8 dB splitter loss.



NOTES

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard. Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html

