



## SURFACE MOUNT

# Power Splitter/Combiner **SCA-4-15-75+**

Mini-Circuits

4 Way-0° 75Ω 10 to 1500 MHz

### FEATURES

- Wideband, 10-1500 MHz
- High isolation, 25 dB typ.
- Excellent amplitude unbalance, 0.3 dB typ.



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

- Cable
- Cellular
- UHF/VHF receivers/transmitters

### ELECTRICAL SPECIFICATIONS AT 25°C<sup>1</sup>

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		10		1500	MHz
Insertion Loss, above 6.0 dB	10-40		0.5	1.5	dB
	40-900		1.2	2.0	
	900-1200		1.4	2.8	
	1200-1500		2.0	3.2	
Isolation	10-40	14	19		dB
	40-900	17	25		
	900-1200	15	19		
	1200-1500	14	18		
Phase Unbalance	10-40			8	Degree
	40-900			9	
	900-1200			12	
	1200-1500			16	
Amplitude Unbalance	10-40			0.8	dB
	40-900			0.9	
	900-1200			1.0	
	1200-1500			1.1	

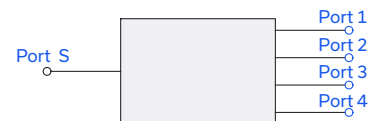
1. Tested on Evaluation Board TB-SCA-4-15-75+

### MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W max.
Internal Dissipation	0.375W max.

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

### ELECTRICAL SCHEMATIC



www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. J  
ECO-010710  
ED-10856/2  
SCA-4-15-75+  
WZ/TD/CP/AM  
230104  
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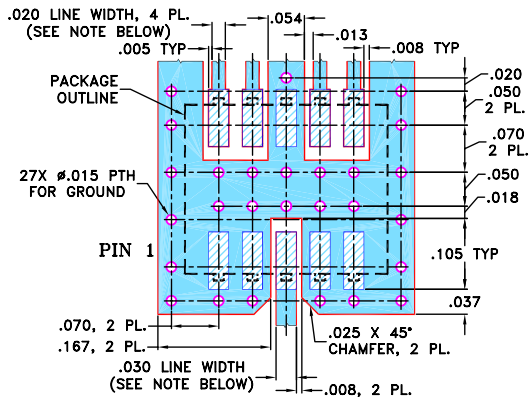
## PIN CONNECTIONS

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

**\*PRODUCT MARKING:** SCA-4-15-75

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

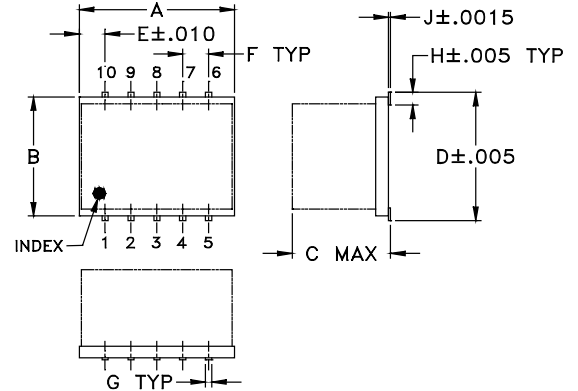
## EVALUATION BOARD MCL P/N: TB-SCA-4-15-75+ SUGGESTED PCB LAYOUT (PL-133)



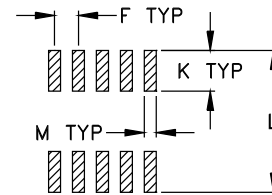
**NOTE:** 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350 WITH DIELECTRIC THICKNESS  $0.030 \pm 0.002$ ", COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

## 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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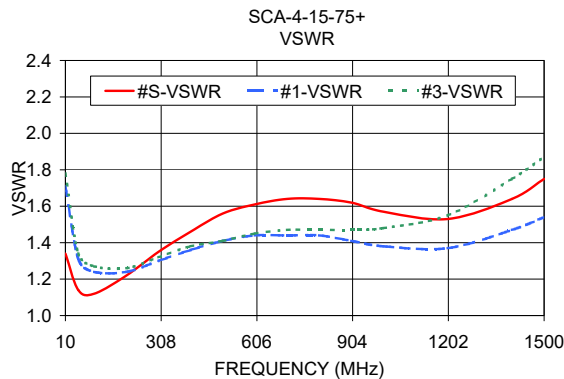
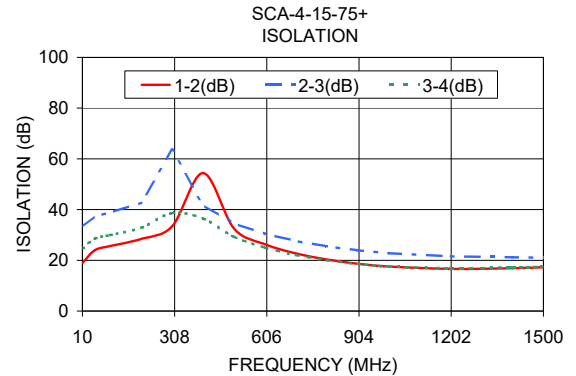
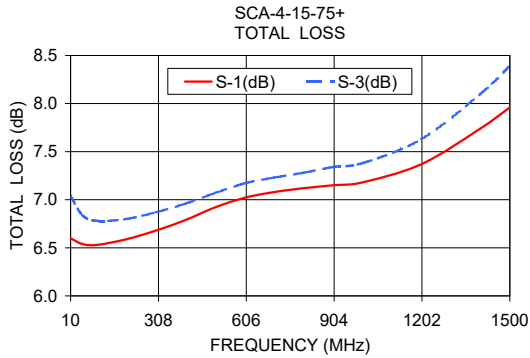
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## TYPICAL PERFORMANCE DATA

Frequency (MHz)	Total Loss <sup>1</sup> (dB)				Amplitude Unbalance (dB)	Isolation (dB)			Phase Unbalance (deg.)	VSWR (:1)				
	S-1	S-2	S-3	S-4		1-2	1-3	2-3		S	1	2	3	4
10.00	6.60	6.58	7.04	7.04	0.46	18.93	33.15	24.46	3.23	1.34	1.71	1.71	1.78	1.77
50.00	6.54	6.52	6.84	6.84	0.33	24.00	37.42	28.57	1.28	1.14	1.31	1.31	1.34	1.34
100.00	6.53	6.50	6.78	6.79	0.29	25.61	38.79	29.94	1.03	1.12	1.24	1.24	1.27	1.27
200.00	6.59	6.55	6.80	6.81	0.26	28.39	42.71	32.82	1.14	1.22	1.24	1.25	1.26	1.25
300.00	6.68	6.64	6.87	6.89	0.25	33.44	63.57	38.60	1.35	1.35	1.30	1.33	1.32	1.29
400.00	6.79	6.75	6.96	6.98	0.23	54.37	41.78	36.45	1.59	1.46	1.36	1.41	1.38	1.33
500.00	6.92	6.88	7.07	7.10	0.22	32.57	34.56	29.28	1.80	1.56	1.41	1.46	1.41	1.37
600.00	7.02	6.99	7.17	7.20	0.21	26.35	30.46	25.00	1.95	1.61	1.44	1.51	1.45	1.41
700.00	7.08	7.05	7.23	7.26	0.21	22.74	27.61	22.08	2.03	1.64	1.44	1.52	1.47	1.43
800.00	7.12	7.11	7.28	7.32	0.22	20.33	25.49	20.01	2.15	1.64	1.44	1.52	1.47	1.42
900.00	7.15	7.15	7.34	7.38	0.23	18.67	23.94	18.56	2.28	1.62	1.41	1.51	1.47	1.41
1000.00	7.18	7.18	7.38	7.44	0.26	17.56	22.79	17.59	2.42	1.57	1.38	1.50	1.48	1.40
1200.00	7.37	7.41	7.63	7.69	0.33	16.62	21.54	16.86	2.76	1.53	1.37	1.55	1.55	1.43
1400.00	7.74	7.82	8.10	8.17	0.43	16.90	21.18	17.19	2.88	1.64	1.47	1.73	1.75	1.54
1500.00	7.96	8.06	8.39	8.47	0.52	17.28	21.05	17.47	2.75	1.75	1.54	1.84	1.87	1.61

1. Total Loss = Insertion Loss + 6.0 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](http://www.minicircuits.com/terms/viewterm.html)

