

# Surface Mount NON-CATALOG Power Splitter/Combiner

## SBD-4-25

4 Way-0° 50Ω 1800 to 2600 MHz



CASE STYLE: SM34

### Maximum Ratings

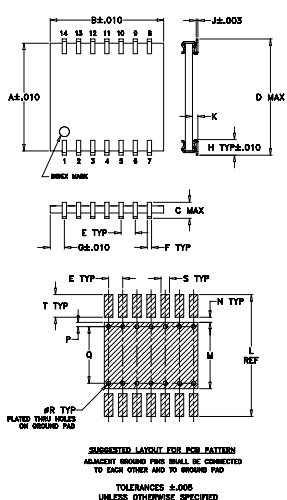
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	10W max.
Internal Dissipation	0.375W max.

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

### Pin Connections

SUM PORT	4
PORT 1	8
PORT 2	10
PORT 3	12
PORT 4	14
GROUND	2,3,5,6,9,13
NOT USED	1,7,11

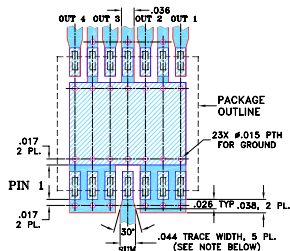
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J
.380	.400	.070	.420	.050	.015	.050	.060	.006
9.65	10.16	1.78	10.67	1.27	0.38	1.27	1.52	0.15
K	L	M	N	P	Q	R	S	T
.020	.430	.234	.018	.015	.200	.014	.030	.080
0.51	10.92	5.94	0.46	0.38	5.08	0.36	0.76	2.03
								0.3

### Demo Board MCL P/N: TB-85 Suggested PCB Layout (PL-142)



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020 ± .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
- DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

### 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-Circuit's 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-Circuit's website at [www.minicircuits.com/WCLStore/terms.jsp](http://www.minicircuits.com/WCLStore/terms.jsp)

### Features

- wideband frequency, 1800 to 2600 MHz
- high isolation, 20 dB typ.
- good input port matching VSWR, 1.26 typ.
- good output port matching VSWR, 1.26 typ.
- high power handling
- aqueous washable
- protected by U.S Patent 6,819,202

### Applications

- PCS
- ISM
- WLAN
- VMTS

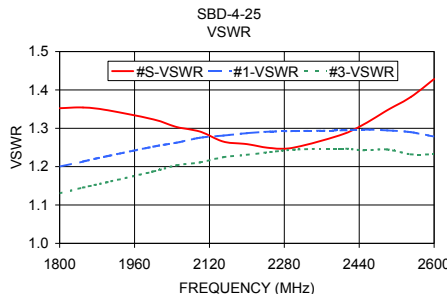
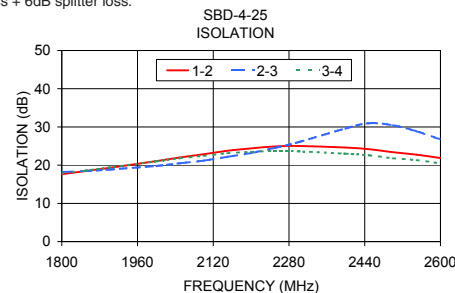
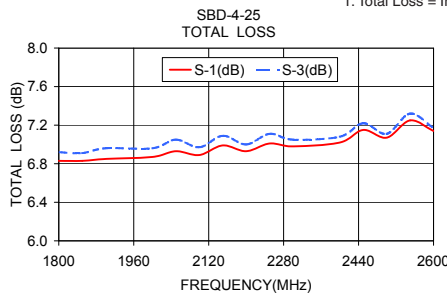
### Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 6.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	
	Typ.	Min.	Typ.	Max.		Max.	Typ.
$f_c - f_u$							
1800-2600	20	12	1.0	1.9	8	0.2	0.7
1800-2000	18	12	0.9	1.4	6	0.15	0.4
2100-2200	21	15	0.9	1.4	6	0.15	0.4
2200-2400	22	15	1.0	1.6	7	0.15	0.6
2400-2500	22	16	1.0	1.8	7	0.25	0.7

### Typical Performance Data

Freq. (MHz)	Total Loss <sup>1</sup> (dB)				Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3	VSWR 4
	S-1	S-2	S-3	S-4		1-2	2-3	3-4						
1800.00	6.83	6.80	6.92	6.82	0.13	17.65	18.21	17.86	2.17	1.35	1.20	1.10	1.13	1.20
1850.00	6.83	6.80	6.91	6.84	0.12	18.45	18.48	18.58	2.43	1.35	1.21	1.11	1.15	1.21
1900.00	6.85	6.83	6.96	6.86	0.13	19.29	18.86	19.40	2.26	1.35	1.23	1.12	1.16	1.22
2000.00	6.87	6.83	6.96	6.86	0.13	21.08	19.81	20.98	2.35	1.32	1.25	1.14	1.19	1.23
2050.00	6.93	6.89	7.05	6.96	0.16	22.04	20.51	21.82	2.09	1.30	1.26	1.15	1.20	1.24
2100.00	6.89	6.83	6.97	6.88	0.14	22.87	21.19	22.42	2.52	1.29	1.28	1.15	1.21	1.24
2150.00	6.99	6.92	7.09	7.02	0.17	23.76	22.17	23.15	2.09	1.27	1.28	1.16	1.22	1.25
2200.00	6.93	6.87	7.00	6.92	0.13	24.39	23.19	23.45	2.58	1.26	1.29	1.17	1.23	1.25
2250.00	7.01	6.94	7.11	7.03	0.17	24.89	24.52	23.75	2.19	1.25	1.29	1.17	1.24	1.25
2300.00	6.98	6.90	7.05	6.99	0.15	25.03	26.03	23.63	2.49	1.25	1.29	1.18	1.24	1.25
2400.00	7.02	6.93	7.08	7.07	0.15	24.61	29.63	22.99	2.67	1.28	1.29	1.19	1.25	1.24
2450.00	7.15	7.04	7.22	7.15	0.18	24.16	30.97	22.58	2.43	1.31	1.30	1.19	1.24	1.23
2500.00	7.07	6.96	7.11	7.13	0.17	23.40	30.43	21.81	2.90	1.35	1.29	1.20	1.24	1.23
2550.00	7.25	7.12	7.32	7.28	0.20	22.75	28.84	21.33	2.43	1.38	1.29	1.20	1.23	1.21
2600.00	7.14	7.02	7.17	7.20	0.18	21.87	26.73	20.46	3.20	1.43	1.28	1.21	1.23	1.21

1. Total Loss = Insertion Loss + 6dB splitter loss.



### electrical schematic

