

Surface Mount Power Splitter/Combiner

2 Way-180° 50Ω 500 to 3000 MHz

SYPJ-2-33+



CASE STYLE: AH202-1
PRICE: \$14.95 ea. QTY (10-49)

+RoHS Compliant

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

Maximum Ratings

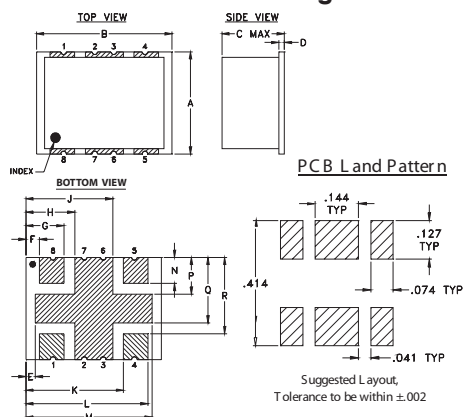
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W max.
Internal Dissipation	0.25W max.

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

Pin Connections

SUM PORT	8
PORT 1 (180°)	5
PORT 2 (0°)	4
GROUND	1,2,3,6,7

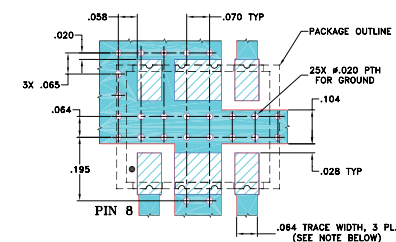
Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	F	G	H
.38	.50	.25	.020	.035	.050	.140	.180
9.65	12.70	6.35	0.51	0.89	1.27	3.56	4.57
J	K	L	M	N	P	Q	R
.320	.360	.450	.465	.095	.135	.240	.280
8.13	9.14	11.43	11.81	2.41	3.43	6.10	7.11
							wt
							grams
							0.80

Demo Board MCL P/N: TB-427 Suggested PCB Layout (PL-274)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .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.
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
4. DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- wideband, 500 to 3000 MHz
- low amplitude unbalance, 0.5 dB typ.
- low phase unbalance, 2.0 deg. typ.
- 10 MHz signal pass@ port 2: with 1.5 dB/max IL

Applications

- VHF/UHF
- cellular, GPS, PCS
- communication systems
- receivers & transmitters
- instrumentation
- CATV

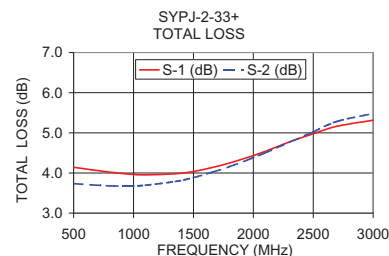
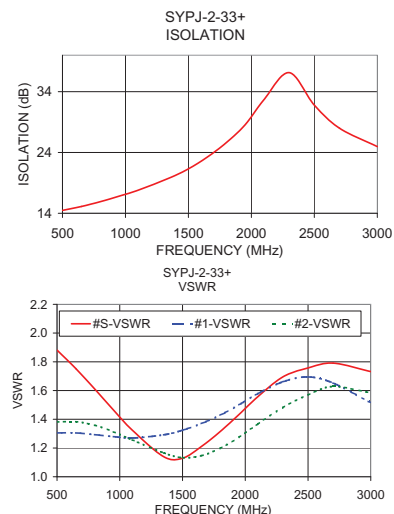
Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency		500		3000	MHz
Insertion Loss (above theoretical 3.0 dB)	500-2000 2000-3000	—	1.4 2.1	2.2 3.2	dB
Isolation	500-2000 2000-3000	11.0 19	17 25	—	dB
Phase Unbalance (out of 180°C)	500-2000 2000-3000	—	2.0 5.0	9.0 14.0	Degree
Amplitude Unbalance	500-2000 2000-3000	—	0.8 0.3	1.2 0.9	dB
VSWR (Port S)	500-3000	—	1.7	—	:1
VSWR (Port 1-2)	500-3000	—	1.7	—	:1

Typical Performance Data

Frequency (MHz)	Total Loss ¹ (dB)	Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1 S-2						
500	4.14 3.74	0.81	14.47	0.29	1.88	1.30	1.38
650	4.08 3.70	0.75	15.12	0.76	1.75	1.30	1.38
800	4.02 3.68	0.68	15.90	1.12	1.61	1.29	1.36
950	3.97 3.67	0.61	16.82	1.42	1.46	1.28	1.31
1100	3.95 3.69	0.52	17.79	1.61	1.32	1.27	1.26
1350	3.98 3.79	0.38	19.82	1.81	1.14	1.29	1.17
1500	4.04 3.88	0.31	21.30	1.88	1.13	1.32	1.13
1650	4.13 4.01	0.24	23.25	1.89	1.21	1.37	1.15
1800	4.25 4.16	0.18	25.60	1.86	1.31	1.43	1.20
1950	4.39 4.32	0.12	28.54	1.80	1.43	1.50	1.28
2100	4.54 4.50	0.08	32.70	1.78	1.56	1.58	1.37
2300	4.77 4.76	0.02	37.13	1.76	1.69	1.66	1.48
2500	4.98 5.03	0.10	31.79	1.66	1.76	1.69	1.57
2700	5.17 5.29	0.24	27.99	1.83	1.79	1.65	1.63
3000	5.31 5.48	0.33	24.97	3.08	1.73	1.52	1.58

1. Total Loss = Insertion Loss + 3dB splitter theoretical loss.



Electrical Schematic



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-Circuits' applicable established test performance criteria and measurement instructions.
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