

2 Way-180° 50Ω

30 to 750 MHz



CASE STYLE: YY161

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	0.125W max.

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

Pin Connections

SUM PORT	1
PORT 1	5
PORT 2	6
GROUND	2,3,4,7,8

Features

- wideband, 30 to 750 MHz
- excellent amplitude unbalance, 0.3 dB typ.

Applications

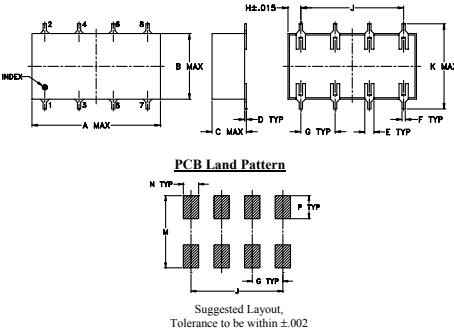
- VHF/UHF
- receivers/transmitters
- communication systems

Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)			INSERTION LOSS (dB) ABOVE 3 dB			PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)								
	L	M	U	L	M	U	L	M	U	L	M	U						
f_L - f_U	Typ.	Min.	Typ. Min.	Typ. Min.	Typ. Max.	Typ. Max.	Typ. Max.	Max.	Max.	Max.	Max.	Max.	Max.					
30-750	24	18	21	16	20	16	0.7	1.5	1.5	2.2	1.5	2.2	3	4	6	0.8	0.8	0.8

L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]

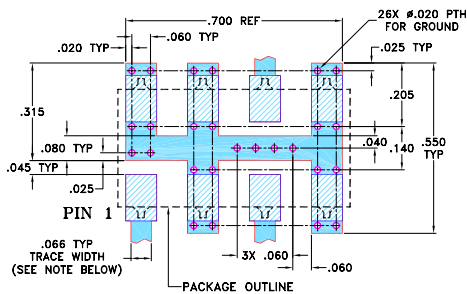
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	
0.75	0.38	0.28	0.01	0.05	0.02	0.2	
19.05	9.65	7.11	0.25	1.27	0.51	5.08	
H	J	K	M	N	P	wt	
0.075	0.6	0.45	0.47	0.1	0.15	grams	
1.91	15.24	11.43	11.94	2.54	3.81	1.60	

Demo Board MCL P/N: TB-50+ Suggested PCB Layout (PL-060)

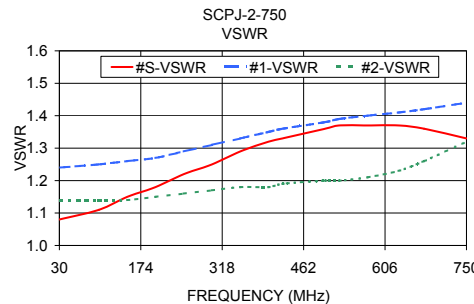
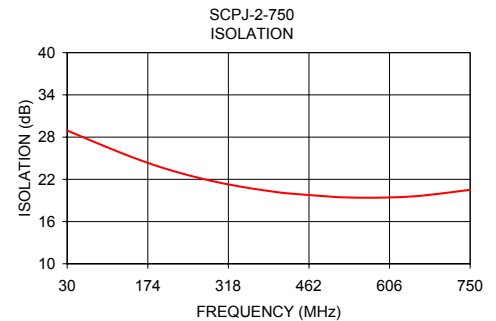
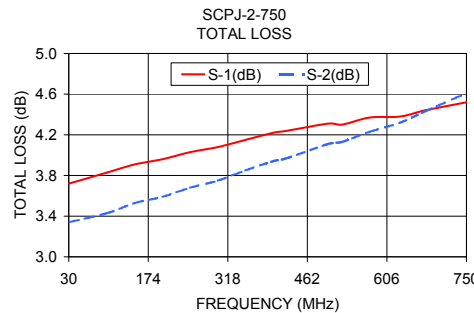


- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .030" ± .002". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
 - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

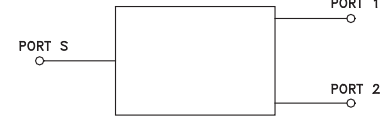
Typical Performance Data

Frequency (MHz)	Total Loss ¹ (dB) S-1	Total Loss ¹ (dB) S-2	Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
30.00	3.72	3.34	0.38	28.93	180.00	1.08	1.24	1.14
100.00	3.83	3.43	0.40	26.61	179.58	1.11	1.25	1.14
150.00	3.91	3.53	0.37	25.03	179.40	1.15	1.26	1.14
200.00	3.96	3.59	0.37	23.65	179.27	1.18	1.27	1.15
250.00	4.03	3.68	0.36	22.51	179.26	1.22	1.29	1.16
300.00	4.08	3.75	0.33	21.57	179.12	1.25	1.31	1.17
350.00	4.15	3.85	0.30	20.83	179.27	1.29	1.33	1.18
400.00	4.22	3.94	0.28	20.24	179.31	1.32	1.35	1.18
425.00	4.24	3.97	0.27	20.01	179.44	1.33	1.36	1.19
500.00	4.31	4.11	0.21	19.54	179.84	1.36	1.38	1.20
525.00	4.30	4.13	0.16	19.43	170.03	1.37	1.39	1.20
575.00	4.37	4.23	0.14	19.39	180.44	1.37	1.40	1.21
630.00	4.38	4.32	0.06	19.49	179.09	1.37	1.41	1.23
675.00	4.44	4.43	0.01	19.77	178.47	1.36	1.42	1.26
750.00	4.52	4.61	0.10	20.51	177.51	1.33	1.44	1.32

1. Total Loss = Insertion Loss + 3dB splitter 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-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/MCLStore/terms.jsp