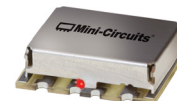


Surface Mount Power Splitter/Combiner

SY PQ-181+

2 Way-90° 50Ω 120 to 180 MHz



Generic photo used for illustration purposes only

CASE STYLE: AH1415

+RoHS Compliant

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

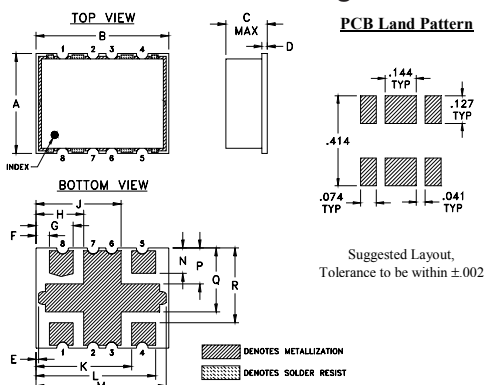
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

SUM PORT	1
PORT 1 (0°)	5
PORT 2 (+90°)	8
GROUND	2,3,6,7
50 OHM TERM EXTERNAL	4

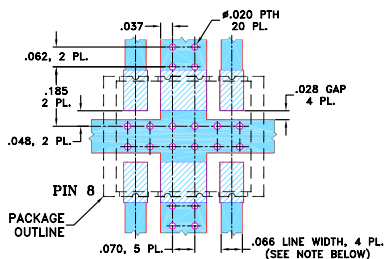
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	wt
.375	.500	.156	.020	.010	.050	.140	.180	.320	.360	.450	.490	.095	.135	.240	.280	grams
9.53	12.70	3.96	0.51	0.25	1.27	3.56	4.57	8.13	9.14	11.43	12.45	2.41	3.43	6.10	7.11	0.80

Demo Board MCL P/N: TB-265 Suggested PCB Layout (PL-138)



Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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/MCLStore/terms.jsp

Features

- good phase unbalance, 3.0 deg. max.
- good amplitude balance, 0.5 dB max.
- low height, 0.16" max.
- low cost

Applications

- VHF
- balanced amplifiers
- I&Q modulators

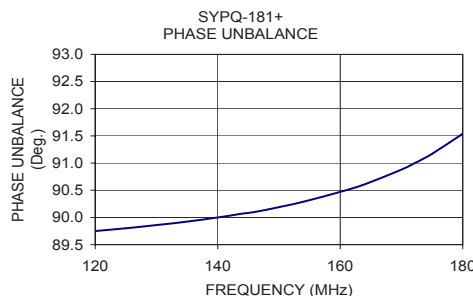
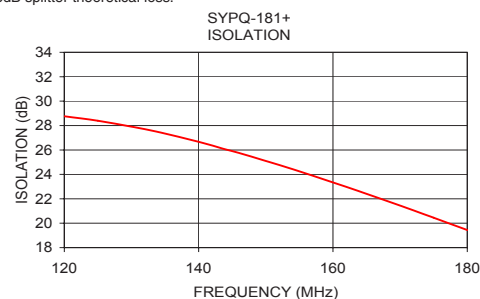
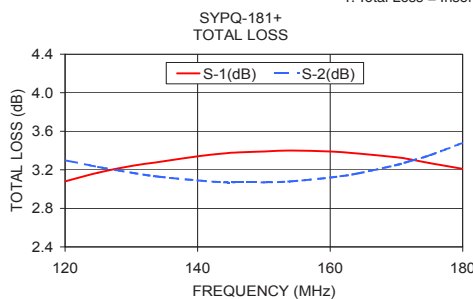
Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		120		180	MHz
Insertion Loss Above (Avg. of Coupled Output less 3 dB)	120-180	—	0.3	0.6	dB
Isolation	120-180	16	20	—	dB
Phase Unbalance	120-180	—	1.8	3.0	Degree
Amplitude Unbalance	120-180	—	0.3	0.8	dB
VSWR (Port S)	120-180	—	1.2	1.4	:1
VSWR (Port 1-2)	120-180	—	1.2	1.4	: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						
120.0	3.08	3.30	0.22	28.76	89.75	1.10	1.11	1.10
125.0	3.17	3.23	0.06	28.39	89.80	1.11	1.12	1.11
130.0	3.24	3.17	0.07	27.91	89.86	1.11	1.12	1.11
134.0	3.28	3.13	0.16	27.47	89.91	1.11	1.13	1.12
140.0	3.34	3.09	0.25	26.67	90.00	1.12	1.13	1.13
144.0	3.37	3.07	0.29	26.05	90.07	1.12	1.14	1.13
146.0	3.38	3.07	0.31	25.76	90.10	1.13	1.14	1.14
150.0	3.39	3.07	0.32	25.10	90.19	1.13	1.15	1.15
154.0	3.40	3.08	0.31	24.43	90.29	1.14	1.16	1.16
160.0	3.39	3.12	0.27	23.34	90.47	1.15	1.17	1.17
164.0	3.37	3.16	0.21	22.60	90.61	1.16	1.18	1.19
170.0	3.33	3.25	0.08	21.44	90.88	1.18	1.20	1.21
172.0	3.31	3.29	0.02	21.05	90.99	1.19	1.21	1.22
175.0	3.27	3.35	0.07	20.45	91.17	1.20	1.22	1.23
180.0	3.21	3.48	0.27	19.44	91.54	1.22	1.24	1.26

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



Electrical Schematic

