

Surface Mount Attenuator/Switch

50Ω Bi-Phase 600 to 1000 MHz

SYAS-860+ SYAS-860



CASE STYLE: TTT166
PRICE: \$15.95 ea. QTY. (1-9)

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

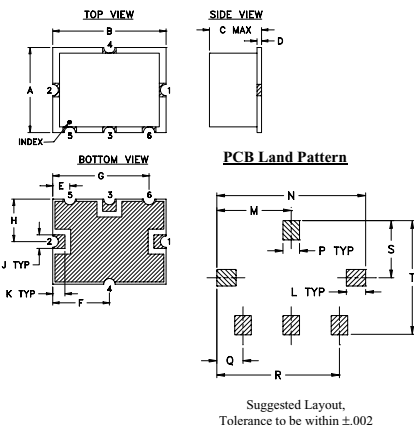
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Control Current	30mA
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

INPUT	1
OUTPUT	2
CONTROL	3
GROUND	4,5,6

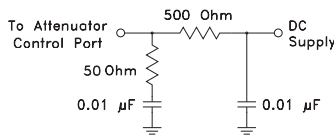
Outline Drawing



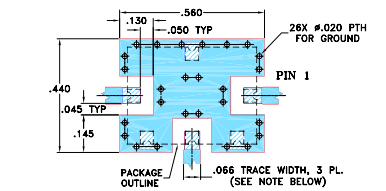
Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	
.38	.50	.15	.020	.075	.250	.425	.187	.050	
9.65	12.70	3.81	0.51	1.91	6.35	10.80	4.75	1.27	
K	L	M	N	P	Q	R	S	T	wt.
.050	.070	.270	.540	.060	.095	.445	.208	.415	grams
1.27	1.78	6.86	13.72	1.52	2.41	11.30	5.28	10.54	0.8

suggested control port biasing configuration



Demo Board MCL P/N: TB-12 Suggested PCB Layout (PL-079)



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-Circuits' 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

- wideband 600 to 1000 MHz

Applications

- bi-phase modulator

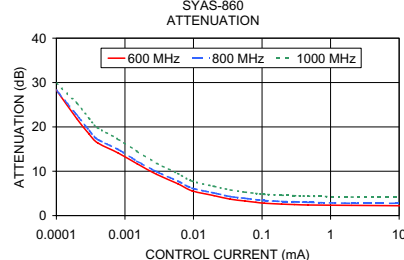
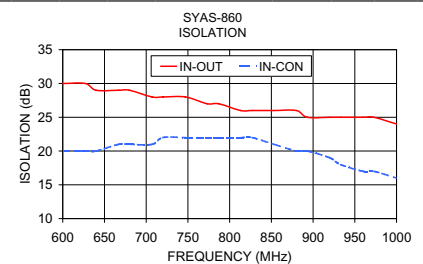
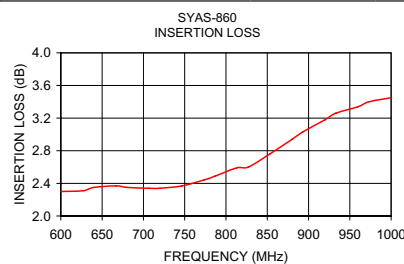
Attenuator/Switch Electrical Specifications

FREQUENCY (MHz)	INSERTION LOSS (dB) ±20 mA	MAX. INPUT PWR (dBm) ±20 mA	IN-OUT ISOLATION (dB) 0 mA		BI-PHASE X̄ (±20 mA) Typ.	
			Typ.	Min.	Δ AMP (dB)	Phase (deg.) deviation from 180°
600-1000	DC-0.05	1 dB compr. no damage	25	18	0.5	4.0

Performance specifications apply for input power up to 10 dB below stated 1 dB compression.

Typical Performance Data

Freq. (MHz)	I. Loss (dB) at 20mA	±Control ΔAMP (dB)	20mA ΔPhase (deg.)	Isolation (dB)		Input R. Loss (dB)	Control Current (mA)	Attenuation (dB)			Phase Δ ref at 15mA Ctrl			Input VSWR			
				(in-out)	(in-con)			600 MHz	800 MHz	1000 MHz	600 MHz	800 MHz	1000 MHz	600 MHz	800 MHz	1000 MHz	
600	2.30	0.015	0.07	182.1	30	20	10.8	0.0000	35.3	29.9	28.6	-60.9	-101.2	-133.3	2.9	2.3	3.1
627	2.31	0.013	0.06	182.4	30	20	11.2	0.0001	28.3	28.3	29.9	11.7	-34.3	-80.9	2.9	2.3	3.0
640	2.35	0.011	0.06	182.4	29	20	11.3	0.0002	21.8	22.6	25.3	14.5	-18.8	-51.0	2.7	2.2	2.9
667	2.37	0.007	0.06	182.6	29	21	11.4	0.0003	18.4	19.2	21.9	11.1	-16.0	-41.8	2.5	2.1	2.7
680	2.35	0.005	0.07	182.8	29	21	11.4	0.0004	16.4	17.2	19.8	9.9	-13.7	-36.0	2.4	2.0	2.6
707	2.34	0.005	0.08	182.7	28	21	11.2	0.0008	14.1	14.9	17.2	9.4	-10.4	-28.8	2.2	1.8	2.4
720	2.34	0.007	0.10	182.9	28	22	11.1	0.0015	11.7	12.3	14.5	8.8	-7.2	-21.8	1.9	1.7	2.3
747	2.37	0.008	0.13	183.0	28	22	10.7	0.0029	9.3	9.9	11.8	7.8	-4.8	-15.9	1.7	1.5	2.2
773	2.44	0.009	0.16	183.2	27	22	10.2	0.0059	7.2	7.8	9.5	6.1	-3.3	-11.3	1.4	1.4	2.2
787	2.49	0.011	0.19	183.2	27	22	10.0	0.0095	5.6	6.2	7.8	4.4	-2.3	-7.9	1.2	1.4	2.3
813	2.59	0.014	0.20	183.3	26	22	9.5	0.0200	4.5	5.1	6.6	3.1	-1.7	-5.1	1.2	1.5	2.6
827	2.60	0.018	0.24	183.6	26	22	9.2	0.0344	3.7	4.3	5.8	2.0	-1.2	-3.8	1.3	1.7	2.9
853	2.76	0.021	0.26	183.7	26	21	8.6	0.0559	3.3	3.9	5.3	1.3	-1.0	-2.7	1.4	1.8	3.2
880	2.94	0.032	0.33	183.8	26	20	8.1	0.0814	3.0	3.6	5.0	0.8	-0.9	-2.0	1.5	1.9	3.4
893	3.03	0.037	0.35	183.8	25	20	7.9	0.1072	2.8	3.4	4.8	0.7	-0.9	-1.7	1.5	1.9	3.6
920	3.18	0.040	0.40	183.9	25	19	7.4	0.1926	2.6	3.2	4.6	0.3	-0.7	-1.1	1.6	2.0	3.8
933	3.26	0.047	0.43	183.9	25	18	7.2	0.2959	2.5	3.1	4.5	0.1	-0.6	-0.8	1.6	2.1	3.9
960	3.34	0.049	0.48	183.8	25	17	6.7	0.4662	2.4	3.0	4.4	0.0	-0.5	-0.5	1.7	2.1	4.0
973	3.40	0.051	0.49	183.8	25	17	6.6	2.0106	2.3	2.8	4.2	0.0	-0.3	-0.2	1.7	2.2	4.2
1000	3.45	0.050	0.49	183.9	24	16	6.2	15.0980	2.2	2.8	4.1	0.0	-0.1	0.1	1.7	2.2	4.3



electrical schematic

