

Surface Mount Attenuator/Switch

SYAS-1

50Ω Bi-Phase

2 to 400 MHz

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Control Current	30mA

Pin Connections

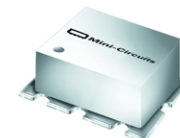
INPUT	1
OUTPUT	2
CONTROL	3
GROUND	4,5,6

Features

- low conversion loss, 1.6 dB typ
- excellent amplitude and phase unbalance

Applications

- electronic attenuator



CASE STYLE: TTT167
PRICE: \$9.95 ea. QTY (1-9)

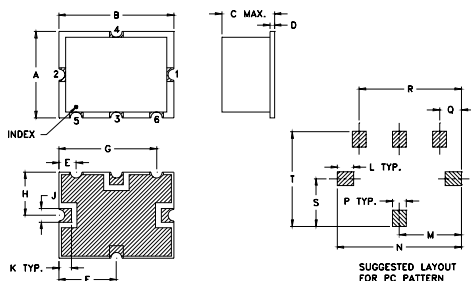
Attenuator/Switch Electrical Specifications

FREQUENCY (MHz)	INSERTION LOSS (dB) ±20 mA	MAX. INPUT PWR (dBm) ±20 mA	IN-OUT ISOLATION (dB) 0 mA			BI-PHASE X (±20 mA) Typ.							
			L	M	U	Δ AMP (dB)	Phase(deg) deviation from 180°	Total Range	Total Range				
IN	Mid-Band	1 dB compr.	Typ.	Typ.	Typ.	m	m	m	m	m	m	m	m
f _L -f _U	CON	no damage	20*	25	65	45	33	35	25	0.1	0.1	1.0	2.0

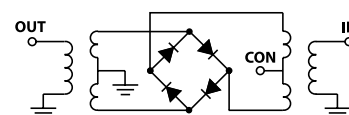
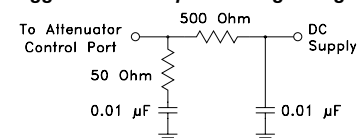
L = low range [f_L to 10 f_L] M = mid range [10 f_L to f_U/2] U = upper range [f_U/2 to f_U] m = mid band [2f_L to f_U/2]
*15 dBm from 2-10 MHz.

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

Outline Drawing



suggested control port biasing configuration



Typical Performance Data

Freq. (MHz)	I. Loss (dB) at 20mA	±Control Δ Amp (dB)	20mA ΔPhase (deg.)	Isolation (dB) (in-out) (in-con)	Input R. Loss (dB)	Control Current (mA)	Attenuation (dB) 2 MHz 200 MHz 400 MHz	Phase Δ ref at 15mA Ctrl (deg.) 200 MHz 400 MHz	Input VSWR 200 MHz 400 MHz		
2.00	1.67	0.00	0.01	179.90	78.00	54.00	18.10	0.00	72.70 39.00 30.60	27.20 -87.70 -95.30	77.00 7.20 4.40
7.00	1.16	0.00	0.00	180.00	68.00	43.00	15.40	0.00	64.40 39.20 30.70	22.20 -86.00 -94.60	7.70 7.20 4.40
10.00	1.16	0.00	0.00	180.00	66.00	40.00	27.60	0.00	56.50 39.00 30.80	28.60 -84.30 -93.70	7.60 7.20 4.40
21.90	1.16	0.00	0.00	180.00	58.00	33.00	31.00	0.00	50.40 39.00 30.70	17.60 -80.50 -92.00	7.60 7.20 4.40
39.80	1.19	0.00	0.00	180.10	53.00	28.00	31.90	0.00	47.80 39.00 30.70	14.10 -77.40 -90.30	7.50 7.20 4.40
59.70	1.23	0.00	0.00	180.10	50.00	25.00	32.10	0.01	42.50 37.90 30.60	8.20 -56.20 -79.90	7.40 7.00 4.30
61.70	1.23	0.00	0.00	180.10	50.00	25.00	32.10	0.01	38.40 35.80 30.10	7.60 -37.30 -67.60	7.20 6.90 4.30
81.60	1.24	0.00	0.00	180.20	47.00	22.00	32.20	0.02	35.10 33.10 29.00	8.80 -25.30 -55.10	7.10 6.70 4.20
99.50	1.27	0.00	0.00	180.20	46.00	21.00	32.30	0.03	30.60 28.70 26.30	8.80 -12.80 -37.60	6.70 6.30 4.00
121.40	1.31	0.00	0.01	180.30	44.00	19.00	32.40	0.04	27.30 25.30 23.70	9.20 -7.20 -26.90	6.30 5.90 3.80
141.30	1.32	0.00	0.01	180.40	42.00	18.00	32.40	0.07	23.20 21.20 20.00	9.30 -3.10 -17.70	5.60 5.30 3.50
181.10	1.37	0.00	0.01	180.60	39.00	16.00	32.20	0.10	20.70 18.60 17.60	9.00 -1.40 -13.20	5.20 4.90 3.30
200.00	1.40	0.00	0.01	180.60	39.00	15.00	32.00	0.19	16.10 14.10 13.30	8.20 0.40 -8.00	4.10 3.90 2.80
220.90	1.39	0.00	0.01	180.80	38.00	15.00	31.60	0.30	13.10 11.20 10.60	7.40 0.90 -5.50	3.40 3.20 2.40
240.80	1.39	0.00	0.01	180.90	36.00	14.00	30.30	0.43	10.90 9.20 8.80	6.70 1.10 -4.20	2.90 2.70 2.10
280.60	1.52	0.00	0.05	181.10	35.00	13.00	26.60	0.70	8.30 6.90 6.60	5.40 1.10 -2.80	2.20 2.10 1.70
300.50	1.52	0.00	0.04	181.10	35.00	14.00	24.80	1.00	6.80 5.60 5.40	4.40 0.90 -2.10	1.90 1.80 1.50
340.30	1.56	0.00	0.03	181.40	33.00	13.00	21.40	1.75	4.80 3.90 4.00	3.00 0.70 -1.30	1.50 1.50 1.30
360.20	1.64	0.00	0.06	181.60	32.00	13.00	19.80	5.69	2.50 2.10 2.30	0.90 0.20 -0.30	1.20 1.10 1.20
400.00	1.78	0.00	0.09	181.70	31.00	14.00	17.10	15.13	1.80 1.50 1.80	0.00 0.00 0.10	1.30 1.10 1.30

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	
.375	.500	.23	.020	.075	.250	.425	.187	.050	
9.53	12.70	5.84	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	.8

