

Coaxial Attenuator/Switch

ZFAS-2000

50Ω Bi-Phase

100 to 2000 MHz

Maximum Ratings

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

Coaxial Connections

INPUT	2
OUTPUT	1
CONTROL	3

Features

- wideband, 100 to 2000 MHz
- rugged shielded case

Applications

- bi-phase modulator



CASE STYLE: K18

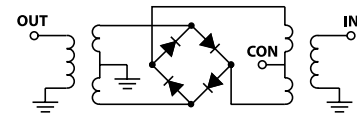
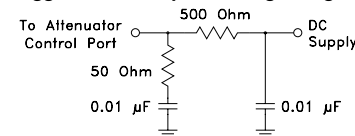
Connectors	Model	Price	Qty.
SMA	ZFAS-2000	\$64.95	(1-9)
BRACKET (OPTION "B")		\$2.50	(1+)

Attenuator/Switch Electrical Specifications

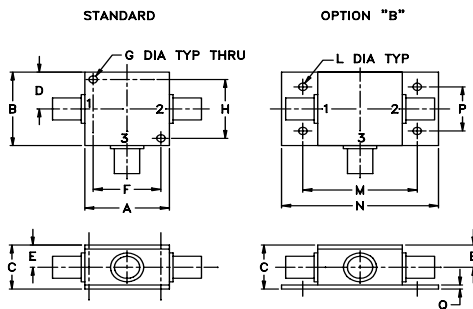
FREQUENCY (MHz)		INSERTION LOSS (dB) ±20 mA				MAX. INPUT PWR (dBm) ±20 mA		IN-OUT ISOLATION (dB) 0 mA				BI-PHASE X (±20 mA) Typ.					
IN	CON	Mid-Band		Total Range		1 dB compr.	no damage	L	M	U	Δ AMP (dB)	Phase(deg) deviation from 180°					
f _L -f _U		m	Typ. Max.	Typ. Max.	m							Total Range	m	Total Range			
100-2000	DC-0.5	4.2	6.5	5.4	7.5	19*	25	30	22	—	—	26	20	0.3	0.4	5.0	8.0

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 100-800 MHz.
 Performance specifications apply for input power up to 10 dB below stated 1dB compression.

suggested control port biasing configuration



Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
1.25	1.25	.75	.63	.38	1.00	.125	1.000
31.75	31.75	19.05	16.00	9.65	25.40	3.18	25.40
J	K	L	M	N	P	Q	wt
--	--	.125	1.688	2.18	.75	.07	grams
--	--	3.18	42.88	55.37	19.05	1.78	70.0

Typical Performance Data

Freq. (MHz)	I. Loss		±Control		20mA		Isolation (dB)		Input R. Loss (dB)	Control		Attenuation (dB)			Phase Δ ref at 15mA Ctrl			Input VSWR		
	at 20mA		Δ Amp		Δ Phase		(in-out) (in-con)			100 MHz	1000 MHz	2000 MHz	100 MHz deg.	1000 MHz deg.	2000 MHz deg.	100 MHz	1000 MHz	2000 MHz		
	α	σ	(dB)	(deg.)	—	—	—	—												
100.0	3.76	0.006	0.02	179.4	46	48	9.5	0.0000	51.0	38.9	34.4	89.6	18.6	46.6	1.6	4.7	2.9			
137.1	3.72	0.003	0.01	179.0	43	44	10.2	0.0001	48.5	37.0	33.9	91.3	12.9	42.2	1.6	4.7	2.9			
301.5	3.55	0.001	0.03	178.2	36	34	11.0	0.0002	46.3	35.1	33.2	89.8	8.7	35.1	1.6	4.6	2.9			
383.8	3.61	0.001	0.04	177.7	34	32	10.5	0.0003	44.1	33.6	32.7	85.5	5.8	31.0	1.5	4.6	2.9			
503.4	3.85	0.010	0.08	177.1	32	30	9.3	0.0004	42.3	32.4	32.1	84.8	2.4	27.0	1.5	4.6	2.9			
630.4	4.17	0.027	0.18	176.4	30	29	7.9	0.0005	39.1	30.8	31.2	78.5	-1.4	21.2	1.5	4.6	2.9			
757.5	4.47	0.059	0.21	176.3	30	31	6.9	0.0006	36.5	29.7	30.6	71.5	-4.8	16.8	1.5	4.5	2.9			
802.4	4.54	0.061	0.22	176.4	30	31	6.7	0.0007	30.2	26.8	28.7	53.5	-12.0	6.9	1.5	4.4	2.8			
899.5	4.91	0.107	0.27	176.1	30	30	6.3	0.0008	25.5	24.0	26.3	43.0	-15.6	-0.9	1.4	4.2	2.7			
996.7	4.96	0.114	0.28	175.9	29	28	6.2	0.0011	22.0	21.2	23.6	36.6	-16.4	-5.9	1.4	4.0	2.6			
1004.2	4.94	0.118	0.28	175.8	29	28	6.2	0.0016	18.4	18.1	20.3	31.0	-16.0	-8.8	1.3	3.7	2.4			
1131.3	5.57	0.162	0.36	175.7	30	26	6.4	0.0032	14.1	14.1	15.9	24.3	-13.7	-9.8	1.2	3.3	2.0			
1258.3	5.56	0.105	0.36	175.5	30	24	7.0	0.0058	11.3	11.5	13.0	19.5	-11.1	-8.9	1.2	3.1	1.8			
1377.9	5.69	0.045	0.37	175.5	30	24	7.7	0.0106	9.1	9.5	10.6	14.8	-8.6	-7.5	1.3	3.0	1.6			
1497.5	5.26	0.053	0.33	175.2	28	21	8.7	0.0226	6.9	7.7	8.3	9.5	-5.5	-5.4	1.5	2.9	1.4			
1632.1	5.38	0.045	0.27	174.7	28	20	10.0	0.0381	5.9	6.9	7.2	6.7	-4.0	-4.0	1.6	2.9	1.4			
1699.4	5.20	0.068	0.29	174.2	28	20	10.8	0.1031	4.8	6.0	6.0	3.2	-2.0	-2.1	1.8	3.0	1.5			
1751.7	5.49	0.068	0.27	174.2	28	21	11.3	0.3098	4.3	5.5	5.4	1.3	-0.9	-1.0	1.9	3.0	1.6			
1901.2	5.22	0.090	0.23	173.0	28	22	12.4	1.5487	4.0	5.3	5.0	0.4	-0.4	-0.4	2.0	3.0	1.7			
2000.0	5.57	0.156	0.25	172.7	28	23	12.5	15.1120	3.9	5.2	4.9	0.1	-0.1	0.0	2.0	3.1	1.7			

