

Surface Mount Attenuator/Switch

50Ω Bi-Phase 10 to 1000 MHz

TFAS-2+
TFAS-2



Maximum Ratings

Operating Temperature -55°C to 100°C

Storage Temperature -55°C to 100°C

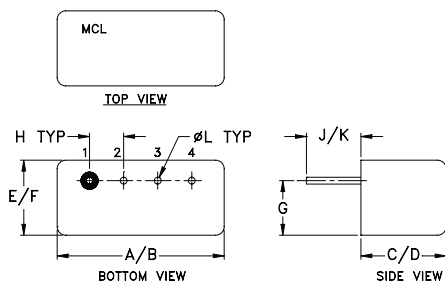
Control Current 30mA

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

Pin Connections

INPUT	1
OUTPUT	4
CONTROL	2
GROUND	3
CASE GROUND	3

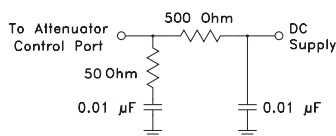
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F
.480	.500	.240	.255	.210	.230
12.19	12.70	6.10	6.48	5.33	5.84
G	H	J	K	L	wt
.16	.100	.14	.20	.020	grams
4.06	2.54	3.56	5.08	0.51	1.9

suggested control port biasing configuration



Features

- wideband, 10 to 1000 MHz
- high in-out isolation

Applications

- bi-phase modulator

CASE STYLE: B02

PRICE: \$22.20 ea. QTY. (1-9)

+RoHS Compliant

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

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 $\bar{X}$ (±20 mA) Typ.					
IN	CON	Mid-Band m		Total Range		1 dB compr.	no damage	L		M		U		Δ AMP (dB)	Phase (deg.) deviation from 180°	m	Total Range	m	Total Range
		Typ.	Max.	Typ.	Max.			Typ.	Min.	Typ.	Min.	Typ.	Min.						
10-1000	DC-0.5	3.7	4.5	5.0	8.0	17*	25	50	30	42	20	31	20	0.1	0.2	2.0	3.0		

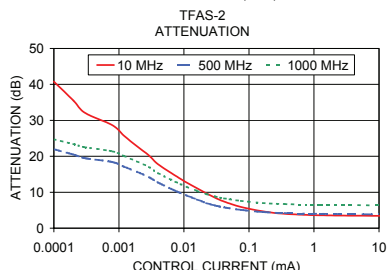
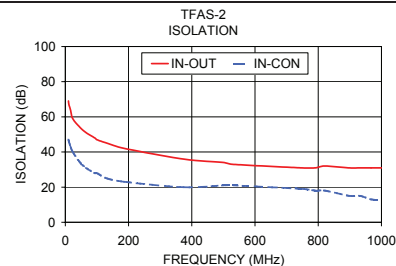
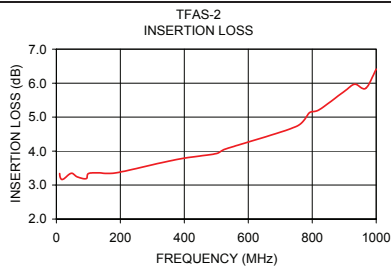
L = low range [f_L to 10 f_L] M = mid range [10 f_L to f_U/2] U = upper range [f_U/2 to f_U] m = [2 f_L to f_U/2]

* 13 dBm from 10-500 MHz.

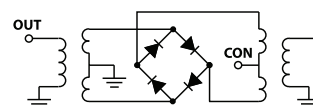
Performance specifications apply for input power up to 10 dB below stated 1 dB compression.

Typical Performance Data

Freq. (MHz)	I. Loss (dB) at 20mA	±Control ΔAMP (dB)	20mA ΔPhase (deg.)	Isolation (dB) (in-out)	Isolation (dB) (in-con)	Input R. Loss (dB)	Control Current (mA)			Attenuation (dB)			Phase Δ ref at 15mA Ctrl			Input VSWR		
							10	500	1000	10	500	1000	10	500	1000	10	500	1000
							deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.
10.0	3.34	0.009	0.00	180.0	69	47	11.4	0.0000	51.3	24.7	27.2	76.7	40.6	0.5	3.3	2.3	4.2	4.2
11.4	3.24	0.006	0.01	180.0	67	46	11.6	0.0001	40.8	22.0	24.7	67.8	31.3	-6.7	3.2	2.2	4.0	4.0
16.1	3.17	0.004	0.01	180.1	64	43	12.2	0.0002	35.5	20.5	23.4	61.3	25.4	-10.4	3.2	2.2	3.8	3.8
23.2	3.18	0.003	0.00	180.1	59	40	12.5	0.0003	32.1	19.5	22.5	59.5	21.4	-12.8	3.1	2.1	3.7	3.7
46.5	3.35	0.002	0.01	180.3	54	34	12.5	0.0008	28.6	18.4	21.4	55.8	17.3	-14.7	3.0	2.0	3.6	3.6
65.8	3.24	0.002	0.01	180.5	51	31	12.4	0.0012	25.7	17.1	20.1	53.7	14.1	-15.8	2.9	1.9	3.4	3.4
93.1	3.19	0.030	0.01	180.7	48	28	12.4	0.0019	22.8	15.7	18.6	51.0	10.9	-16.0	2.7	1.9	3.2	3.2
100.2	3.34	0.003	0.01	180.7	47	28	12.4	0.0029	20.2	14.2	17.0	47.8	8.6	-15.1	2.6	1.7	3.1	3.1
131.8	3.36	0.004	0.01	180.9	45	25	12.4	0.0040	17.8	12.7	15.3	45.1	6.8	-13.6	2.4	1.6	2.9	2.9
186.6	3.36	0.005	0.02	181.3	42	23	12.3	0.0074	14.6	10.4	12.9	40.1	4.7	-10.7	2.1	1.5	2.7	2.7
373.8	3.75	0.008	0.02	182.1	36	20	11.4	0.0110	12.7	9.1	11.5	36.8	3.7	-8.7	1.9	1.4	2.6	2.6
500.8	3.93	0.015	0.03	182.5	34	21	11.3	0.0159	11.1	8.0	10.4	33.2	2.8	-7.2	1.7	1.4	2.6	2.6
529.1	4.06	0.018	0.04	182.5	33	21	11.2	0.0221	9.7	7.0	9.5	29.5	2.2	-5.3	1.5	1.4	2.5	2.5
748.8	4.72	0.055	0.10	182.6	31	19	10.7	0.0301	8.5	6.3	8.8	25.9	1.7	-4.3	1.3	1.4	2.6	2.6
791.0	5.13	0.050	0.15	182.8	31	18	10.3	0.0416	7.4	5.8	8.3	22.4	1.0	-3.4	1.2	1.5	2.6	2.6
820.5	5.21	0.052	0.15	182.4	32	18	10.1	0.0753	5.9	5.1	7.6	16.2	0.7	-2.1	1.2	1.6	2.6	2.6
899.0	5.75	0.063	0.20	182.4	31	15	9.5	0.1640	4.7	4.5	7.0	9.2	0.2	-1.4	1.4	1.8	2.7	2.7
932.5	5.97	0.089	0.27	182.0	31	15	9.3	0.3543	4.0	4.2	6.7	5.0	0.0	-0.8	1.6	1.9	2.7	2.7
967.2	5.85	0.077	0.24	181.8	31	13	9.1	1.2309	3.6	4.0	6.5	1.7	-0.1	-0.5	1.8	2.0	2.7	2.7
1000.0	6.41	0.111	0.38	181.4	31	13	8.8	15.1064	3.4	3.8	6.3	0.0	0.0	-0.1	1.9	2.0	2.7	2.7



electrical schematic



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