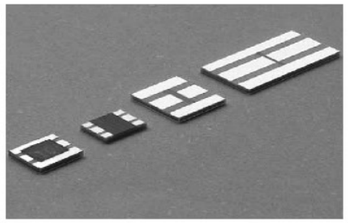
Surface Mount RF Power Attenuators



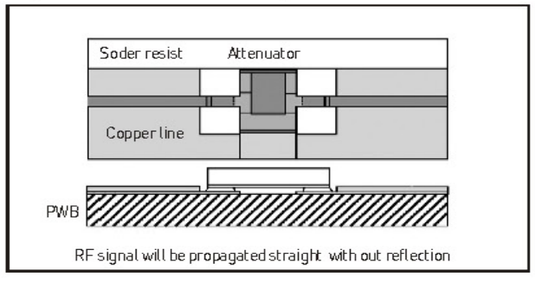
TFA-54D, TFA-84D, TFA-67D, TFA-37D are used for balanced coaxial attenuators, and are durable with large rated power.
In TFA-55DD, face down configuration on co-planer line show better return loss characteristics.
Long life and temperature stability of thin film technology realize better performance at a temperature range from -55C to + 155C.
Applications include gain control circuits, isolation circuits of power boost amplifiers at GHz, loss compensation of transmission line of data communication systems, detecting signal control of ATE-LSI test system-circuit board functional test systems, industrial measurment electronics, medical scientific electronics and miscellaneous communication systems.

■ GENERAL SPECIFICATIONS

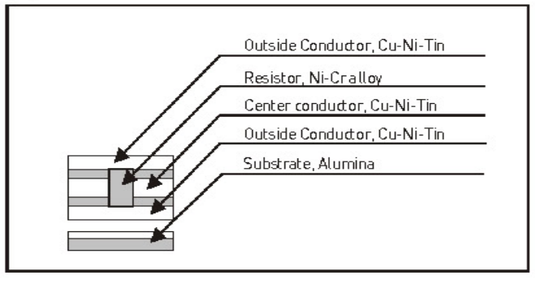
Model	Type	Impedance(*2)	Attenuation(*1)	Frequency Range	Power rating
TFA-54DD	Coaxial	50Ω	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40dB	DC- 4GHz	0.25W
TFA-55DD	SMD	50Ω	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40dB	DC- 4GHz	0.25W
TFA-85DD	Coaxial	50Ω	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40dB	DC- 3GHz	0.50W
TFA-67DD	Coaxial	50Ω	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40dB	DC- 3GHz	1.00W
TFA-37DD	Coaxial	50Ω	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40dB	DC- 3GHz	1.00W
TFA-54DC	Coaxial	75Ω	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40dB	DC- 4GHz	0.25W
TFA-55DC	SMD	75Ω	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40dB	DC- 4GHz	0.25W
TFA-85DC	Coaxial	75Ω	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40dB	DC- 3GHz	0.5W
TFA-67DC	Coaxial	75Ω	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40dB	DC- 3GHz	1.00W
TFA-37DC	Coaxial	75Ω	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40dB	DC- 3GHz	1.00W

Note:
(*1) Attenuation Tolerance at DC areas shown in following, 1dB is option, 2, 3, 4, 5, 6db: +/-0.2dB, 7, 8, 9, 10dB: +/-0.3dB, 20, 30, 40dB: +/-0.4dB
(*2) 1&dB attenuation is acailable optionally.
(*3) 7th character of P/N, "D" means "balanced" and "S" means "unbalanced"
(*4) 8th character of P/N, "D" means impedance of 50Ω, and "C" ditto of 75Ω

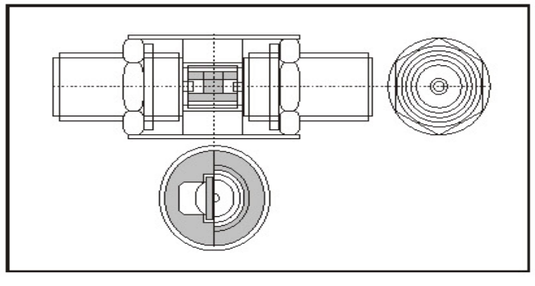
■ Face down installation, TFA-55DD



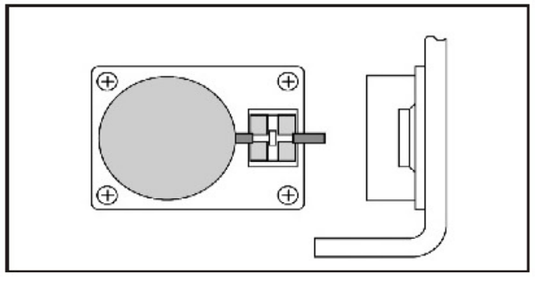
■ Materials



■ COAXIAL INSTALLATION, TFA-85D, TFA-67D

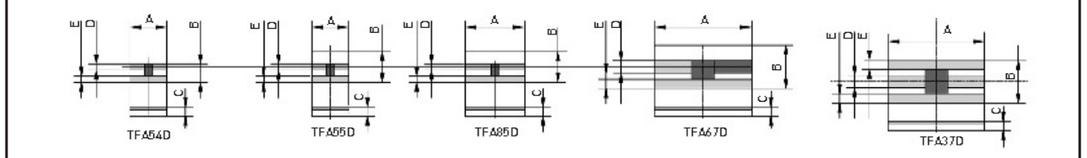


■ Power monitoring in circulator, TFA-68D



RARA TFA(SMD) RoHS COMPLIANT

■ DIMENSIONS (mm)



Model	Power	A	B	C	D	E
TFA-54D	1/4W	5.00	3.80	0.70	1.20	0.80
TFA-55D	1/4W	5.00	4.50	0.70	1.20	1.00
TFA-85D	1/2W	8.00	5.25	0.70	1.40	1.10
TFA-67D	1W	6.00	7.00	0.70	2.00	1.40
TFA-37D	1W	13.00	7.00	0.70	2.00	1.40

■ CHARACTERISTICS

Values in [] mean change in Ω after test

Operation Temp. Range		-55℃ ~ +155℃
Storage Temperature		-55℃ ~ +155℃
Characteristic Impedance		50Ω or 75Ω
Tolerance of Impedance	[±2%(G)]	Input DC volt in terminating out put with resistor when stable 1V DC volt source connected to input
Tolerance of Attenuation		Output DC volt in terminating output with resistor when stable 1V DC volt source connect to input. See Bottom of first page.
TCR of Impedance	[±50ppm/℃]	TC of input DC resistance in terminating output with resistor When stable 1V DC volt source connect to input.
TCR of Attenuation	[±50ppm/℃]	TC of output DC volt in terminating output with resistor When stable 1V DC volt source connect to input.
Rated Temperature	[±1%]	-55℃~70℃
Soldering Heat		350℃, 3seconds dipping.
Solderability	[95% convered]	
Moisture Resistance	[±1%]	Input DC resistance change under condition if 40℃ temp and 90-95%RH, Power rating on-90min, off-30min, 1000h
Load Life	[±1%]	Input DC resistance change. Under condition of 70℃ temp Power rating on-90min, off-30min, 1000h

Note: Above specifications are applied to TFA53S, TFA554D, TFA584S, TFA585D, TFA537S and TFA537D.

■ ORDERING PROCEDURE EXAMPLE

Ordering Example	Model	Characteristic Impedance	Attenuation	Additional	Power Rating
TFA54DD6dBZ00	TFA-54SD	50Ω	6dB	Z00	1/4W
TFA55DD10dBZ00	TFA-55DD	50Ω	10dB	Z00	1/4W
TFA85DD20dBZ00	TFA-85DD	50Ω	20dB	Z00	1/2W
TFA67DD30dBZ0	TFA-67DD	50Ω	30dB	Z00	1W
TFA37DD40dBZ00	TRF-37DD	55Ω	30dB	Z00	1W
TFA54DC6dBZ00	TFA-54SD	75Ω	6dB	Z00	1/4W
TFA55DC10dBZ00	TFA-55DD	75Ω	10dB	Z00	1/4W
TFA85DC20dBZ00	TFA-85DD	75Ω	20dB	Z00	1/2W
TFA67DC30dBZ0	TFA-67DD	75Ω	30dB	Z00	1W
TFA37DC40dBZ00	TRF-37DD	75Ω	30dB	Z00	1W

Note: Rating 30W of TFA68DD assume that the chip attached on proper heat sink by solder.