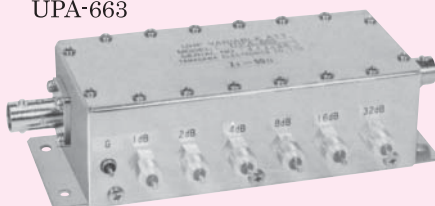


VPA・UPA Series

VPA-885



UPA-663



Product features and applications

The VPA/UPA series are highly reliable programmable attenuators with a quick switch-over system, long service life and compact design, which are essential features to meet today's trend toward labor-saving and automation. These models are suitable for many fields including automatic signal control for signal generators, signal level meters, analog IC testers and other measuring instruments; tuning and inspection for radios, televisions and tape recorders; automatic remote signal control for production lines; and computer control for automatic measurement of analog signal level.

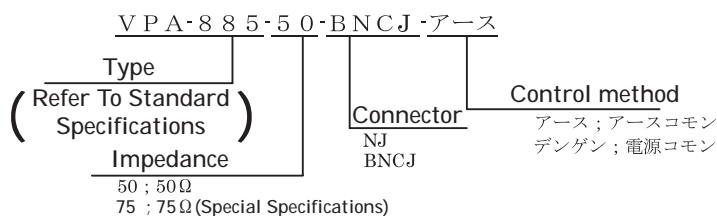
	Common Specifications	
	VPA	UPA
Frequency Range	DC~300MHz	DC~1000MHz
Impedance	50 Ω、75 Ω	
VSWR	1.3(Max.)	50 Ω ; 1.3(Max.) 75 Ω ; 1.5(Max.)
Deviation	±(2%+0.2)dB	±(3%+0.2)dB
Power(Max.)	0.25W (Max.)	
Connectors	50 Ω・・・BNCJ、NJ	75 Ω・・・BNCJ、NCJ
Switching Speed	4ms (Max.) (Incl Chatterling)	
Operating Voltage	DC12V±10%	
Operating Current	30mA (1 Section)	
Longevity	1000000 times	
Driving Method	Common earthing , Common power supply(note;1)	
Operating Temperature Range	-10°C~+60°C	

(note;1) Common earthing;A common ground terminal is equipped. DC voltage is applied to the selected attenuation section to be driven. Common power supply; DC 12V is added as a common terminal. Earth the selected attenuation section to be driven.

VBA/UPA series Standard Specifications

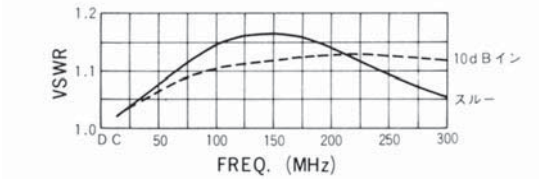
Models	Number Of Sections	Attenuation Steps (dB)	Dimensions(mm)			Mounting Dimensions (mm)	Weight
			L	D	H		
VPA-531	5	1 2 4 8 16	93	50	35	103×30	(350g)
VPA-663	6	1 2 4 8 16 32	108	50	35	118×30	(380g)
VPA-795	7	1 32 2 4 16 8 32	123	50	35	133×30	(400g)
VPA-8127	8	1 32 2 32 4 32 8 16	138	50	35	148×30	(430g)
VPA-885	8	1 2 4 8 10 20 20 20	138	50	35	148×30	(430g)
UPA-531	5	1 2 4 8 16	93	50	35	103×30	(370g)
UPA-663	6	1 2 4 8 16 32	108	50	35	118×30	(400g)
UPA-795	7	1 32 2 4 16 8 32	123	50	35	133×30	(430g)
UPA-8127	8	1 32 2 32 4 32 8 16	138	50	35	148×30	(450g)
UPA-885	8	1 2 4 8 10 20 20 20	138	50	35	148×30	(450g)

Model Description

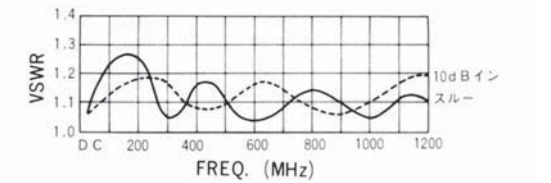


■ Frequency Characteristics

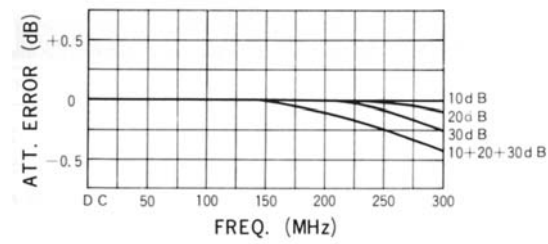
VSWR VS FREQ. CURVES (VPA-50Ω)



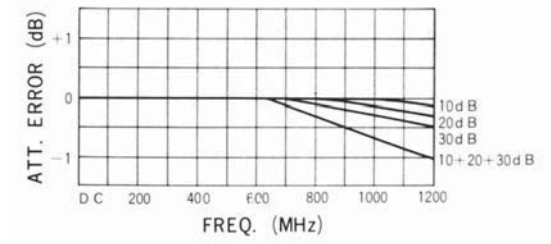
ATT. VS FREQ. CURVES (VPA-50Ω)



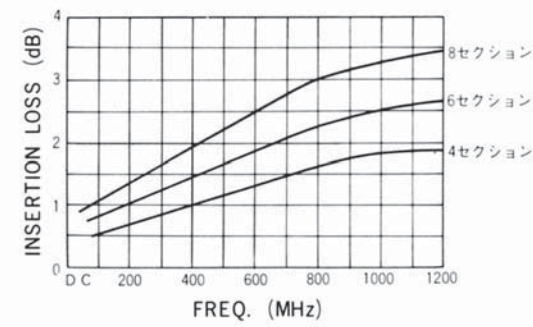
VSWR VS FREQ. CURVES (UPA-50Ω)



ATT. VS FREQ. CURVES (UPA-50Ω)

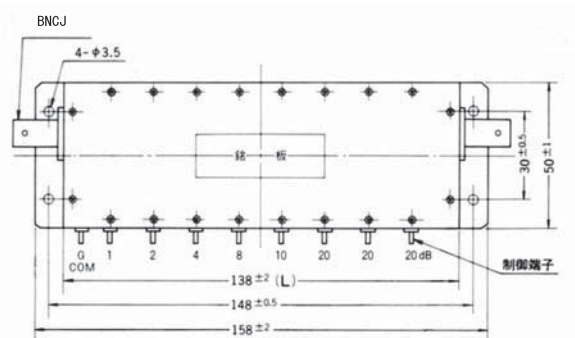


INSERTION LOSS VS FREQ. CURVES

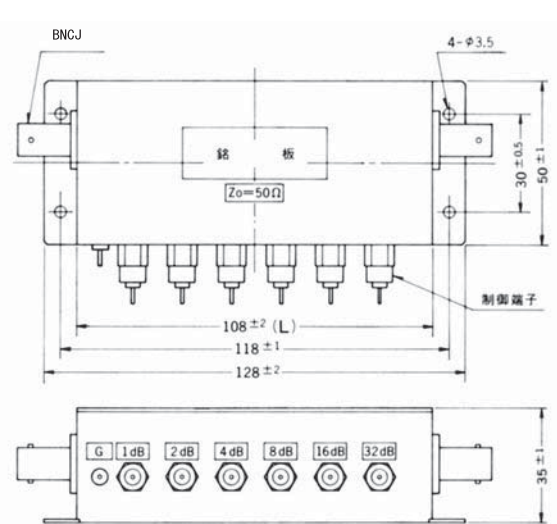


■ Outline Drawings

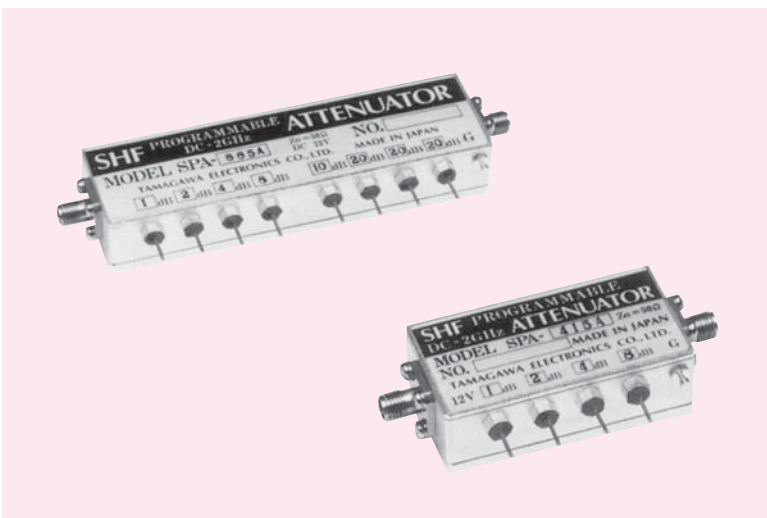
VPA-885



UPA-663



SPA Series



Product features and applications

The SPA series are compact and lightweight programmable attenuators supporting wide bandwidth ranges of up to DC-2,000 MHz (Type A), DC-3,500 MHz (Type B), and DC 4,000 to 5,000 MHz (Type AS/BS) frequency range.

	Common Specifications		
	SPA-A	SPA-B	SPA-S
Frequency Range	DC~2000MHz	DC~3500MHz	4000~5000MHz
Impedance	50 Ω		
VSWR	1.3(Max.)		
Deviation	±(3%+0.2) dB		
Power(Max.)	0.25W (Max.)		
Connectors	SMAJ		
Switching Speed	4ms (Incl Chatterling)	15ms (Incl Chatterling)	
Operating Voltage	DC12V±10%		
Operating Current	30mA (1 Section)		
Longevity	1000000 times		
Driving Method	Grand terminal and driving with individual terminals		(note;1)
Operating Temperature Range	-10°C~+50°C		

(note;1) Common earthing;A common ground terminal is equipped.

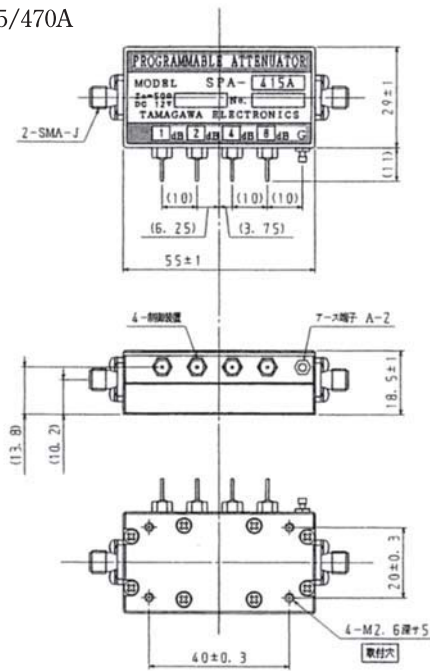
DC voltage is applied to the selected attenuation section to be driven.

SPA series Standard Specifications

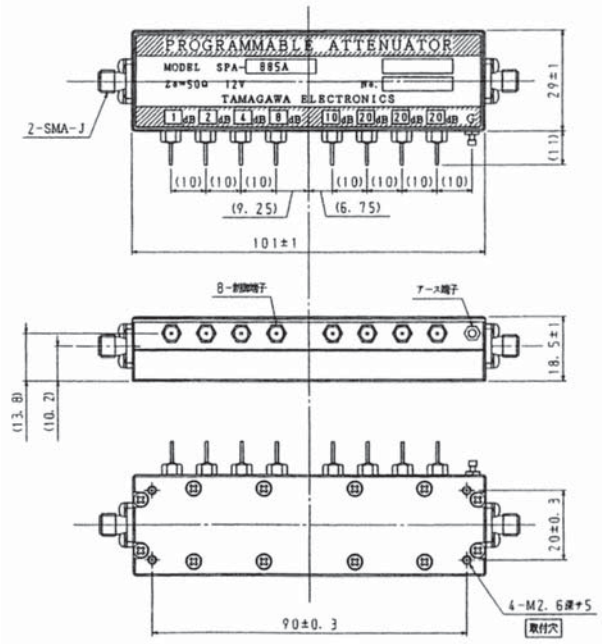
	Models	Frequency Range (MHz)	Attenuation Steps (dB)	Deviation (dB)	VSWR (Max.)	Insertion loss dB (Max.)	Weight
	SPA-415A	DC~2000	1 2 4 8	±(3%+0.2)	1.3	2	(80g)
	SPA-470A	DC~2000	10 20 20 20	±(3%+0.2)	1.3	2	(80g)
	SPA-885A	DC~2000	1 2 4 8 10 20 20 20	±(3%+0.2)	1.3	4	(140g)
NEW	SPA-470B	DC~3000	10 20 20 20	±(3%+0.2)	1.3	3	(300g)
NEW	SPA-531B	DC~3000	1 2 4 8 16	±(3%+0.2)	1.3	3	(300g)
NEW	SPA 455B	DC~3500	5 10 20 20	±(3%+0.2)	1.3	3	(300g)
NEW	SPA-531AS	4000~5000	1 2 4 8 16	±(3%+0.2)	1.3	3	(300g)
NEW	SPA-470BS	4000~5000	10 20 20 20	±(3%+0.2)	1.3	3	(300g)

■ Outline Drawings

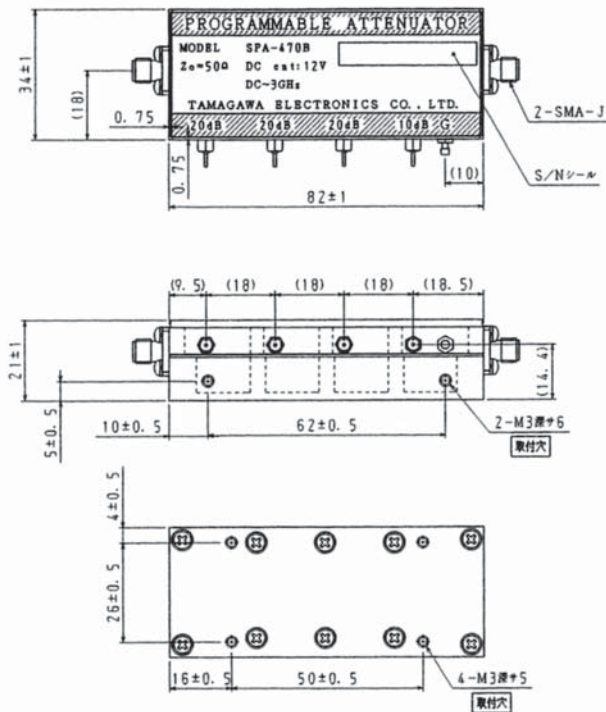
SPA-415/470A



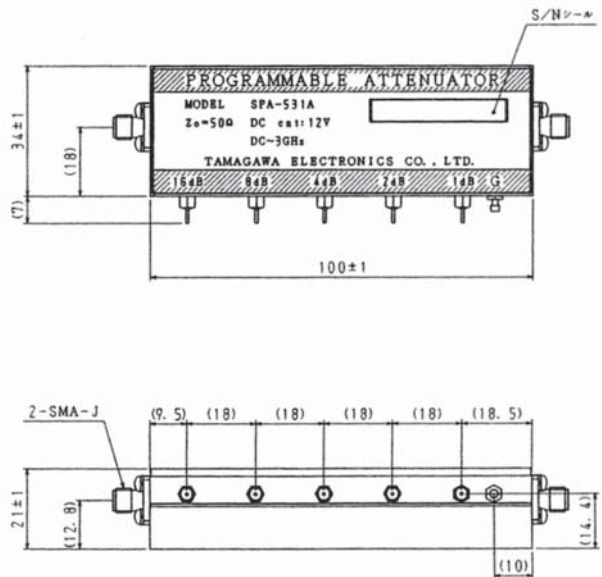
SPA-885A



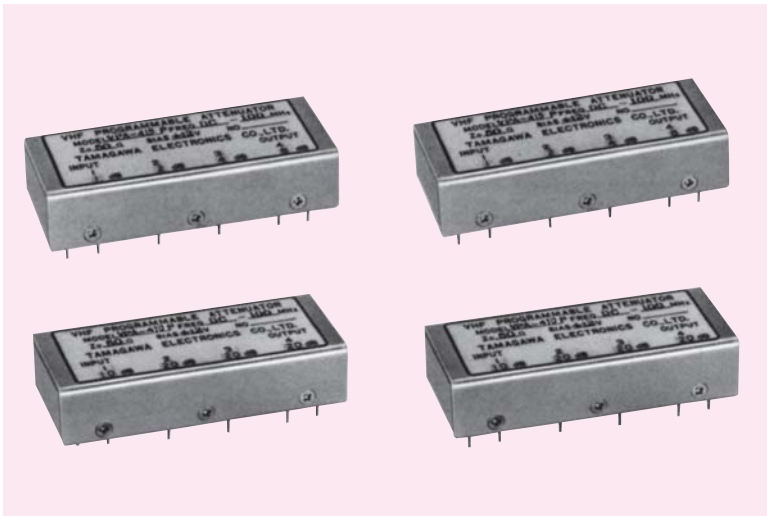
SPA-470B/BS, SPA-455B



SPA-531B/AS



VPA-P Series



Product features and applications

The VPA-P series are compact and lightweight programmable attenuators which can be mounted on a printed-circuit board directly.

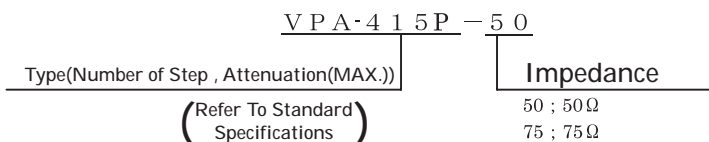
Common Specifications	
Frequency Range	DC~100MHz
Impedance	50Ω、75Ω
VSWR	1.2(Max.)
Deviation	±(2%+0.2)dB
Power(Max.)	0.25W (Max.)
Connector	Diameter solderable leads
Switching Speed	4ms (Max.) (Incl Chatterling)
Operating Voltage	DC12V±10%
Tuning Current	30mA (1 Section)
Longevity	1000000 times
Drive Method	Grand terminal and driving with individual terminals (note;1)
Operating Temperature Range	-10°C~+50°C
Weight	(100g)

(note;1) Common earthing;A common ground terminal is equipped.
DC voltage is applied to the selected attenuation section to be driven.

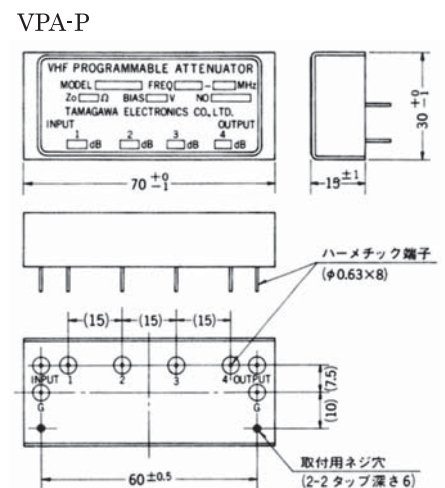
VPA series Standard Specifications

Models	Number Of Sections	Attenuation Steps (dB)	Deviation (dB)	VSWR (Max.)	Insertion Loss dB (Max.) (1 section)
VPA-415P	4	1 2 4 8	±(2%+0.2)	1.2	0.25
VPA-439P	4	3 6 10 20	±(2%+0.2)	1.2	0.25
VPA-470P	4	10 20 20 20	±(2%+0.2)	1.2	0.25

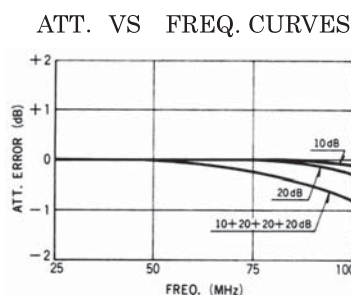
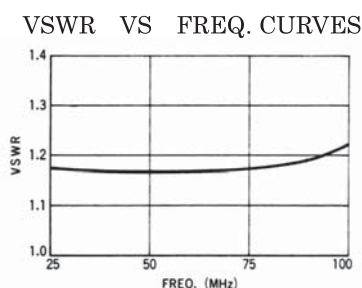
Model Description



Outline Drawings



Frequency characteristics



TPA-1000 Series



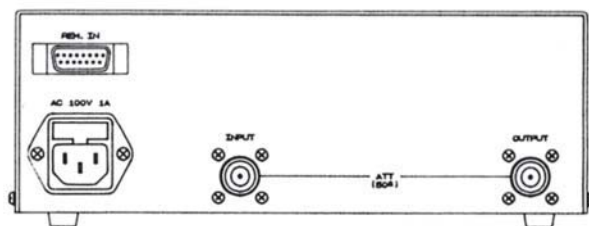
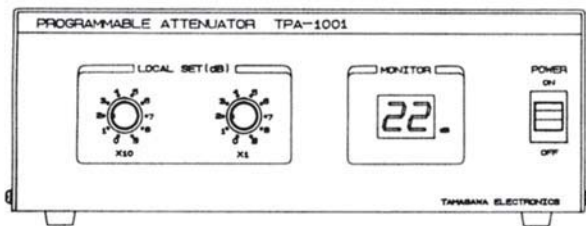
Product features and applications

The TPA-1000 series attenuators allow you to reset an output level from Channel 1 to Channel 8. Simply pressing a push-button instantly sets the desired output level. In addition, the automatic scan function enables automatic switching up to Channel 8 at any interval, thus dramatically improving the work efficiency on production lines.

	Common Specifications	
	TPA-1001	TPA-1003-03
Frequency Range	DC~1500MHz	
Impedance	50 Ω	75 Ω
VSWR	1.3(Max.)	
Attenuation	0~85dB(1dB step)	
Deviation	±(2%+0.2) dB	
Insertion Loss	3dB (Max.)	
Power(Max.)	3W (Max.)	
Driving Method	Manual mode . . . Rotary switch Remote mode . . . BCD Code	
Connectors	NJ	C 15
Operating Temperature Range	0 ~ +40°C	
Dimensions(mm)	240(W)×165(D)×85(H)	
Weight	(2kg)	

*AC Line Voltage: 100V *Frequency: 50-60Hz

Outline Drawings



TPA Series



Product features and applications

The TPA series are programmable attenuators supporting LF/VHF/UHF bands. Choose the best attenuator to suit your purpose. The attenuation level is set by GP-IB or manual operation on a panel, and the value is indicated on a digital display. This series is suitable for remote control and computer control associated with automatic setting of electric signals.

The TPA-500 series include two models: one covers up to DC 1 GHz frequency range and the other up to DC-3 GHz. The attenuation level is adjustable by remote control via a USB interface under Microsoft® Windows® 2000. Manual operation is also available by a rotary switch on the front panel. The attenuation value is indicated in two digits on the digital display. These models are ideal for remote control and automatic measurement during production and experiment.

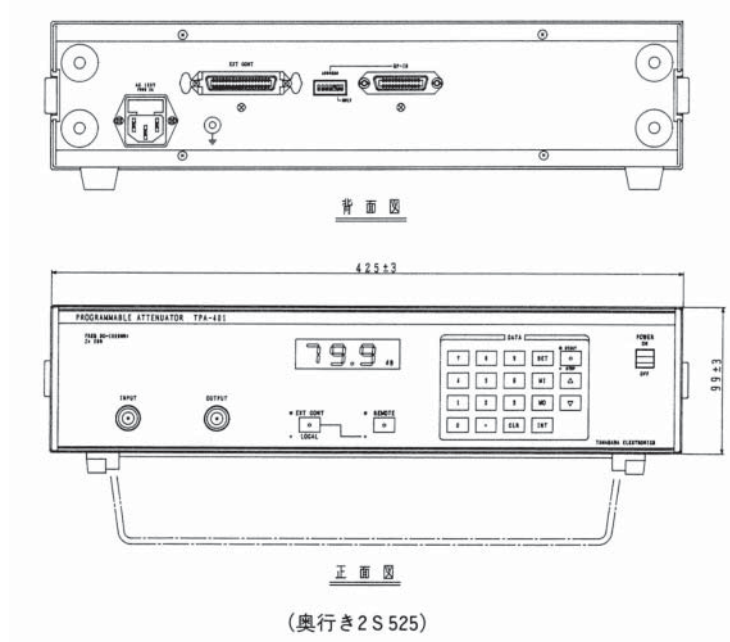
	Common Specifications	
	TPA-400	TPA-500
Control activation	GP-IB、BCD	USB、GP-IB
Manual activation	Push-button panel	Rotary switch
Display of attenuation	Decimal notation and 3 figures	
Switching Speed	15ms (Max.)	
Switching Mode	Closed	
Power(Max.)	0.25W (Max.)	
Connector	N-J	
Power Input	AC100V±10V, 50/60Hz, about25VA	
Operating Temperature Range	0 ~ +40°C	
Weight	(5.5kg)	
Others	—	Attached Software

Standard Specifications

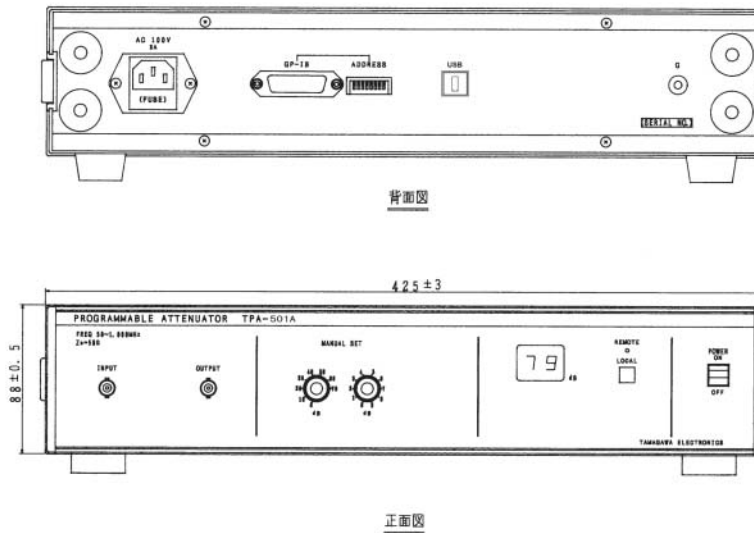
Models	Frequency Range	Impedance	Attenuation dB (Max.)	Step Size (dB)	Deviation (dB)	VSWR (Max.)	Insertion Loss dB (Max.)
TPA-401	DC~1000MHz	50 Ω	99.9	0.1	0.1dB Step ±0.05dB 1dB Step ±(2%+0.2)	1.3	10
NEW TPA-402	DC~3000MHz	50 Ω	85	1.0	±(2%+0.2)	1.3	6
NEW TPA-501A	DC~1000MHz	50 Ω	85	1.0	±(3%+0.2)	1.3	6
NEW TPA-503A	DC~3000MHz	50 Ω	85	1.0	±(3%+0.2)	1.4	6

■ Outline Drawings

TPA-401



TPA-501



■ TPA-401 control(BCD) "EXIT CONT" signal pin assignment

pin number	Signal	pin number	Signal
1	INPUT 0.1 d B	21	OUTPUT 0.4 d B
2	INPUT 0.2 d B	22	OUTPUT 0.8 d B
3	INPUT 0.4 d B	23	OUTPUT 1 d B
4	INPUT 0.8 d B	24	OUTPUT 2 d B
5	INPUT 1 d B	25	OUTPUT 4 d B
6	INPUT 2 d B	26	OUTPUT 8 d B
7	INPUT 4 d B	27	OUTPUT 10 d B
8	INPUT 8 d B	28	OUTPUT 20 d B
9	INPUT 10 d B	29	OUTPUT 40 d B
10	INPUT 20 d B	30	OUTPUT 80 d B
11	INPUT 40 d B	31	
12	INPUT 80 d B	33	LOCAL/EXT CONT
13		34	CONTROL
19	OUTPUT 0.1 d B	18、36	GND
20	OUTPUT 0.2 d B	—	—

Using Connctor ; 57-40360(DDK)

TPA Series



■ Product features and applications

The TPA series allow you to adjust the attenuation in 1-dB steps without an intermittent signal. It is optimal for measuring instruments requiring linearity. The frequency range can be switched between 800 through 2,200 MHz and 2,200 to 6,000 MHz. The attenuation level is adjustable up to 70 dB with the minimum step of 1 dB.

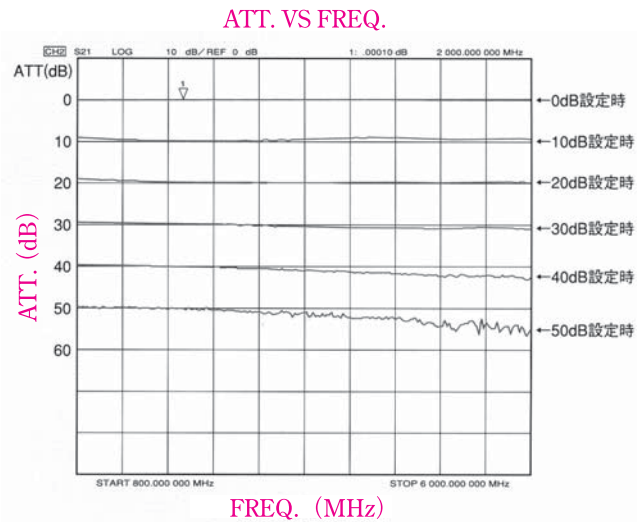
This series is suitable for an attenuator circuit in a pseudo transmission testing at a base station, and is especially ideal for experiments on mobile base stations requiring high linearity.

Band selection	At 800MHz		At 2000MHz	
	Frequency Range	800MHz - 2200MHz		2200MHz - 3000MHz
Maximum attenuation	70dB			
Attenuation Steps	1dB			
Deviation	±(5% + 0.5)dB		±(10% + 0.5)dB	
Insertion loss(Max.)	8dB		10dB	
Impedance	50Ω			
VSWR	2.0(Max.)			
Maximum input power	-3dBm			
Switching Speed	1ms (Max.)			
Connector	N-J			
Control	GP-IB			
Manual mode	Rotary encoder			
Power input	AC100V~220V			
Weight	4Kg (Max.)			
Dimensions	W 220 × D 285 × H 99(mm)			
Belongings	Power supply cable(2.5m), 2P to 3P connecting connector, instruction			

* The attenuation tolerance at 800-960 MHz (setting at 800 MHz) and 1,900-2,200 MHz (setting at 2,000MHz) is ± (3%+0.2dB)

■ Frequency Characteristic

■ The deviation of att. VS time shifting.



■ Outline Drawings

back

