

# URA-Q·SRA Series

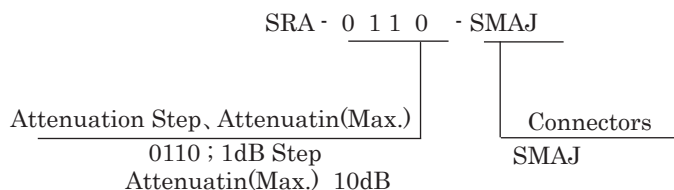
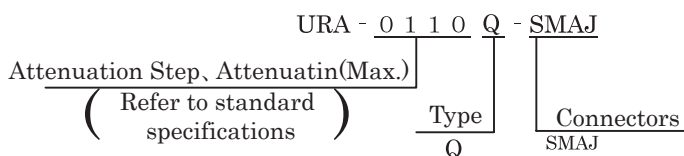


■ Product features and applications

The URA-Q/SRA series are ultra-small rotary step attenuators, covering up to DC-3000 MHz (URA-Q) or DC-6000 MHz (SRA) frequency. They are useful for wireless devices to adjust the radio frequency in up to the SHF band.

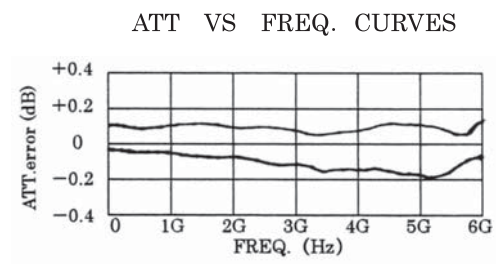
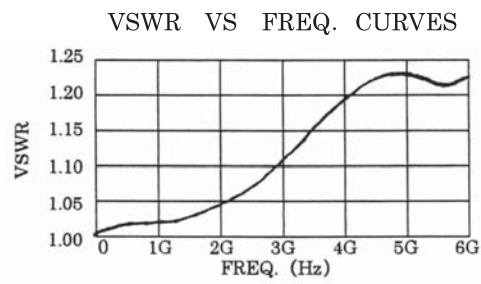
	Common Specifications	
	URA-Q	SRA
Frequency Range	DC~3000MHz	DC~6000MHz
Impedance	50Ω	
VSWR	1.2(Max.)	1.25(Max.)
Insertion loss	0.2dB (Max.)	0.35dB (Max.)
Connectors	SMA-J	
Power(Max.)	0.5W (Max.)	
Switching Mode	Closed	
Deviation	Set Attenuation at 1dB~8dB ; ±0.2dB(Max.)	Set Attenuation at 1dB~6dB ; ±0.25dB(Max.)
	Set Attenuation at 9dB~10dB ; ±0.3dB(Max.)	Set attenuation at 7dB~10dB ; ±0.3dB(Max.)
Attenuation Rotary Direction	Increase Rotated Clockwise	
Step Angle	30°	
Operating Temperature Range	-20~+65°C	
Longevity	10,000 times	
Weight	(60g)	

■ Model Description



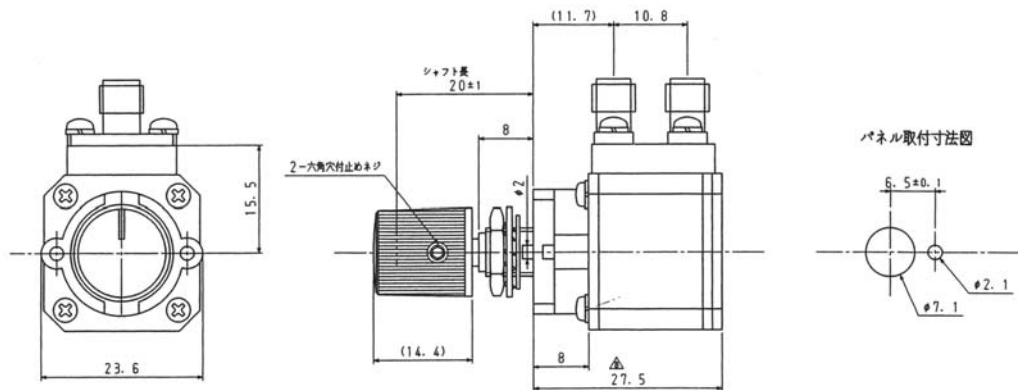
## Frequency Characteristics

### SRA

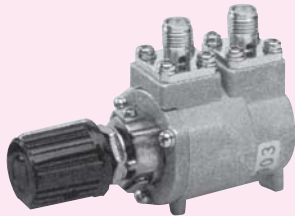


## Outline Drawings

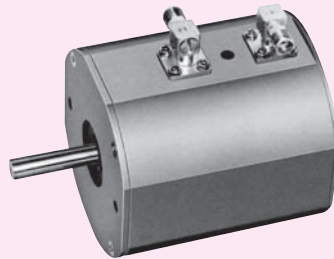
### URA-Q/SRA



# URA-M·B Series



URA-0XXXXM



URA-0XXXXB

■ Product features and applications

The URA-M/URA-B series are rotary step attenuators, covering up to DC-3000 MHz frequency. The compact and lightweight design M series are easier to install in narrow spaces than existing models. The performance-oriented B series are fabricated with thin film distributed elements to attain greatly improved frequency response. dB indicators and knobs are available as optional parts for research and experimental use.

	Common Specifications	
	URA-M	URA-B
Frequency Range	DC~3000MHz	
Impedance	50Ω	
VSWR	1.2(Max.)	1.3(Max.)
Insertion Loss	0.2dB (Max.)	0.5dB (Max.)
Power(Max.)	0.5W (Max.)	
Connectors	SMAJ	SMAJ-L
Switching Mode	—	Closed
Attenuation Rotary Direction	Increases Rotated Clockwise	Increases/Decreases Rotated Clockwise
Step Angle	30°	
Operating Temperature Range	-10~+65℃	-10~+50℃
Longevity	10,000 (Reciprocating Motion 1~10dB)	
Weight	(60g)	(600g)

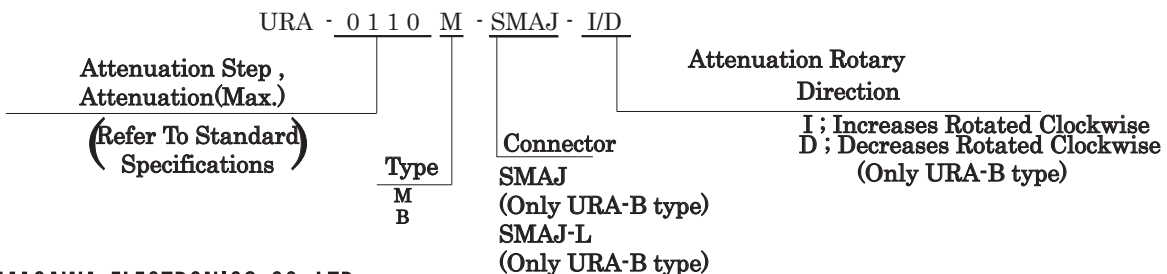
■ URA-M series Standard Specifications

Models	Attenuation dB (Max.)	Number of Steps	Attenuation Steps (dB)	Deviation (dB)
URA-0021M	1	5	0.2	±0.1
URA-0110M	10	10	1	Next page

■ URA-B series Standard Specifications

Models	Attenuation dB (Max.)	Number of Steps	Attenuation Steps (dB)	Deviation (dB)
URA-0110B	10	10	1	±0.3
URA-1040B	40	4	10	±1.0
URA-1050B	50	5	10	±1.0

■ Model Description

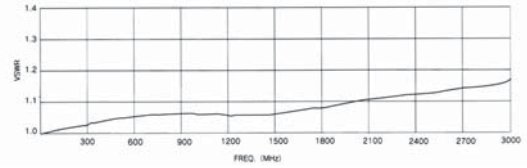


■ URA-0110M Attenuation Deviation

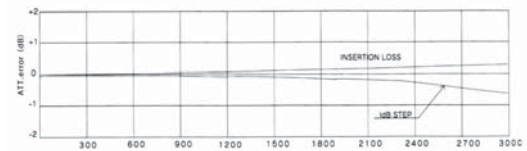
Set Attenuation	Frequency Range	
	DC~ 2 GHz	DC~ 3 GHz
0 ~ 5 dB	±0.2dB	±0.2dB
6 dB	±0.2dB	+0.2dB -0.35dB
7 dB	+0.2dB -0.25dB	+0.2dB -0.5dB
8 dB	+0.2dB -0.35dB	+0.2dB -0.7dB
9、10 dB	+0.2dB -0.5dB	+0.2dB -0.9dB

■ Frequency Characteristics  
URA-M

VSWR VS FREQ. CURVES



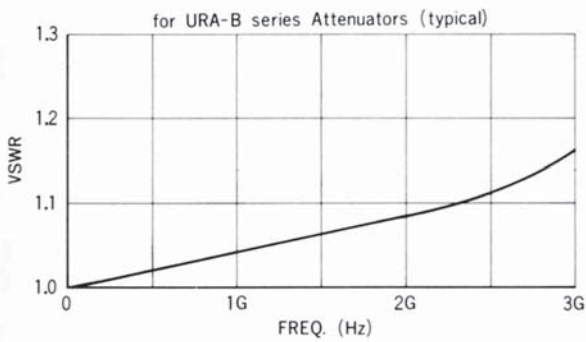
ATT VS FREQ. CURVES



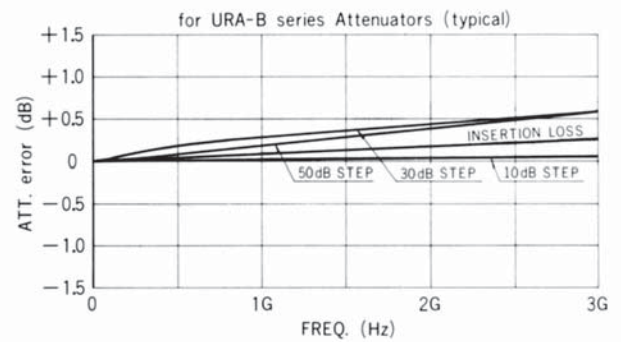
■ Frequency Characteristics

URA-B

VSWR VS FREQ. CURVES

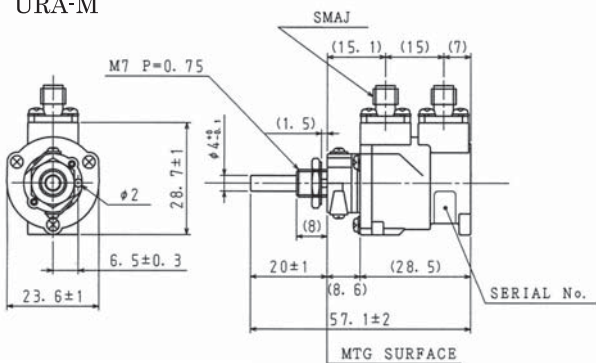


VSWR VS FREQ. CURVES

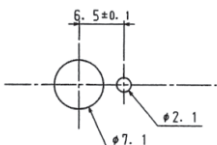


■ Outline Drawings

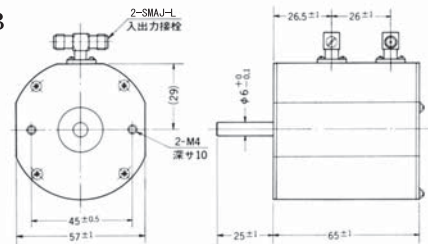
URA-M



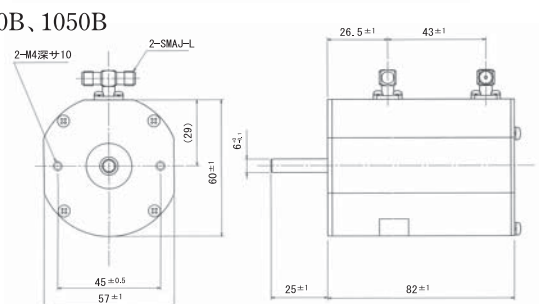
パネル取付寸法図



URA-0110B



URA-1040B、1050B



# URA-C·YA Series



**Product features and applications**

The URA-C series are rotary step attenuators, covering up to DC-1000 MHz frequency. The compact and lightweight design is intended for easy installation on panels. This model uses high frequency termination in the pursuit of excellent performance and usability, and is priced competitively. dB indicators and knobs are available as optional parts for research and experimental use.

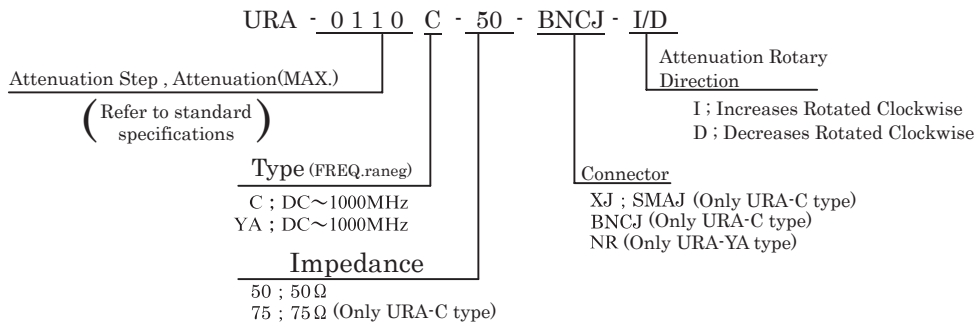
The URA-0110YA is a high power model, covering up to DC-1000 MHz frequency with power capacity of 10 W. It is suitable for terrestrial digital broadcasting equipment.

	Common Specifications	
	URA-C	URA-YA
Frequency Range	DC~1000MHz	
Impedance	50 Ω、75 Ω	50 Ω
VSWR	1.2(Max.) (50 Ω)、1.3(Max.) (75 Ω)	1.3(Max.)
Insertion Loss	0.2dB (Max.)	0.5dB (Max.)
Connectors	BNC-J、SMA-J	N-J
Power(Max.)	0.5W (Max.)	10W (Max.)
Circuit Type	Unbalanced π Type And L Type	Unbalanced π Type
Switching Mode	Closed	
Attenuation Rotary Direction	Increases/Decreases Rotated Clockwise	Increases Rotated Clockwise
Step Angle	30°	
Operating Temperature Range	-20~+65°C	-10~+60°C
Longevity	10,000 (Reciprocating Motion 1~10dB)	
Weight	(300g)	(1050g)

**URA-C·YA series Standard Specifications**

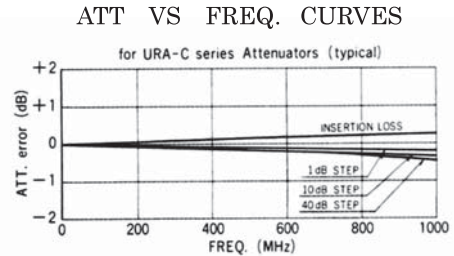
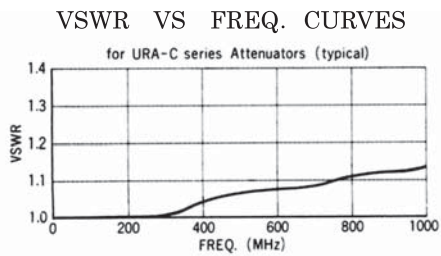
Models	Attenuation dB (Max.)	Number of Steps	Attenuation Steps (dB)	Deviation (dB)	Dimensions Φ×L(mm)
URA-0011C	1	10	0.1	±0.1	44Φ×54
URA-0055C	5	10	0.5	±0.2	44Φ×54
URA-0110C	10	10	1	±0.2	44Φ×54
URA-0220C	20	10	2	±0.2	44Φ×62
URA-0315C	15	5	3	±0.2	44Φ×62
URA-0330C	30	10	3	±0.5	44Φ×62
URA-1020C	20	2	10	±0.5	44Φ×62
URA-1030C	30	3	10	±0.5	44Φ×62
URA-1040C	40	4	10	±0.5	44Φ×62
URA-1050C	50	5	10	±1.0	44Φ×62
URA-1060C	60	6	10	±1.0	44Φ×62
URA-1070C	70	7	10	±1.0	44Φ×62
<b>NEW</b> URA-0110YA	10	10	1	±(3%+0.3)	65Φ×99.5

## Model Description



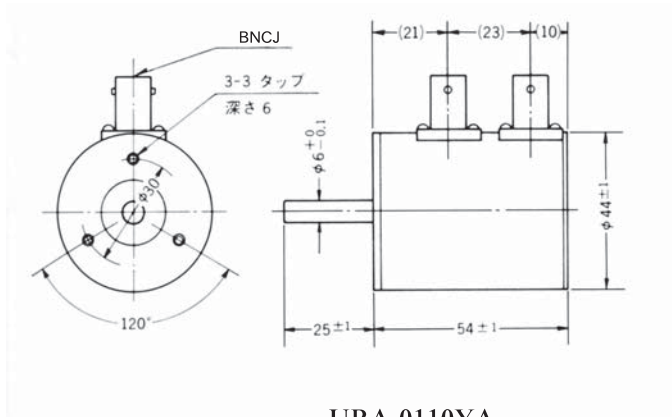
## Frequency Characteristics

### URA-C

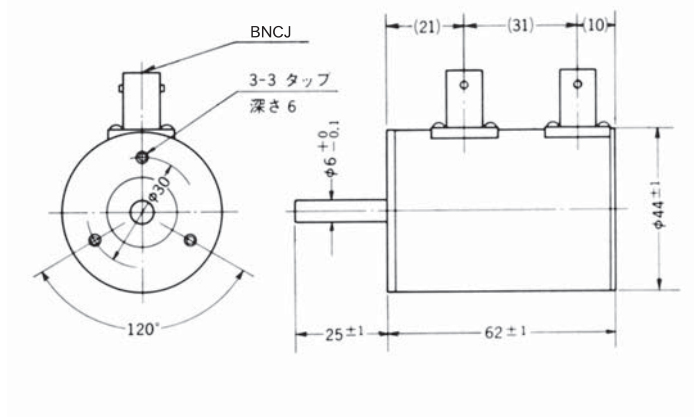


## Outline Drawings

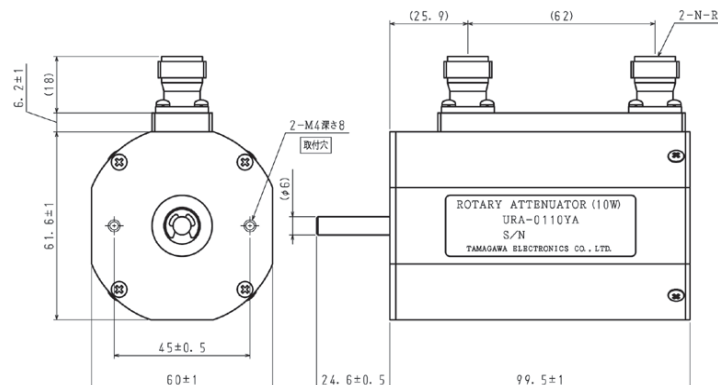
### URA-0011C~0110C



### URA-0220C~1070C



### URA-0110YA



## Nobs and Direction Labels for Rotary Attenuators as Below

### ■ SRA/URA-Q series

	Models	Outline Drawings
Nob	N2DRS-13004-1 T	D
Direction Label	N-NMA082M01	G

### ■ URA-B series

	Models	Outline Drawings
Nob	Y-7049	C
Direction Label	Y-NMA046X00, Y-NMA113X01	F · H

### ■ URA-M series

	Models	Outline Drawings
Nob	N2DRS-13004-IT, N2MRS-1604-IT	B · D
Direction Label	N-NMA082M01	G

### ■ URA-C series

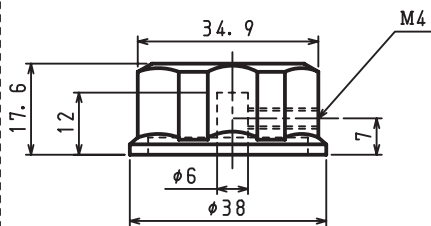
	Models	Outline Drawings
Nob	CM-4S	A
Direction Label	Y-7008	E

### ■ URA-YA series

	Models	Outline Drawings
Nob	Y-7049	C
Direction Label	Y-NMA046X00	F

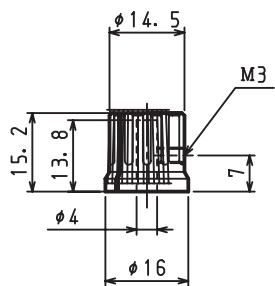
\* Please refer to the outline drawings on 15 page

Figure A



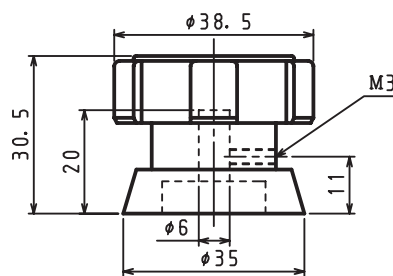
CM-4S

Figure B



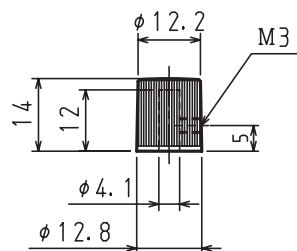
N2MRS-1604-1T

Figure C



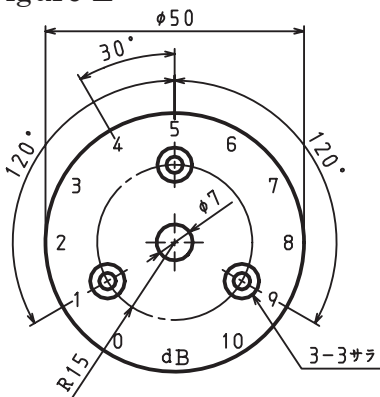
Y-7049

Figure D



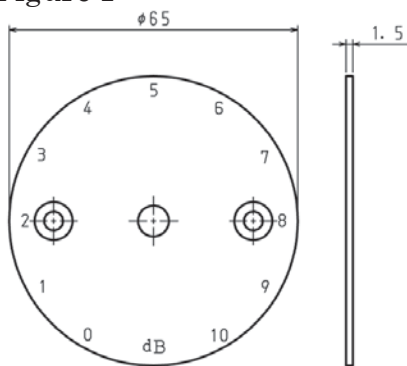
N2DRS-13004-1T

Figure E



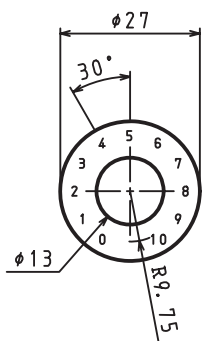
Y-7008

Figure F



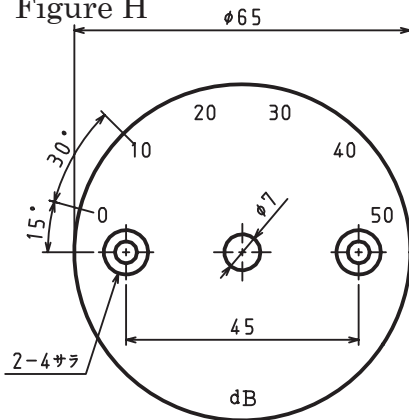
Y-NMA046X00

Figure G



N-NMA082M01

Figure H



Y-NMA113X01

# TRA Series



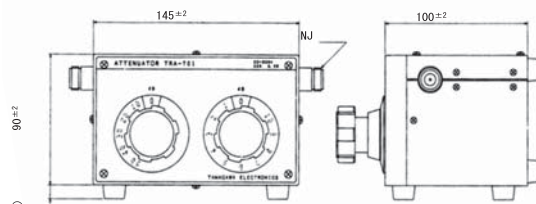
### Product features and applications

The TRA series are URA series rotary attenuators in portable cases, covering the range of from DC-3,000 MHz frequency, and are suitable for standard attenuators. The I/O connectors prepared according to the customer's specifications enable the TRA series to be used not only as terminal attenuators for circuit adjustment, but also for various applications including inspection, research and laboratory work.

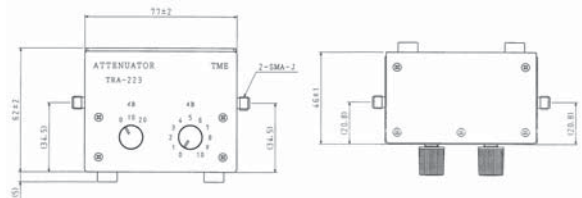
Common Specifications	
Connectors	50 Ω ··· BNCJ, NJ, SMAJ 75 Ω ··· BNCJ, NCJ
Power(Max.)	0.25W~0.5W
Circuit Type	Unbalanced T type And π Type
Switching Mode	Closed
Attenuation Direction	For Increasing Attenuation
Operating Temperature Range	-20°C~+65°C
Longevity	10,000 cycle
Weight	(2.1 kg)

### Outline drawings

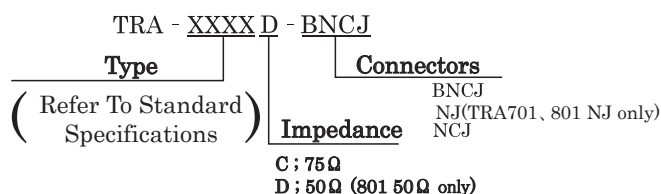
TRA-701



TRA-223



### Model Description



### TRA series Standard Specifications

Models	Frequency Range (MHz)	Impedance (Ω)	Power (W)	Attenuation dB (Max.)	Insertion Loss dB (Max.)	VSWR (Max.)	Deviation (dB)	Incremental Attenuation	Dimensions (mm) W×D×H
TRA-108	DC~1000	50, 75	0.5	70	0.5	1.3	±(3%+0.2)	1dB×10 10dB×6	220×90×90
TRA-109	DC~1000	50, 75	0.5	80	0.5	1.3	±(3%+0.2)	1dB×10 10dB×7	220×90×90
TRA-110	DC~1000	50, 75	0.5	81	1.0	1.3	±(3%+0.2)	0.1dB×10 1dB×10 10dB×7	290×90×90
TRA-701	DC~2000	50	0.5	60	1.0	1.3	0~10dB ; ≦ ±0.3 11~60dB ; ≦ ±1.0	1dB×10 10dB×5	145×100×90
TRA-701C	DC~2000	75	0.5	60	1.0	1.3	0~10dB ; ≦ ±0.3 11~60dB ; ≦ ±1.0	1dB×10 10dB×5	145×100×90
TRA-801	DC~3000	50	0.5	60	1.5	1.5	0~10dB ; ≦ ±0.3 11~60dB ; ≦ ±1.0	1dB×10 10dB×5	145×100×90
TRA-220	1900~2200	50	0.5	100	2.0	1.5	±(3%+0.5)	1dB×10 40dB×1 10dB×5	300×100×99
TRA-223	DC~1500	50	0.5	30	1.5	1.3	0~10dB ; ≦ ±0.5 11~30dB ; ±(3%+0.5)	1dB×10 10dB×2	77×62×46

# TRA-601・602 Series



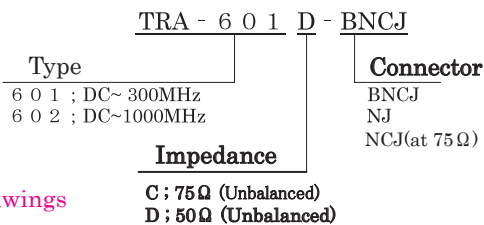
## Product features and applications

The TRA-601/602 series are case-housing variable attenuators, covering up to DC-300 MHz (TRA-601) or DC-1000 MHz (TRA-602) frequency. The TRA-601 model allows you to set the maximum attenuation of 91 dB with the minimum step of 0.1 dB. The tolerance between 0 and 91 dB is only  $\pm 0.5$  dB, showing great performance. The TRA-602 model achieves the maximum attenuation of 81 dB with the minimum step of 0.1 dB. The tolerance between 0 to 81 dB is only  $\pm 0.4$  dB, which is also excellent performance.

The easy-to-read gauge and click-feel dial make operation a pleasure. These models are ideal as standard attenuators for instrument testing, research and experiments.

	Common Specifications	
	TRA-601	TRA-602
Frequency Range	DC~300MHz	DC~1000MHz
Impedance	50Ω (Unbalanced) 75Ω (Unbalanced)	
Connectors	50Ω...BNCJ、75Ω...NCJ	50Ω...NJ、75Ω...NCJ
Attenuation(Max.)	91dB	
Incremental Attenuation	0.1dB×10 1dB×10 10dB×5 30dB×1	0.1dB×10 1dB×10 10dB×7
Deviation	0~1dB ... $\pm 0.02$ dB(Max.) 0~11dB ... $\pm 0.1$ dB(Max.) 0~91dB ... $\pm 0.5$ dB(Max.)	0~0.9dB ... $\pm 0.05$ dB(Max.) 0~9dB ... $\pm 0.1$ dB(Max.) 0~81dB ... $\pm 0.4$ dB(Max.)
VSWR	1.2(Max.)	
Insertion Loss	1dB (Max.)	
Power(Max.)	0.5W	
Attenuation Rotary Direction	For Increasing Attenuation	
Operating Temperature Range	-20°C~+65°C	
Longevity	10,000 cycles	
Dimensions	380×180×99(mm)	300×100×99(mm)
Weight	(4kg)	(3.5kg)

## Model Description



## Outline Drawings

