

# MICROWAVE COMPONENTS

DC to 550MHz	Programmable Attenuators (Fail Safe)	CL 361
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## ◆ GENERAL FEATURES

These Programmable Attenuator have been designed for use in automatic measuring devices such as measuring instruments. They have HRM (SMA) connectors at the aperture and were developed using

proven coaxial cable switching and attenuation technologies. Features include compact size, rigid structure, high performance and reliability, and low cost.

## ◆ MATERIAL FINISH

Part name	Material	Finish
Body	Aluminum	Conductive White Alumite
Connector body	Stainless steel	Passivated
Insulator	Teflon	
Contact (Female)	Beryllium copper	Gold plated
P.C Board	Dielectric	Solder plated

## ◆ OPERATIONAL ENVIRONMENT

Operating temperature;  $-10^{\circ}\text{C}\sim+50^{\circ}\text{C}$  (Ensure that the equipment does not become exposed to freezing conditions.)

Humidity; 35~85%

## ◆ TEST ENVIRONMENT

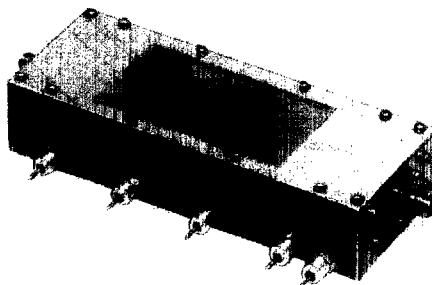
Vibration resistance; 10~55Hz

Total amplitude; 1.5mm

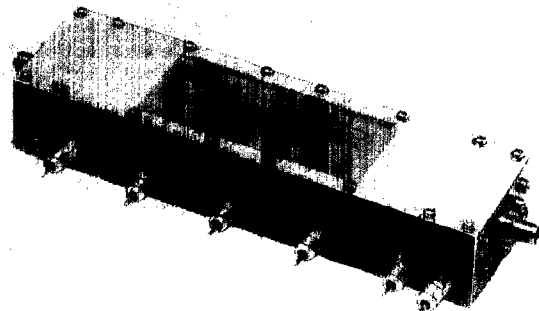
Temperature resistance;  $-25^{\circ}\text{C}\sim+60^{\circ}\text{C}$

Impulse resistance; 98m/s<sup>2</sup>

Testing Method per MIL-STD-202



P-AT-1



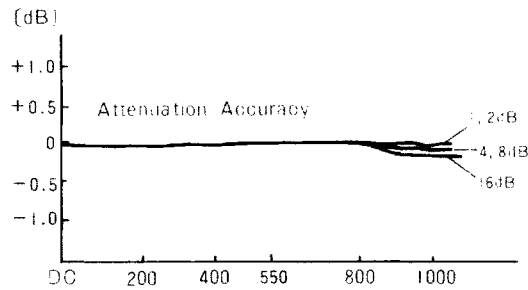
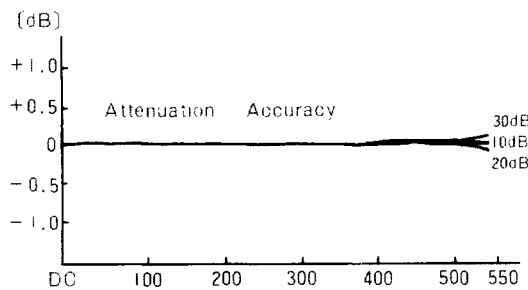
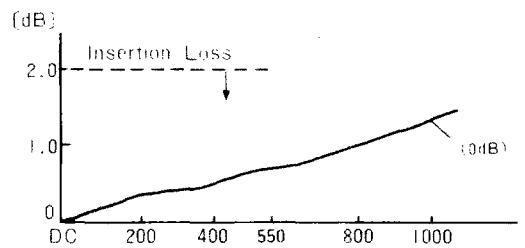
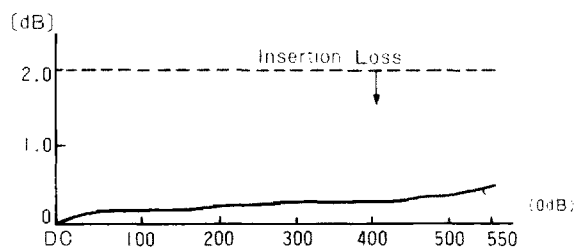
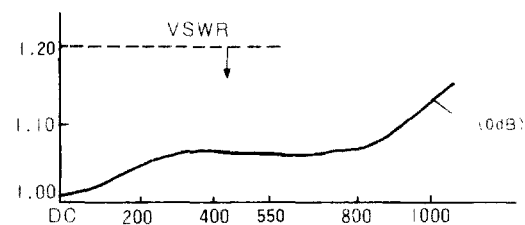
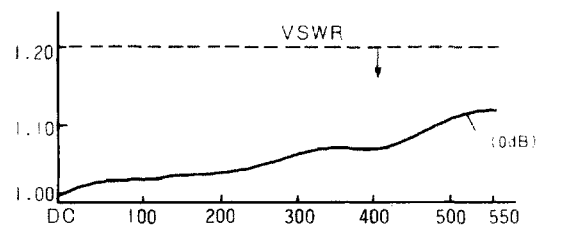
P-AT-2(1)

# MICROWAVE COMPONENTS

## ◆ SPECIFICATIONS

Model No.		P-AT-1	P-AT-2	P-AT-2(1)	P-AT-2(0.5)
Frequency Range	(MHz)	DC~550	DC~550	DC~550	DC~550
VSWR (Max)		1.2	1.2	1.2	1.2
Attenuation	(dB)	0~90 (10dB Step)	0~100 (10dB Step)	0~31 (1dB Step)	0~15.5 (0.5dB Step)
Attenuation Accuracy	(dB)	$\pm(1.5\%+0.2)$	$\pm(1.5\%+0.2)$	$\pm(1.5\%+0.2)$	$\pm(1.5\%+0.2)$
Insertion Loss (Max)	(dB)	2	2	2	2
Impedance	( $\Omega$ )	50	50	50	50
Power	(W)	1	1	1	1
Switching Volt	(DC V)	-12	-12	-12	-12
Switching Time (Max)	(mS)	20	20	20	20
Operating Life		$1 \times 10^6$	$1 \times 10^6$	$1 \times 10^6$	$1 \times 10^6$
Connectors		HRM·J	HRM·J	HRM·J	HRM·J
Weight	(g)	200	220	220	220

## ◆ (Typical)DATA



Frequency [MHz] →

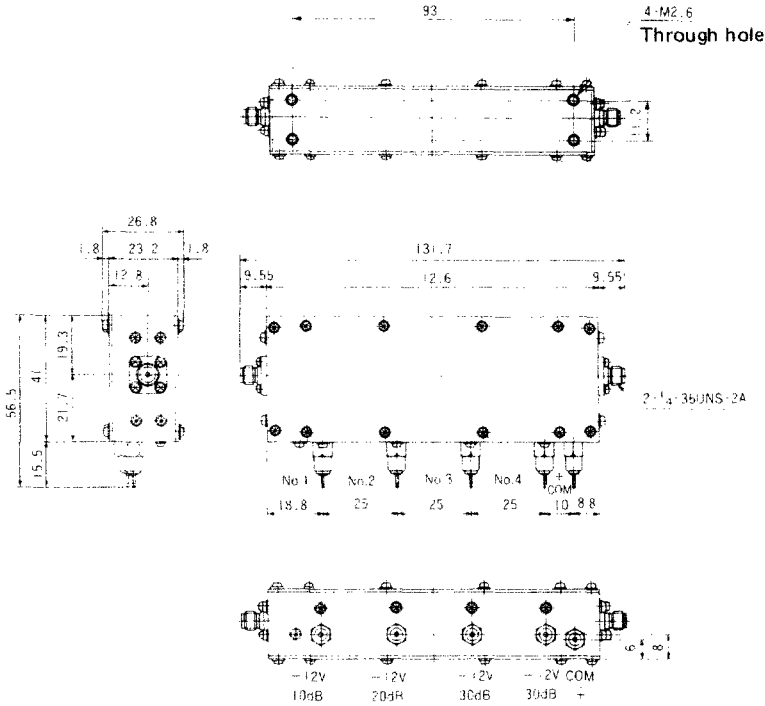
P-AT-1

Frequency [MHz] →

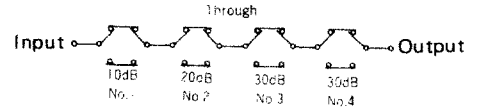
P-AT-2(1)

## ◆ DIMENSIONS

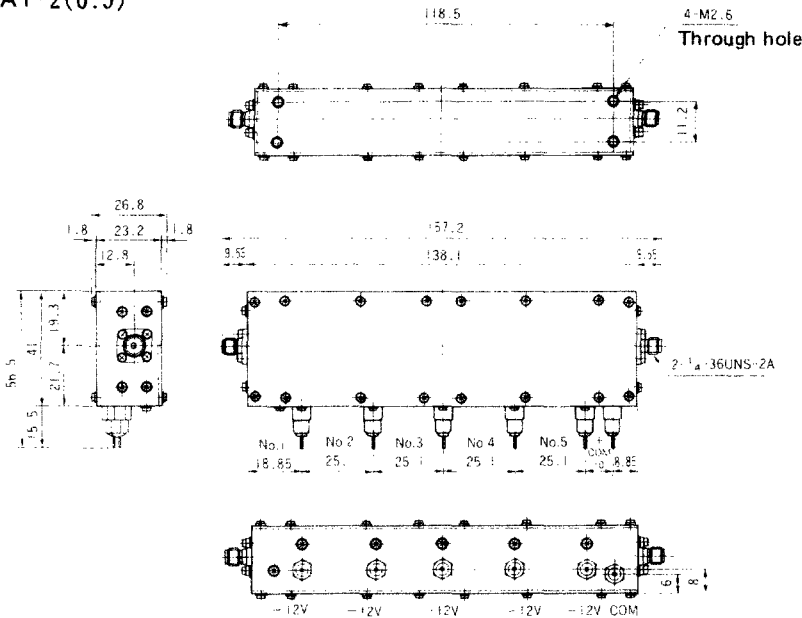
P-AT-1



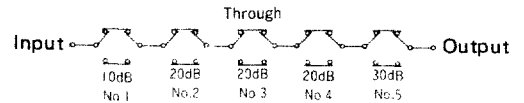
## INTERNAL CIRCUIT



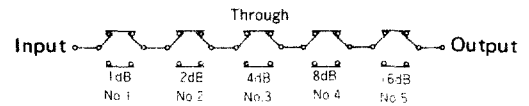
P-AT-2  
P-AT-2(1)  
P-AT-2(0.5)



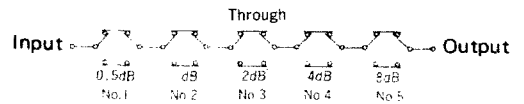
## INTERNAL CIRCUIT



P-AT-2



P-AT-2(1)



P-AT-2(0.5)