ANRITSU

Electronic Measuring Instruments

2009

Anritsu

OUTLINE OF ANRITSU CORPORATION

Since its founding in 1895, Anritsu has contributed to the development of the telecommunications industry by continuously pursuing Original and High Level technologies throughout its 110 year history. Anritsu has focused on the area of mobile and internet technologies, which have witnessed dramatic changes as we move towards the ubiquitous next-generation network or “NGN” that will connect every form of communication from digital to IP and wired to wireless.

Anritsu provides measurement and inspection solutions utilizing leading-edge wireless, optical, digital and IP measurement technologies for measuring and inspecting terminals, modules, electronic parts and other devices that constitute today’s telecommunications systems. To cope with the increasing scale and complexity of telecommunications networks, we also provide service assurance, wherein we collect and analyse a variety of data obtained by monitoring network status and service usage to improve the network efficiency and improve the quality of service. Anritsu has sales offices worldwide and R&D and manufacturing centers in Japan, the United States, England, Denmark, Italy and France, enabling us to devise prompt and effective responses to changing customer needs.

Anritsu will continue to provide solutions and services paving the way towards the NGN in every region of the world by striving to enhance existing technologies and creating new technological hybrids using our store of key technology know-how.

Anritsu will strive to solidify its role as an Intelligent Solution Creator by working together with customers to provide solutions that improve customer value and create new demand. By doing so, we may help to lay the foundation for the NGN by contributing to the creation of a safe and secure international community.

Corporate Information

- **Headquarters**

Anritsu Corporation
5-1-1 Onna, Atsugi-shi, Kanagawa 243-8555, Japan

- **First founded as Sekisan-sha in 1895.**

Established as Anritsu Electric Corporation on March 17, 1931.

- **Paid-up capital: 14,049 million yen (as of March 31, 2008)**
- **Sales volume: 100,485 million yen (consolidated, year ended March 31, 2008)**
- **Employees: 3963 (consolidated, as of March 31, 2008)**

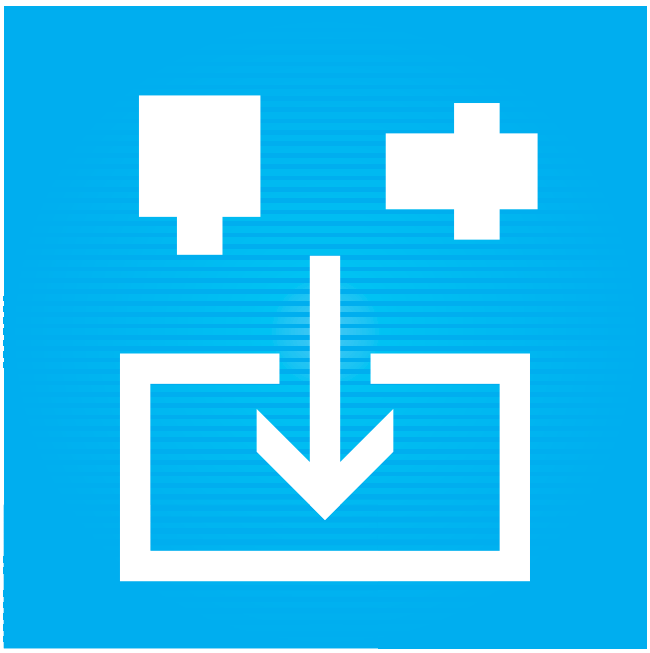
Sales Network

Anritsu Corporation (Japan)
Anritsu Company (U.S.A.)
Anritsu Electronics Ltd. (Canada)
Anritsu Eletronica Ltda. (Brazil)
Anritsu Company S.A. de C.V. (Mexico)
Anritsu EMEA Ltd. (U.K.)
Anritsu S.A. (France)
Anritsu GmbH (Germany)
Anritsu S.p.A. (Italy)
Anritsu AB (Sweden/Finland)
Anritsu A/S (Denmark)
Anritsu EMEA Ltd. Oficina de Representación en España (Spain)
Anritsu EMEA Ltd. Representation Office in Russia (Russia)
Anritsu EMEA Ltd. Dubai Liaison Office (United Arab Emirates)
Anritsu Company Ltd. (P.R. China)
Anritsu Company Inc. (Taiwan)
Anritsu Corporation, Ltd. (Korea)
Anritsu Pte. Ltd. (Singapore)
Anritsu Pte. Ltd. India Branch Office (India)
Anritsu Pty. Ltd. (Australia)

R&D and Manufactring

Anritsu Corporation (Japan)
Tohoku Anritsu Co. Ltd. (Japan)
Anritsu Company (U.S.A.)
Anritsu Instruments Company (U.S.A.)
Anritsu Ltd. (U.K.)
Anritsu A/S (Denmark)
Anritsu Solutions S.p.A (Italy)
Anritsu Instruments S.A.S (France)

Anritsu Homepage
http://www.anritsu.com

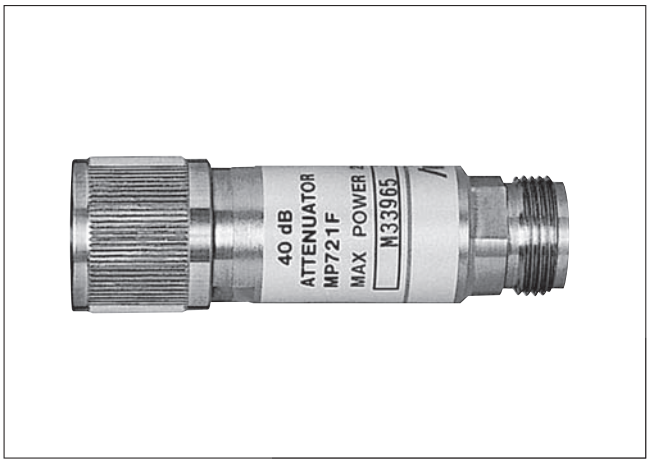


COMPONENTS

FIXED ATTENUATOR

MP721 Series

DC to 12.4 GHz



The MP721 Series Fixed Attenuator with attenuation values of 3, 6, 10, 20, 30, 40, 50, and 60 dBm is used to adjust level and improve impedance.
It supports frequencies of DC to 12.4 GHz with excellent attenuation frequency characteristics, attenuation accuracy and VSWR.

Specifications

Model	MP721A	MP721B	MP721C	MP721D	MP721E	MP721F	MP721G	MP721H
Attenuation	3 dB	6 dB	10 dB	20 dB	30 dB	40 dB	50 dB	60 dB
Attenuation accuracy	0.3 dB			0.5 dB		1.0 dB (DC to 8 GHz), 1.5 dB (8 to 12.4 GHz)		
VSWR	1.25 (DC to 8 GHz) 1.35 (8 to 12.4 GHz)	1.2 (DC to 8 GHz) 1.3 (8 to 12.4 GHz)						
Maximum allowable power	2 W							
Impedance	50 Ω							
Connector	N-type							
Operating temperature range	0˚ to 50˚C							
Dimensions and mass	21ø x 63.5 mm, ≤100 g							

FIXED ATTENUATOR FOR HIGH POWER MEASUREMENT

Specifications

Model	J0063	J0078	J0395	B0472
Attenuation	30 dB	20 dB	30 dB	30 dB
Frequency range	DC to 12.4 GHz	DC to 18 GHz	DC to 9 GHz	DC to 18 GHz
Maximum allowable power	10 W (40 dBm)		30 W (44.7 dBm)	100 W (50 dBm)
Connector	N-type (50 Ω)			

TERMINATION
MP752A/B

DC to 12.4 GHz

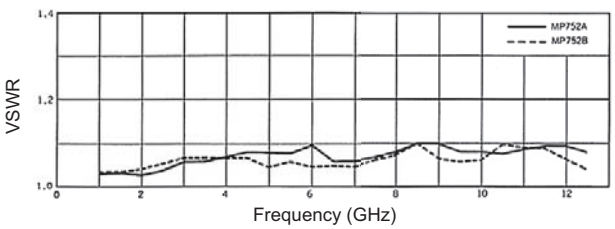
MP752A

MP752B

The MP752A/B Termination is a 50-Ω coaxial terminator with excellent VSWR across a frequency range of DC to 12.4 GHz.

Specifications

Model	MP752A	MP752B
Impedance	50 Ω	
VSWR	1.15 (DC to 8 GHz), 1.20 (8 to 12 GHz)	
Maximum allowable power	2 W	
Connector	N-P	N-J
Operating temperature range	0˚ to 50˚C	
Dimensions and mass	20ø x 48 mm, ≤80 g	19ø x 50 mm, ≤80 g



Characteristics

T-PAD

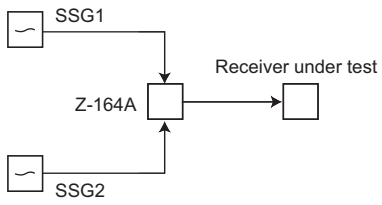
Z-164A

DC to 1 GHz

The Z-164A is used as a matching pad for applying the mixed output of two signal generators to the input terminal of a receiver for measuring two-signal characteristics (such as the blocking and intermodulation characteristic) of the receiver.

Specifications

Frequency range	DC to 1 GHz
Insertion loss	6 ±0.5 dB (voltage ratio)
Impedance characteristics	50 Ω VSWR: ≤1.3 (up to 500 MHz), ≤1.5 (≥500 MHz)
Connector	N (S)-J
Maximum allowable power	0.5 W
Operating temperature range	0˚ to 45˚C

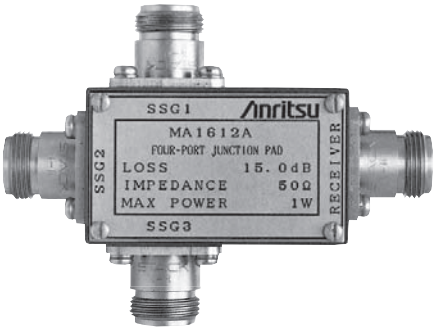


Connection for Measuring Two-signal Characteristics

FOUR-PORT JUNCTION PAD

MP659A, MA1612A

40 MHz to 1 GHz 5 MHz to 3 GHz

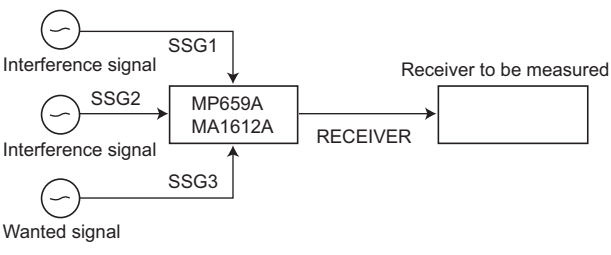


MA1612A

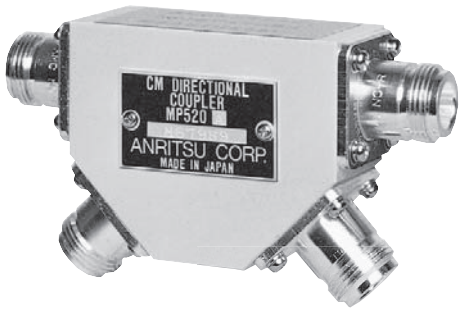
The MP659A and MA1612A are used as an impedance matching box applying the mixed output of three RF signal generators to a receiver input terminal for measurement of three-signal characteristics (such as receiver SINAD performance).

Specifications

Model	MP659A	MA1612A
Frequency range	40 MHz to 1 GHz	5 MHz to 3 GHz
Insertion loss	10.5 ±1 dB	15 ±1.0 dB (<1 GHz) 15 ±1.5 dB (≥1 GHz)
Impedance characteristics	50 Ω VSWR: ≤1.3 (<500 MHz) ≤2.0 (≥1 GHz)	50 Ω VSWR: ≤1.4 (<1 GHz) ≤1.5 (≥500 MHz)
Connector	N (S)-J	
Isolation	SSG1-SSG2: ≥30 dB SSG1-SSG3: ≥30 dB SSG2-SSG3: ≥25 dB	SSG1-SSG2, SSG1-SSG3: ≥30 dB (<1 GHz) ≥25 dB (<2 GHz) ≥20 dB (≤3 GHz) SSG2-SSG3: ≥20 dB
Maximum allowable power	1 W	
Operating temperature range	0˚ to 50˚C	



CM DIRECTIONAL COUPLER
MP520 Series
25 to 1700 MHz

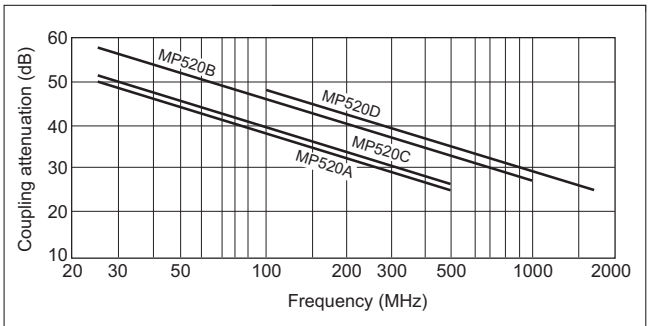


MP520A

This coupler is used in the measurement of fundamental frequency power and spurious power which supplies coaxial feeders in VHF and UHF bands. Various models are provided in accordance with feeder impedance and frequency. It is also capable of measuring the VSWR of antenna systems.

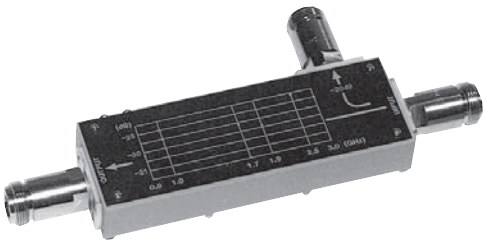
Specifications

Model	MP520A	MP520B	MP520C	MP520D
Frequency range	25 to 500 MHz	25 to 1000 MHz	25 to 500 MHz	100 to 1700 MHz
Impedance	75 Ω (NC-type connector)		50 Ω (N-type connector)	
Coupling attenuation	Approx. 38 dB at 100 MHz	Approx. 46 dB at 100 MHz	Approx. 40 dB at 100 MHz	Approx. 28 dB at 100 MHz
Directivity	≥20 dB			
Termination	50 Ω, VSWR: ≤1.07			
Operating temperature range	0˚ to 45˚C			
Dimensions and mass	98 (W) x 56 (H) x 26 (D) mm, ≤400 g			
Accessories supplied	Coaxial Cord (S-5DWP · 5D-2W · S-5DWP), 1 m: 1 pc Termination (50 Ω): 1 pc			



Coupling Attenuation Characteristics

DIRECTIONAL COUPLER
MP654A
0.8 to 3 GHz

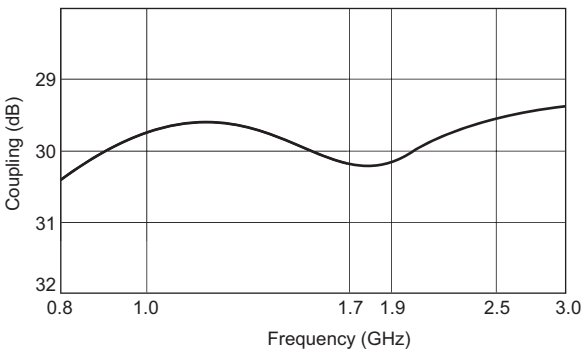


The MP654A is used to branch one part of the transmitted output for such measurements as those of fundamental wave and higher harmonic spurious characteristics using a spectrum analyzer. The MP654A is used for measuring personal radio transceivers and automobile telephones.

Specifications

Frequency range	0.8 to 3 GHz
Impedance	50 Ω (N-type connector)
Coupling	Approx. 30 dB*
Input power (max.)	50 W

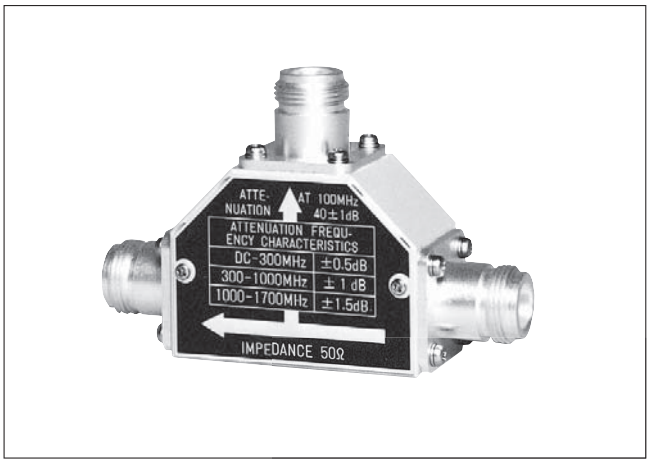
*: Calibration data reattached

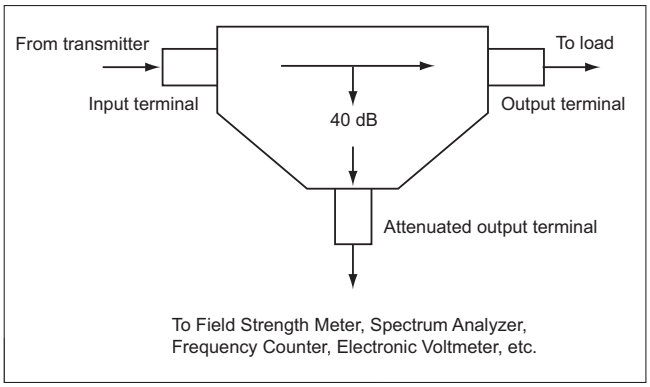


BRANCH

MP640A

DC to 1700 MHz

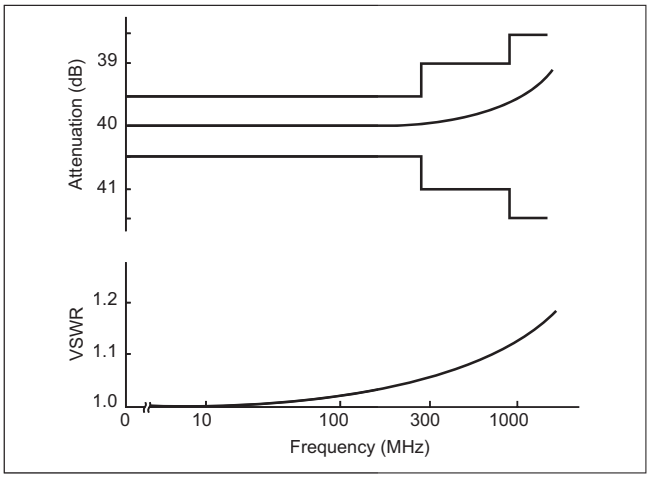




The MP640A is used for branching a part of the transmitted signal in measuring the spurious characteristics of a transmitter with a field strength meter or a spectrum analyzer. Its frequency characteristics of attenuation is flat over DC to 1700 MHz, so that it can be conveniently utilized for measurement without taking the frequency characteristic into consideration. The maximum allowable input power is 16 W.

Specifications

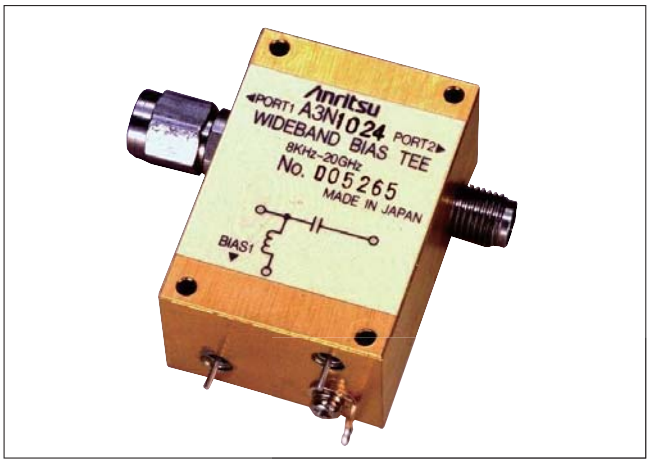
Frequency range	DC to 1700 MHz
Input/Output connector	N-type (50 Ω), VSWR: ≤1.2
Attenuation (input terminal to attenuated terminal)	40 dB ±1 dB at 100 MHz
Attenuation characteristics	±0.5 dB (DC to 300 MHz) ±1.0 dB (300 to 1000 MHz) ±1.5 dB (1000 to 1700 MHz)
Insertion loss	≤0.2 dB (DC to 300 MHz) ≤0.5 dB (300 to 1000 MHz) ≤1.0 dB (1000 to 1700 MHz)
Operating temperature range	0˚ to 45˚C
Dimensions and mass	91 (W) x 59 (H) x 31 (D) mm, ≤250 g



Typical Characteristics

BIAS TEE

A3N1000 Series



The A3N1000 Bias-T is for superimposing or extracting DC components without having any impact on high-frequency signals.
Waveforms can be captured without degradation by connecting to the output of an open-drain amplifier.

Application

Semiconductor Input/Output Bias
LD Driver
Modulation Signal for Optical Modulator
Bias Supply to Measuring Instrument Input/Output

Absolute Maximum Rated Value

Maximum Bias Voltage: DC ±30 V
Maximum Bias Current: ±0.5 A
Operating Temperature Range: 0˚ to 60˚C

Connector

Standard Type Bias Terminal: Pin or K (F)
Thin Type (9.5 mm max.) Bias Terminal: Pin
Dual Type Bias Terminal: Pin
Wideband Type Bias Terminal: Pin

Specifications

Model		A3N1001 to A3N1008			A3N1013 to A3N1016			A3N1017 to A3N1020			A3N1024 to A3N1027		
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
Frequency		100 kHz	–	20 GHz	100 kHz	–	20 GHz	100 kHz	–	20 GHz	8 kHz	–	20 GHz
Insertion loss	100 kHz	–	2 dB	3 dB	–	2 dB	3 dB	–	2 dB	3 dB	–	2 dB (8 kHz)	3 dB (8 kHz)
	200 kHz	–	0.5 dB	–	–	0.5 dB	–	–	0.5 dB	–	–	0.5 dB (20 kHz)	–
	1 GHz	–	0.2 dB	–	–	0.2 dB	–	–	0.5 dB	–	–	0.5 dB	–
	10 GHz	–	1 dB	–	–	1 dB	–	–	1 dB	–	–	1 dB	–
	20 GHz	–	2 dB	3 dB	–	2 dB	3 dB	–	2 dB	3 dB	–	2 dB	3 dB
Return loss		12 dB	20 dB	–	12 dB	20 dB	–	11 dB	20 dB	–	10 dB	20 dB	–
Tr/Tf*1		–	18 ps	20 ps	–	18 ps	–	–	18 ps	–	–	18 ps	–
Connector*2		K connector			K connector			K connector			K connector		
		Standard type/ Bias terminal: pin or SMA (F)			Thin type (max. 9.5 mm)/ Bias terminal: pin			Dual type/Bias terminal: pin			Wide band type/ Bias terminal: pin		

∗1 Tr, Tf = $(Tm^2 - Ts^2 - Ti^2)^{1/2}$
Tm: Measurement value by Oscilloscope
Ts: Tr, Tf of Oscilloscope
Ti: Tr, Tf of Signal Generator

∗2 Specify male or female K connector for high-frequency signal input/output.

50 Ω ↔ 75 Ω IMPEDANCE TRANSFORMER

MP614B, MB-009

50 to 1200 MHz DC to 2 GHz

MP614B

The MP614B is used over the range from 50 to 1200 MHz mainly for changing the impedance of a measuring signal source such as a signal generator. It is a transformer type, so that it has a smaller loss than a resistance attenuator type, and does not lower the signal source level. When the output level of a signal generator is shown in a power unit as in dBm, the output level after impedance transforming by the MP614B will have a value which is obtained by subtracting the insertion loss (dB) of the impedance transformer from the output level of the signal generator.
The MB-009 is constructed so that the central connector will not be damaged if a 50 Ω N-type plug is connected by mistake to the 75 Ω side.

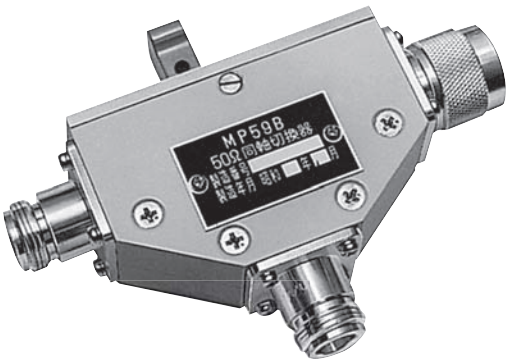
Specifications

Model	MP614B	MB-009
Frequency range	50 to 1200 MHz	DC to 2 GHz
Impedance characteristics	VSWR: ≤1.2 (50 to 600 MHz) ≤1.3 (≥600 MHz) *On the 75 Ω side by terminating the 50 Ω side	VSWR: ≤1.2 *On both sides of 50 and 75 Ω
Connector	N-P (50 Ω), NC-J (75 Ω)	
Insertion loss	≤1 dB (<600 MHz), ≤1.5 dB (≥600 MHz)	6.2 dB ±0.5 dB
Maximum allowable power	1 W	0.5 W
Operating temperature range	0˚ to 45˚C	
Dimensions and mass	21ø x 70 mm, ≤100 g	21ø x 65 mm

50 Ω COAXIAL SWITCHING UNIT

MP59B

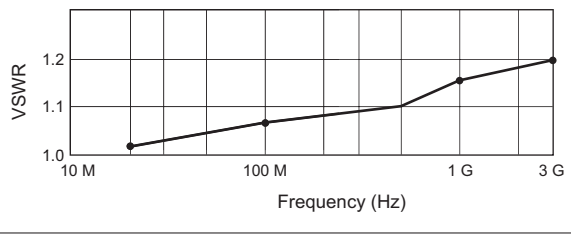
DC to 3 GHz



The MP59B 50 Ω Coaxial Switching Unit is used to switch signals in high-frequency measurement circuits.
Its low insertion loss and high isolation performance support all types of measurement.

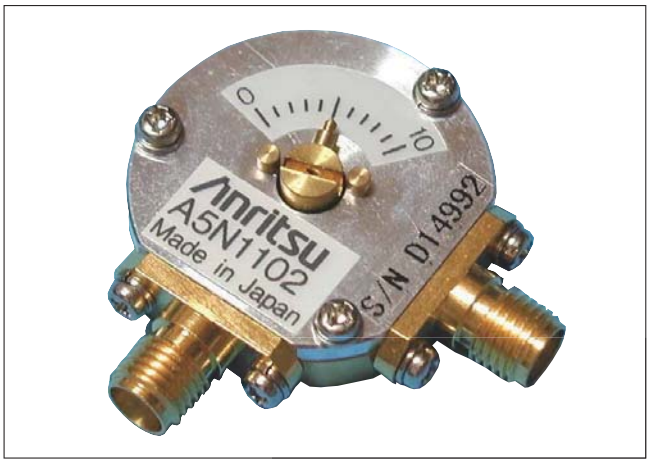
Specifications

Frequency range	DC to 3 GHz
Impedance	50 Ω
Connector	Common: N-J, Switch: N-J, N-P
VSWR	≤1.2 (DC to 1 GHz), ≤1.5 (≥1 GHz)
Insertion loss	≤0.2 dB (DC to 1 GHz), ≤0.5 dB (≥1 GHz)
Isolation	≥55 dB (DC to 1 GHz), ≥40 dB (≥1 GHz)
Maximum allowable power	100 W
Operating temperature range	0˚ to 45˚C



Characteristic

PHASE SHIFTER
A5N1102



The A5N1102 is a compact, half-fixed, phase shifter with mechanical delay circuit for adjusting the phase of high-speed digital circuits in the DC to 11 GHz band.

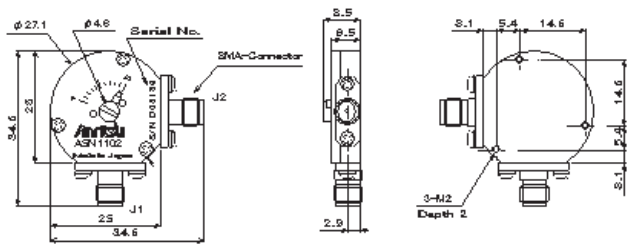
Features
Bandwidth: DC to 11 GHz
Low Insertion Loss: 1.2 dB max. (11 GHz)
Size: 35 × 35 × 8.5 mm
Weight: About 25 g

Specifications
Frequency Range: DC to 11 GHz
Minimum Delay Time: 320 ps (typ.)
Maximum Delay Time: 430 ps (typ.)
Phase Shift Range: 40˚/GHz (typ.)

Functions
Adjustment Angle: About 98˚
Adjustment Axis: Slot for screwdriver

Operating Environment
Operating Temperature Range: –5˚ to +70˚C
Storage Temperature: –20˚ to +75˚C
Vibration: 10 to 55 Hz, total amplitude 1.5 mm
Shockproofing: 490 m/s^2

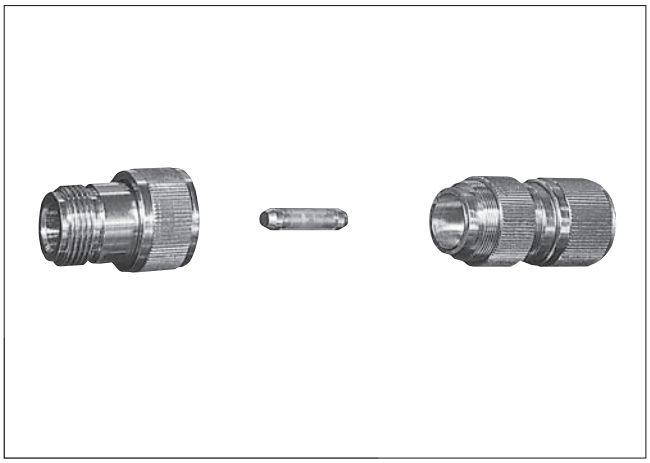
External Dimensions Diagram



Mass: Approx. 25 g

RF FUSE HOLDER
MP612A
DC to 1000 MHz

FUSE ELEMENT
MP613A

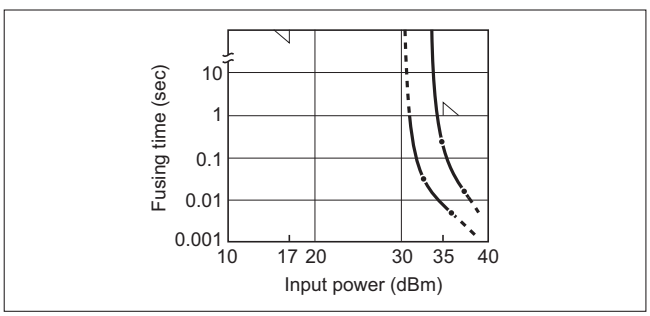


The MP612A RF Fuse Holder protects measuring instruments by preventing internal damage (parts burnout, etc.). The MP613A Fuse Element uses a vacuum-deposited metal resin film for low melting point and excellent high-frequency characteristics. The high fuse performance is designed to prevent damage even to 1/16 W small resistors commonly found in measuring instruments and offers superior protection for high-frequency measuring instruments, such as Frequency Counters and Spectrum Analyzers, against excessive input power or Signal Generators, against reverse input power.

Specifications

RF fuse holder	MP612A (without fuse elements)
Frequency range	DC to 1000 MHz
Impedance	50 Ω unbalanced, VSWR: ≤1.2 (50 Ω termination)
Connector	N-P, N-J
Insertion loss	≤0.5 dB
Rated power	17 dBm (50 Ω load)
Max. fuse rated power	≤35 dBm (50 Ω load)
Operating temperature range	0˚ to 45˚C
Dimensions and mass	20ø x 65 mm, ≤110 g

MP613A Fuse Element (5 pcs/set)

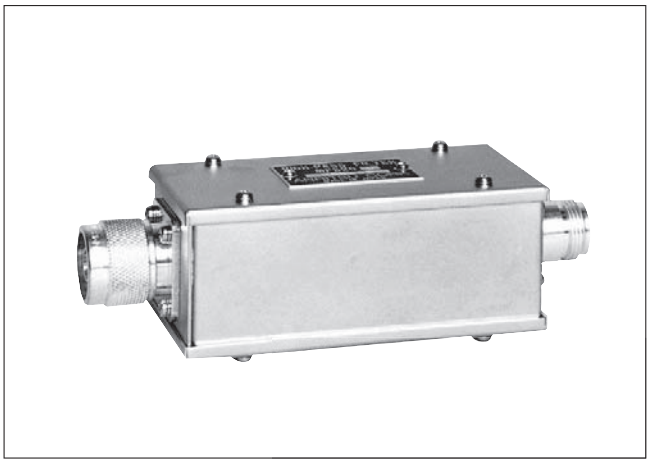


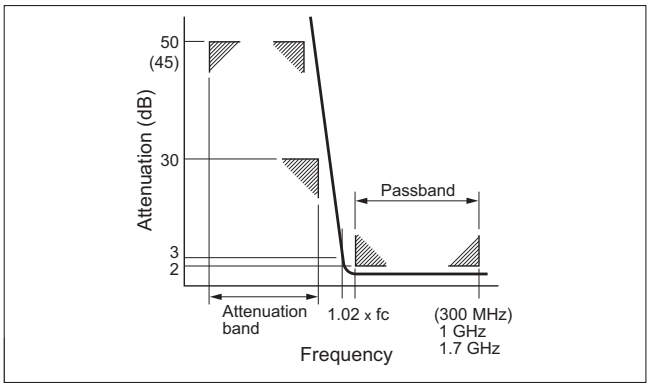
Fusing time (sec) and Input power (dBm) characteristics

HIGH-PASS FILTER

MP526 Series

27, 60, 150, 250, 400 MHz bands





The MP526 series is for measuring the spurious characteristics with a field strength meter or a spectrum analyzer. Eliminating the fundamental signal by using a filter prevents the internal spurious of the field strength meter or spectrum analyzer due to an excessive input to facilitate measurement. The MP526A, B, C, D, and G are available to suit the five different frequency bands.

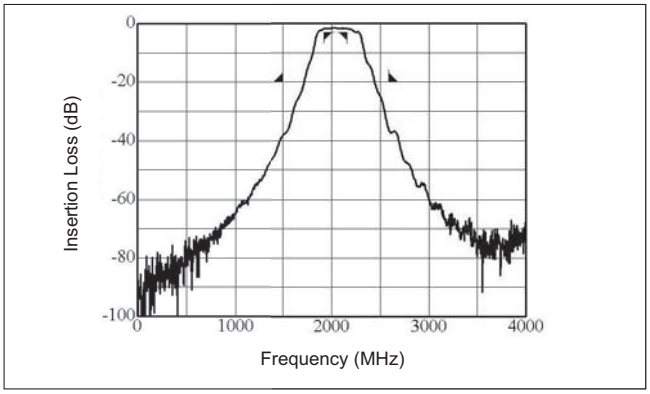
Specifications

Model	MP526A	MP526B	MP526C	MP526D	MP526G
Frequency band	60 MHz	150 MHz	250 MHz	400 MHz	27 MHz
Attenuation band	50 to 80 MHz	120 to 190 MHz	200 to 300 MHz	335 to 520 MHz	26 to 30 MHz
Cut-off frequency (fc)	100 MHz	240 MHz	400 MHz	670 MHz	52 MHz
Attenuation characteristics	≥50 dB (70 MHz) ≥30 dB (80 MHz)	≥50 dB (170 MHz) ≥30 dB (190 MHz)	≥50 dB (280 MHz) ≥30 dB (300 MHz)	≥50 dB (470 MHz) ≥30 dB (300 MHz)	≥45 dB (28 MHz) ≥30 dB (30 MHz)
Passband	≥ (1.02 x fc), ≤1 GHz, ≤1.7 GHz (400 MHz band), ≤300 MHz (27 MHz band)				
Insertion loss	≤2 dB in passband				
Maximum allowable power	10 dBm				
Characteristic impedance	50 Ω nominal, connector: N-type				
Operating temperature range	0˚ to 45˚C				
Dimensions and mass	51 (W) x 48 (H) x 138 (D) mm, ≤400 g				

BAND PASS FILTER
MA2512A
1.92 to 2.17 GHz

Build-to order product

When the signal generator outputs an IMT-2000 test signal, sometimes spurious signals generated by the circuits in the signal generator are an obstacle for tests. In this case, connect the MA2512A to filter these unwanted signals. The MA2512A has excellent amplitude ripple and group delay characteristics in the frequency band of IMT-2000, because the MA2512A does not degrade modulation accuracy of the signal generator.



Frequency Characteristics

Specifications

Pass band	Frequency range: 1.92 to 2.17 GHz Insertion loss: ≤3.5 dB Ripple: ≤0.2 dB (at 5 MHz bandwidth) Group delay: ≤1 ns (at 5 MHz bandwidth) Impedance: 50 Ω Return loss: ≥15 dB
Filter band	Frequency range: DC to 1.5 GHz, 2.58 to 7 GHz Attenuation: ≥20 dB (<5 GHz), ≥10 dB (≥5 GHz)
I/O connector	N-J
Max. input power	1 W
Dimensions and mass	148 (W) x 35 (H) x 31 (D) mm, ≤500 g

Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names.
The actual name of the item may differ from the Order Name.

Model/Order No.	Name
MA2512A	**Main frame** Band Pass Filter
W1876AE	**Standard accessory** MA2512A Operation Manual: 1 copy

PERIPHERAL EQUIPMENT

PORTABLE TEST RACK

MB23B, MB24D

MB23B

MB24D

The MB23B and MB24D can be folded so they can be transported easily and used in places with space limitations. Metal fittings to accommodate both F-series and E-series cabinet designs are included.

MB23B

- By easy operation of the lever, the table can be inclined at five different angles for optimum instrument viewing ease.
- Thanks to Anritsu's exclusive construction, just a light touch of the lever is all it takes to move the angle safely up to 45˚.

MB24D

- The table is fixed in a horizontal position.
- Since the rack can support up to 80 kg, several instruments may be stacked.

Specifications

Model	MB23B	MB24D
Folding capability	Yes	
Dimensions and mass of instrument to be mounted	426 (W) x 350 (H) x 451 (D) mm, 40 kg	426 (W) x 550 (H) x 451 (D) mm, 80 kg
Tilt angle	–10˚, horizontal, +15˚, +30˚, +45˚	Fixed horizontally
Casters	Wheel diameter: ø102 mm, Stopper: At front wheel	Wheel diameter: ø125 mm, Stopper: At front wheel
Mass	≤16 kg	≤20 kg

Folded

MB23B

MB24D

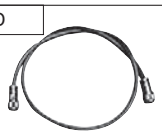
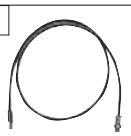
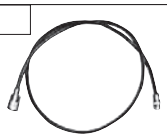
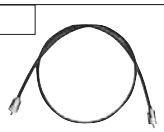
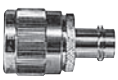
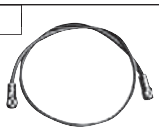
Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names.
The actual name of the item may differ from the Order Name.

Model/Order No.	Name
	Main frame
MB23B	Portable Test Rack
MB24D	Portable Test Rack
	Optional accessories
J1339A	15 A125 V Type A Cable Tap
J1340A	20 A125 V Type A Cable Tap
B0585A	Portable Test Rack Angle
B0343	Safety Belt (1.5 m)

COAXIAL CORDS, ADAPTERS

	Impedance	Figure No.	Name			Order No.
			Item	Composition (connector · cable · connector)	Length	
Connecting cords	50 Ω	1	Coaxial cord	N-P · 5D-2W · N-P	1 m 2 m	J0576B J0576D
		30	Coaxial cord	S-5DWP · 5D-2W · S-5DWP	1 m 2 m	J0025A J0025C
		2	Coaxial cord	3CA-P2 · TG-58A/U · 3CA-P2	1 m 2 m	J0133A J0133C
		3	Clip conversion pad	N-J · Clip		J0047
		4	Coaxial cord	3CA-P2 · TG-58A/U · Alligator clip	1 m	J0054A
	75 Ω	5	Coaxial cord	3CV-P2 · 3C-2V · 3CV-P2	1 m 2 m	J0026A J0081
		6	Coaxial cord	SP-3CP · 3C-2WS · SP-3CP	1 m 2 m	J0028A J0028B
		7	Coaxial cord	SP-3CP · 3C-2WS · 3CW-P	1 m 2 m	J0029A J0029B
		8	Coaxial cord	P-5CP · 5C-2W · P-5CP	1 m 2 m	J0030A J0030B
		9	Coaxial cord	M-P-3 · 3C-2V · 3CV-P2	1 m 2 m	J0027A J0027B
		10	Coaxial cord	M-P-5 · 5C-2V · M-P-5	1 m 2 m	J0031A J0031B
	(balanced)	11	Balanced cord	I-214APS · C1UUS shielded connecting cord · I-214APS	1 m 2 m	J0032 J0033
		12	Balanced cord	M-214S · Shielded connecting cord · M-214S	1 m	J0050A
		13	CS1-MM2 shielded connecting cord		2 m	J0034
Conversion connectors	50 Ω	14	Coaxial adapter	N-P · N-P	–	J0038
		15	Coaxial adapter	N-J · N-J	–	J0039
		16	Coaxial adapter	N-P · BNC-J	–	J0040
		17	Coaxial adapter	N-J · BNC-J	–	J0044
		18	Coaxial adapter	N-J · BNC-P	–	J0043
	–	19	Coaxial adapter	N-P · M-J		J0041
		20	Coaxial adapter	N-J · M-P	–	J0042
	75 Ω	21	Coaxial adapter	NC-P · SP-3CJ	–	J0046
		22	Coaxial adapter	NC-P · BNC-J	–	J0055
		23	Coaxial adapter	BNC-P · M-J	–	J0045
		24	Coaxial adapter	SP-3CJ · 3C-P (BNC-P)	–	J0053
		25	Coaxial adapter	SP-3CP · 3C-J (BNC-J)	–	J0052
U-link	75 Ω	26	MP529A U-Link		–	–
Coaxial T-connectors	50 Ω	27	Coaxial T-connector	S (N)-type	–	J0048
	70 Ω	28	Coaxial T-connector	M-type	–	J0049

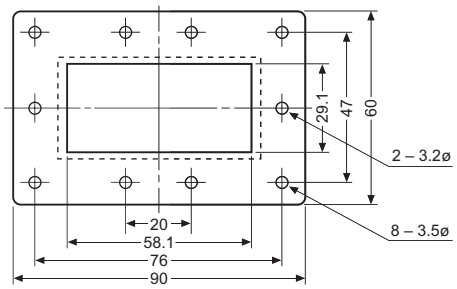
Order Number / Item/Composition			
J0576B/D 1  Coaxial cord 1 m/2 m N-P · 5D-2W · N-P	J0133A/C 2  Coaxial cord 1 m/2 m 3CA-P2 · RG-58A/U · 3CA-P2	J0047 3  Clip conversion pad, N-J · clip	J0054A 4  Coaxial cord 1 m 3CA-P2 · RG-58A/U · Alligator clip
J0026A J0081 5  Coaxial cord 1 m/2 m 3CV-P2 · 3C-2V · 3CV-P2	J0028A/B 6  Coaxial cord 1 m/2 m SP-3CP · 3C-2WS · SP-3CP	J0029A/B 7  Coaxial cord 1 m/2 m SP-3CP · 3C-2WS · 3CW-P	J0030A/B 8  Coaxial cord 1 m/2 m P-5CP · 5C-2W · P-5CP
J0027A/B 9  Coaxial cord 1 m/2 m M-P-3 · 3C-2V · 3CV-P2	J0031A/B 10  Coaxial cord 1 m/2 m M-P-5 · 5C-2V · M-P-5	J0032 J0033 11  Balanced cord 1 m/2 m I-214APS · C1UUS shielded connecting cord · I-214APS	J0050A 12  Balanced cord 1 m, M-214S · shielded connecting cord · M-214S (compatible with I-214APS)
J0034 13  CS1-MM2 shielded connecting cord, 2 m	J0038 14  Coaxial adapter N-P · N-P	J0039 15  Coaxial adapter N-J · N-J	J0040 16  Coaxial adapter N-P · BNC-P
J0044 17  Coaxial adapter N-J · BNC-J	J0043 18  Coaxial adapter N-J · BNC-P	J0041 19  Coaxial adapter N-P · M-J	J0042 20  Coaxial adapter N-J · M-P
J0046 21  Coaxial adapter NC-P · SP-3CJ	J0055 22  Coaxial adapter NC-P · BNC-J	J0045 23  Coaxial adapter BNC-P · M-J	J0053 24  Coaxial adapter SP-3CJ · 3C-P (BNC-P)
J0052 25  Coaxial adapter SP-3CP · 3C-J (BNC-J)	MP529A 26  U-Link	J0048 27  Coaxial T-connector, 50 Ω, S (N) type	J0049 28  Coaxial T-connector, 75 Ω, M type
J0025A/C 29  Coaxial cord 1 m/2 m S-5DWP · 5D-2W · S-5DWP			

List of Principal Coaxial Cables

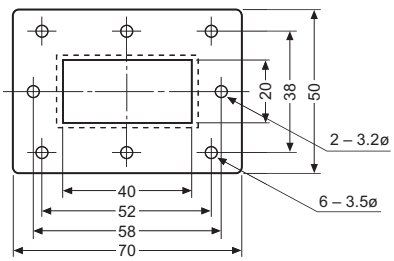
Coaxial cable	Characteristic impedance	Nominal attenuation (10 MHz)	Nominal capacitance	Finished diameter	Mass (g/m)	Suitable connector	Remarks
3C-2V	75 ±3 Ω (10 MHz)	0.042 dB/m	67 pF/m	5.8 mm	48	3C connector	Single outer conductor, PVC covered
3C-2W				6.5 mm	75		Double outer conductor, PVC covered
3C-2Z				3.8 mm	28	3C connector	Single outer conductor, No PVC covered
3C-2T		(0.013 dB/m, 1 MHz)		7.4 mm	110		Triple outer conductor, PVC covered
3C-2WS	75 ±1 Ω (10 MHz)	0.048 dB/m		6.6 mm	76	SP connector	Double outer conductor, PVC covered
5C-2V	75 ±3 Ω (10 MHz)	0.027 dB/m		7.8 mm	75	5A connector plug for 1 V type, connector for 1 V type	Single outer conductor, PVC covered
5C-2W				8.5 mm	110		Double outer conductor, PVC covered
5C-2Z				5.8 mm	48		Single outer conductor, No PVC covered
3D-2W	50 ±2 Ω (10 MHz)	0.047 dB/m	100 pF/m	6.4 mm	75		Double outer conductor, PVC covered
5D-2V		0.031 dB/m		7.5 mm	85	S connector	Single outer conductor, PVC covered
5D-2W				8.2 mm	120		Double outer conductor, PVC covered
RG-55/U	53.5 ±2.5 Ω (4 MHz)	0.0328 dBm	93.5 pF/m	5.25 mm	55	BNC	Double outer conductor, PE covered
RG-58/U				4.95 mm	50	BNC, N	Single outer conductor, PVC covered
RG-58A/U	50 ±2 Ω (10 MHz)	0.0427 dB/m					

Dimensions of Waveguide Flanges

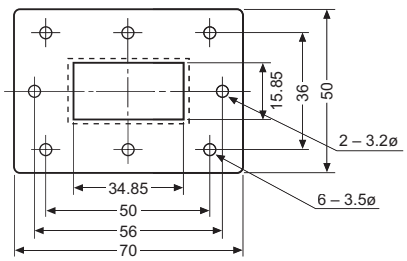
BRJ-4 (3.30 to 4.90 GHz)



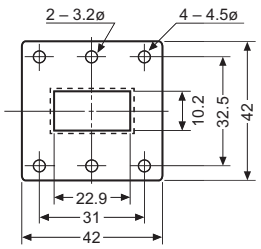
BRJ-6 (4.90 to 7.05 GHz)



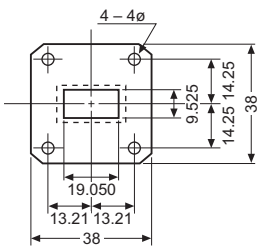
BRJ-7 (5.85 to 8.20 GHz)



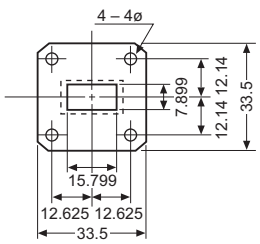
BRJ-10 (8.20 to 12.40 GHz)



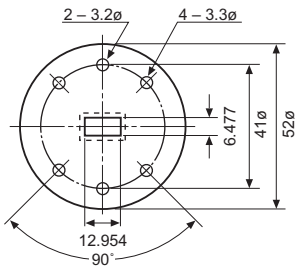
BRJ-120 (9.84 to 15.0 GHz)



BRJ-140 (11.9 to 18.0 GHz)



BRJ-18 (14.5 to 22.0 GHz)



(Unit: mm)

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