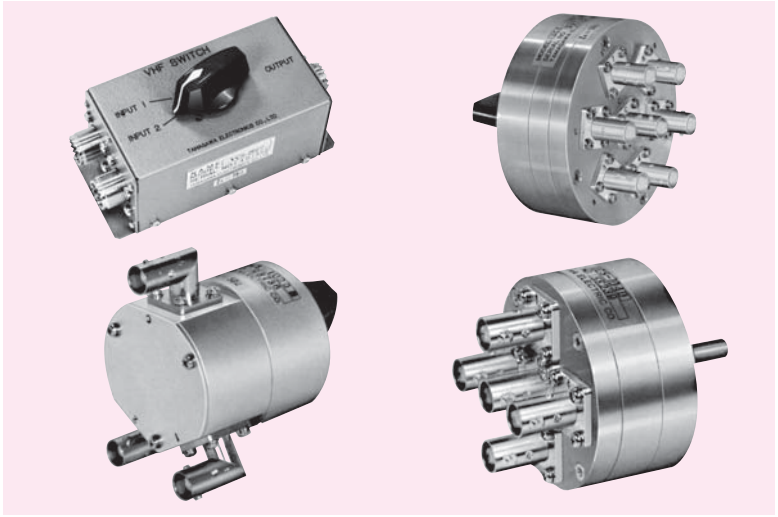
VCS·UCS Series



Product features and applications

The VCS/UCS series are manual coaxial switches for high frequency signals, covering up to DC -250 MHz (VCS) and DC-1,000 MHz (UCS). They are used for switching various transmission signals in many fields thanks to their high perfor--mance and reliability.
2-, 3-, 4- and 6-switching-point models are available,allowing you to select the best item for your application.

	Common Specifications	
	VCS	UCS
Frequency Range	DC～250MHz	DC～1000MHz
Impedance	50Ω、75Ω	
VSWR	50Ω･･･1.2(Max.)　75Ω･･･1.3(Max.)	
Isolation	50dB (Max.)	
Power(Max.)	0.25W (Max.)	1W (Max.)
Connectors	BNCJ	BNCJ, BNCJ-L(UCS-102D only)
Number of ports	2、3、4、5	2、3、4、6
Switching angle	30°	60°、90°
Switch off condition	50Ω Termination	Release
Longevity	10000 times	
Operating Temperature Range	−20～+65℃	−10～+50℃

VCS series Standard Specifications

Models	Frequency Range (MHz)	VSWR (Max.)	Insertion loss dB (Max.)	Isolation dB (Min.)	Number of ports	Switching Mode	Weight
VCS-202D	DC～250	1.2	0.2	65	2	Open	(420g)
VCS-302D	DC～250	1.2	0.2	65	2	Closed	(420g)
VCS-203D	DC～250	1.2	0.3	60	3	Open	(510g)
VCS-303D	DC～250	1.2	0.3	60	3	Closed	(510g)
VCS-204D	DC～120	1.2	0.4	50	4	Open	(560g)
VCS-205D	DC～120	1.2	0.5	50	5	Closed	(650g)

UCS series Standard Specifications

Models	VSWR (Max.)	Insertion loss dB (Max.)	Isolation dB (Min.)	Number of ports	Switching angle	Connector	Weight
UCS-102	1.2	0.2	50	2	60°	BNCJ−L	(300g)
UCS-103	1.2	0.2	60	3	90°	BNCJ	(330g)
UCS-104	1.2	0.2	60	4	90°	BNCJ	(360g)
UCS-106	1.2	0.2	60	6	60°	BNCJ	(820g)

Model Description

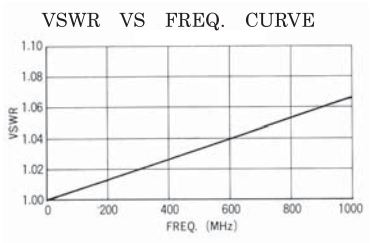
VCS (UCS) - 202 D - BNCJ

- Model (Refer to Standard Specifications)
- Impedance
  - D ; 50Ω
  - C ; 75Ω (VCS series is specified)
- Connector
  - BNCJ,
  - BNCJ-L(UCS-102D only)

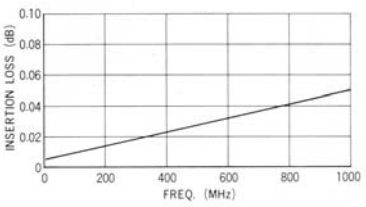
Frequency Characteristics

UCS-104D

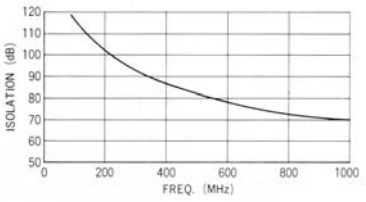
VSWR VS FREQ. CURVE



INSERTION LOSS VS FREQ. CURVE

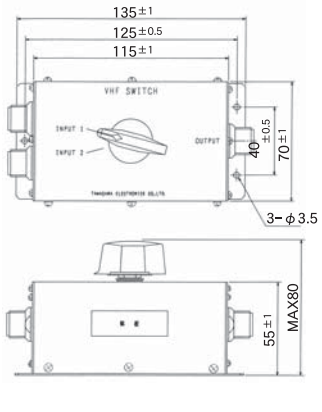


ISOLATION VS FREQ. CURVE

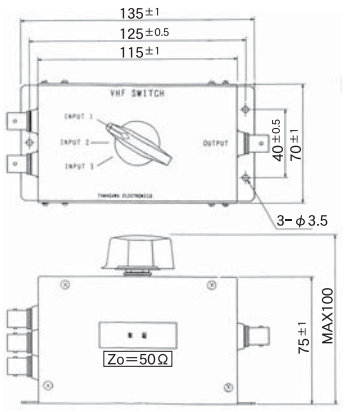


Outline Drawings

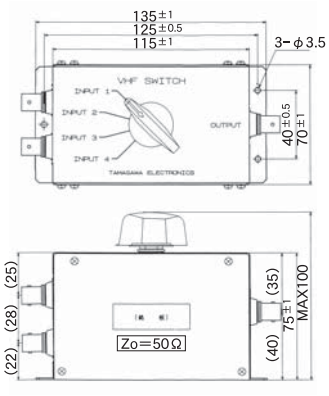
VCS-202D



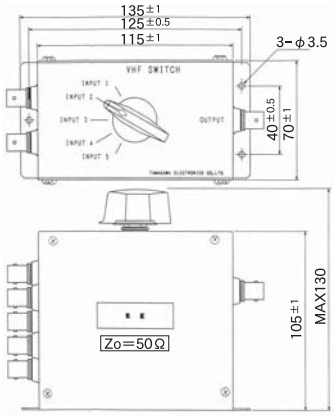
VCS-203D



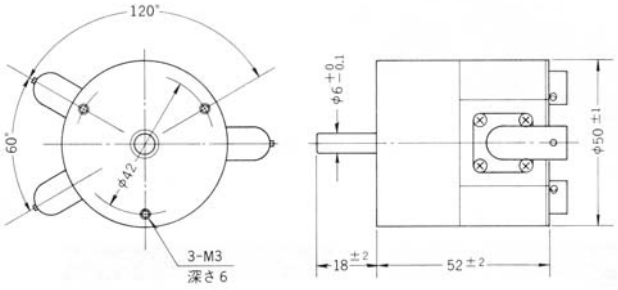
VCS-204D



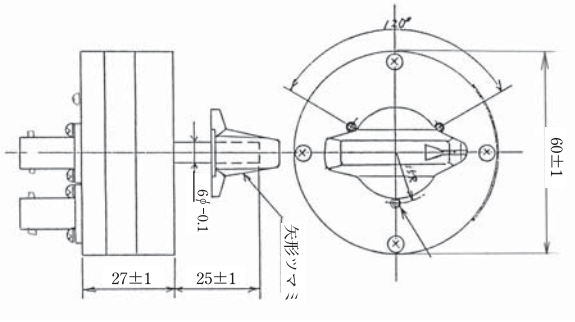
VCS-205D



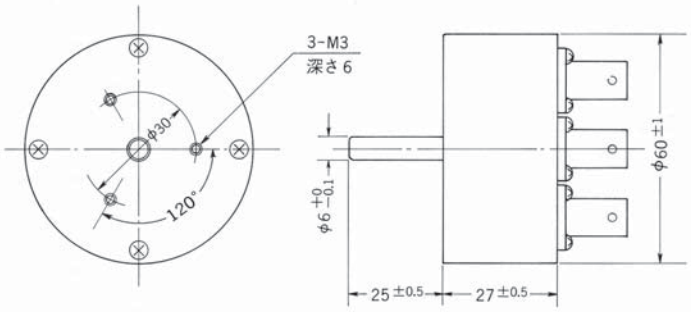
UCS-102D



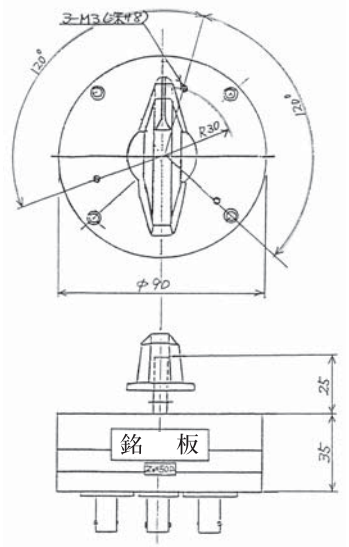
UCS-103D



UCS-104D



UCS-106D



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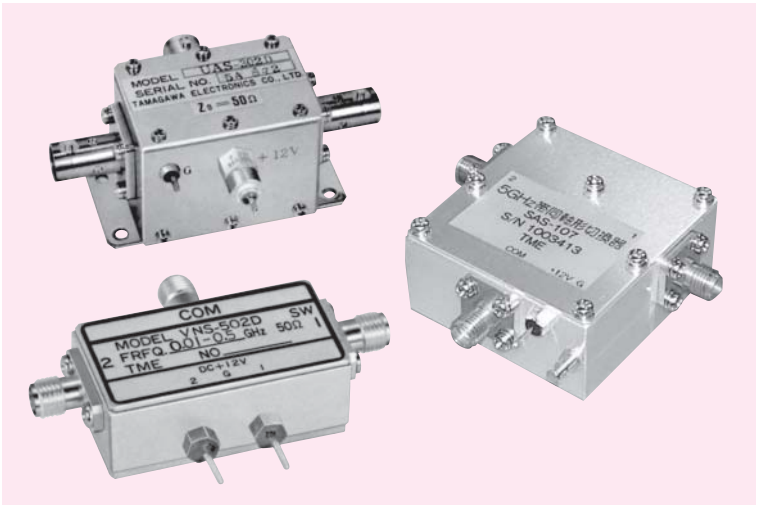
VAS·UAS·SAS Series



Product features and applications

The VAS/UAS/SAS series are coaxial switches for high frequency signals in the VHF through SHF bands. Their compact and lightweight designs make them easy to handle.
These series are usable for automatic remote control of various transmission signals. They are widely accepted as long-life, highly reliable automatic switches in many fields. 2-, 3-, 4- and 8-switching-point models are available; simply select the one to suit your application. They are designed to be terminated with impedance when switched.

	Common Specifications		
	VAS	UAS	SAS
Frequency Range	DC～250MHz	(Refer to Standard Specifications)	DC～6000MHz
Impedance	50Ω、75Ω		50Ω
Switching ports	2、3、4、8		2
Switching Speed	4ms(Max.)(Incl contact bounce operation)		10ms (Max.)(Incldng contact bounce operation)
Switch OFF Condition	50Ω or 75Ω Termination		50Ω Termination
Connectors	BNC-J , SMA-J		SMA-J
Drive voltage	DC12V±10%		
Longevity	100000 times		
Operating temperature range	−10℃～+50℃		

VAS/UAS series Standard Specifications

Models	Frequency Range (MHz)	VSWR(Max.)		Insertion loss (Max.)(dB)	Isolation (Max.)(dB)	Swit-ching ports	Impedance (Ω)	Power W (Max.)	Drive current mA (Max.)	Conne-ctors	Dimensions	Weight
		Circuit	Ter-minal								W×D×H	
VAS-302	DC～300	1.2	1.2	0.6	40	2	50, 75	0.25	45	BNC-J	60×30×33	(150g)
VAS-303	DC～300	1.2	1.2	0.9	40	3	50, 75	0.25	90	BNC-J	98×118×40	(400g)
VAS-304	DC～300	1.2	1.2	1.2	40	4	50, 75	0.25	130	BNC-J	112×118×40	(600g)
VAS-308	DC～300	1.3	1.3	1.5	40	8	50, 75	0.25	210	BNC-J	172×100×43	(750g)
UAS-302	DC～1000	1.2	1.2	0.8	40	2	50, 75	0.25	90	BNC-J	60×30×33	(130g)
UAS-303	DC～1000	1.4	1.4	1.5	40	3	50, 75	0.25	120	BNC-J	110×60×40	(350g)
UAS-304	DC～1000	1.5	1.5	1.5	40	4	50, 75	0.25	180	BNC-J	132×60×40	(400g)
UAS-502D	DC～2000	1.2	1.5	DC～1000Mhz：0.8 1000～2000MHz：1.2	DC～1000Mhz：60 1000～2000MHz：50	2	50	0.1	90	SMA-J	40×22×15	(40g)
UAS-502DF	DC～2000	1.2	1.5									
SAS-107	DC～6000	1.4	1.4	1.2	50	2	50	1	70	SMA-J	43×45×22	(90g)

★ For the models with “F”added to the end of the model number, RF circuit and control circuit are separately grounded.
★ Only 2-way switch is terminated internally.

Drive Method

UAS·SAS series (2 switches)

Terminal voltage	Circuit condition	
OV	1Port··Pass	2Port··Not pass
+12 Note 1	1Port··Not pass	2Port··Pass

Note 1:
To operate, apply +12V to the terminal “1” for UAS-502D and to the terminal “12V” for SAS-107.
For UAS-502DF, it can be connected to either the terminal “1” or “2” (It has no polarity)

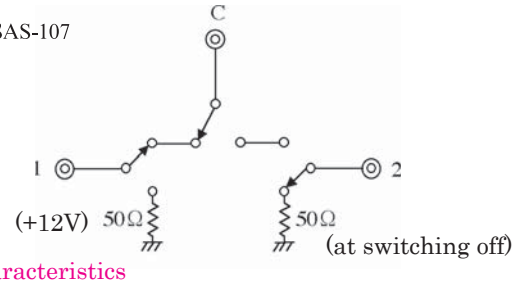
Model Description

VAS - 302 D - BNCJ - common earthing

- Type (Refer To Standard Specificatiosn)
- Impedance: D ; 50Ω / C ; 75Ω (only VAS/UAS300series)
- Connectors: BNCJ
- Control Method:
  - common earthing ;A common ground terminal is equiped. DC voltage is applied to the selected switch section to be driven.
  - common power supply; DC 12V is added as a common terminal. Earth the selected switch section to be driven.

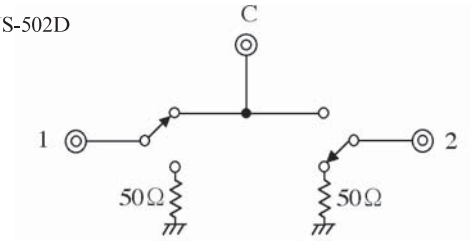
Electrical Circuits

UAS-502D/DF、SAS-107



(at switching off)

UNS-502D

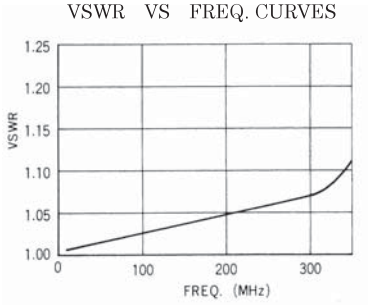


(The condition of control termination NO.1：12V、No.2：0V)

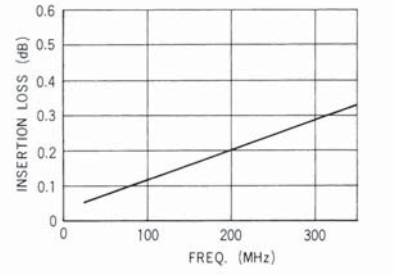
Frequency Characteristics

VAS-302D

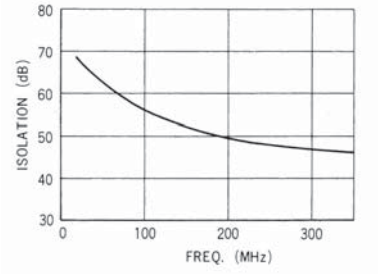
VSWR VS FREQ. CURVES



INSERTION LOSS VS FREQ. CURVES

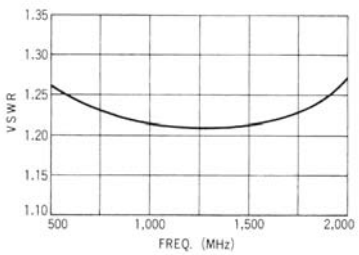


ISOLATION VS FREQ. CURVES

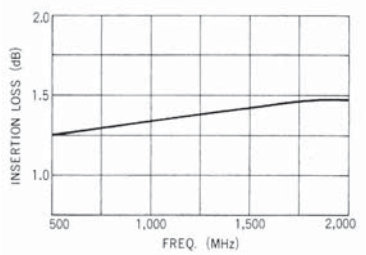


UNS-502D

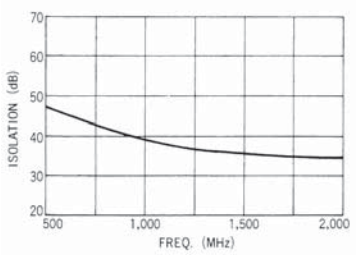
VSWR VS FREQ. CURVES



INSERTION LOSS VS FREQ. CURVES

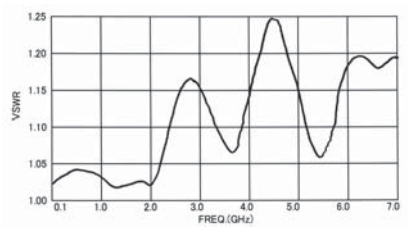


ISOLATION VS FREQ. CURVES

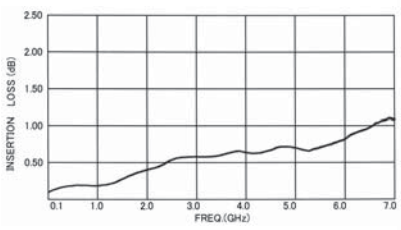


SAS-107

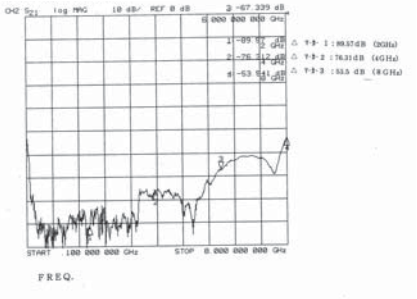
VSWR VS FREQ. CURVES



INSERTION LOSS VS FREQ. CURVES

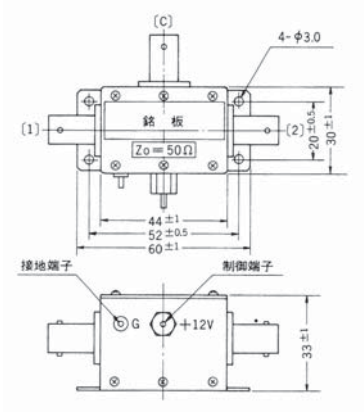


ISOLATION VS FREQ. CURVES

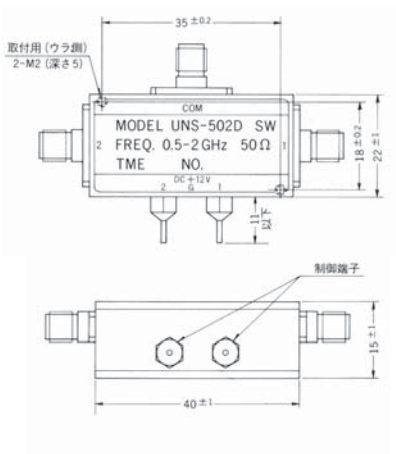


Outline Drawings

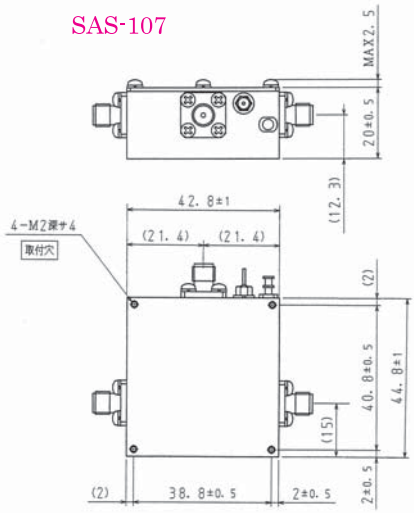
VAS,UAS-302



UAS-502D/DF、UNS-502D



SAS-107



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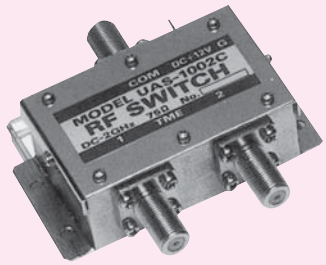
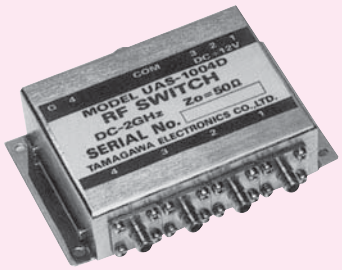
UAS-1000 Series





Product features and applications

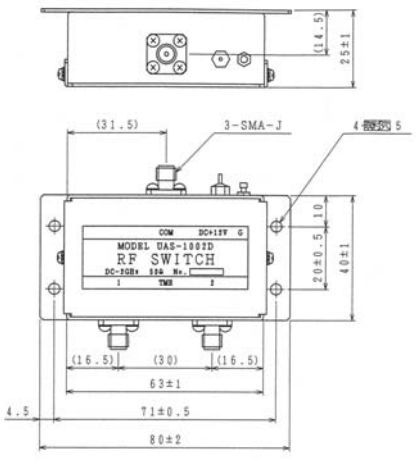
The UAS-1002/UAS-1004 series are coaxial switches covering up to the DC-1,500 MHz frequency range. The compact-design switches feature high performance and competitive prices, and are broadly applicable such as for mobile wireless devices as well as BS and CATV broadcasting.

	Common Specifications			
	UAS-1002D (2 switches)	UAS-1002C (2 switches)	UAS-1004D (4 switches)	◎UAS-1004C (4 switches)
Frequency Range	DC～1500MHz			
Impedance	50Ω	75Ω	50Ω	75Ω
VSWR	1.3(Max.)			
Insertion Loss	0.4dB (Max.)	0.4dB (Max.)	0.8dB (Max.)	0.8dB (Max.)
Isolation	50dB (Max.)			
Power(Max.)	0.25W			
Drive voltage	DC+12V(60ms(Max.)) Common earthing (note;1)		DC+12V(300ms(Max.)) Common earthing (note;1)	
Connectors	SMAJ	C15J	SMAJ	C15J
Switching Speed	15mS (Max.)			
Longevity	500000 times			
Internal Termination	—			
Operating Temperature Range	−20～+60℃			
Weight	(160g)	(180g)	(290g)	(300g)

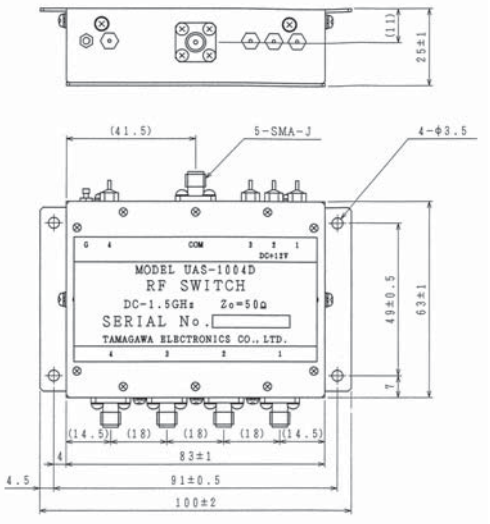
(Note 1) Common earthing: A common ground terminal is equipped. DC voltage is applied to a port chosen to drive. For 2-position models, port 1 is chosen when no voltage is applied. When voltage is applied, port 2 is chosen.

Outline Drawings

UAS-1002D/C



UAS-1004D/C



TAS Series

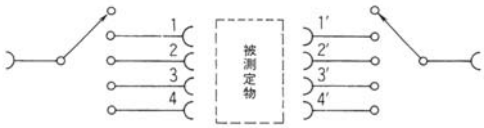
■ Product features and applications

The TAS series selector supports up to the DC -1,500 MHz frequency range and features two built-in switches with four positions. By switching the operation mode, you can shift between two channels with four positions and one channel with seven positions.
This model is suitable for a channel selector for the semi-microwave band as well as a multiple channel selector for BS/CATV broadcasting.
External control by BCD code is also available.

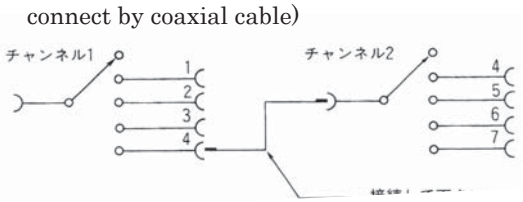
	Common Specifications	
	TAS-1001	TAS-1003
Frequency Range	DC～1500MHz	
Impedance	50Ω	75Ω (Unbalanced)
VSWR	1.3(Max.)	DC~1500MHz･･･1.3(Max.) 1500~2000MHz･･･1.3(Max.)
Isolation	50dB (Max.)	
Insertion Loss	1.0dB (Max.) (DC~1500MHz)	
Switching ports	2 Channel 4 Port	
Connectors	SMAJ	C15J
Power(Max.)	0.25W (Max.)	
Switching Speed	15mS (Max.)	
Drive Method	Manual･･･Rotary switch Remote･･･BCD code	
Longevity	500000 times	
Operating voltage	AC100V±10% 50/60Hz	
Operating Temperature Range	0℃～+40℃	
Dimensions	240×160×85 (mm.L×D×H)	

[Example for usage]

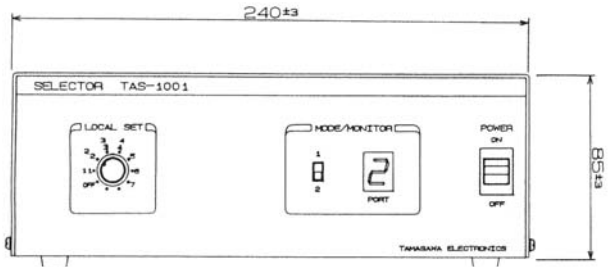
MODE1: channel1 or channel2 controled (4 ports switching)

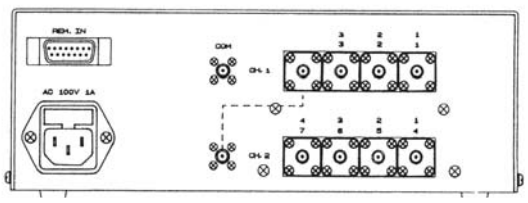


MODE2: channel1 and channel2 directly controled (port 7(CH2) and port 4(CH1) connect by coaxial cable)



■ Outline Drawings





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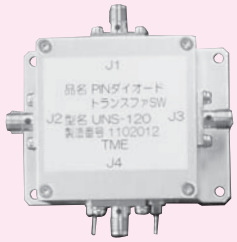
SNS·UNS Series



Product features and applications

The UNS/SNS series are coaxial PIN diode switches for high-frequency signals in the UHF through SHF bands. They are designed to be more compact, lighter and easier-to-handle than existing models. MIC (microwave integrated circuit) ensures a lower insertion loss and higher isolation in higher frequency ranges. The SNS series are used as switch circuits for stand-by active/spare amplifiers. The UNS120 is a route switch applicable to redundancy control in terrestrial digital broadcasting.

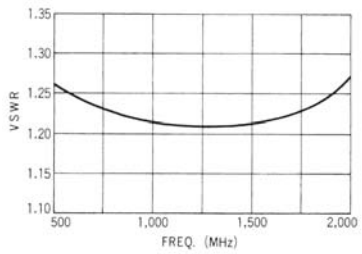
SNS·UNS series

	Common Specifications				
	SNS-120B	SNS-122B	SNS-123B	UNS-502D	UNS-120
Frequency Range	5800～6600MHz Any 150MHz 6600～7800MHz Any 350MHz	10000～10700MHz Any 300MHz	12900～13300MHz Any 300MHz	500～2000MHz	470～1500MHz
Switching off condition	50Ω Termination				—
Insertion Loss	1.8dB (Max.)	2.3dB (Max.)	2.6dB (Max.)	1.5dB (Max.)	470~1000MHz; 1.2dB (Max.) 1000~1500MHz; 1.8dB (Max.)
Isolation	50dB (Max.)			30(dB Max.)	470~1000MHz; 50dB (Max.) 1000~1500MHz; 40dB (Max.)
VSWR	1.5(Max.)			Pass 1.3(Max.) Internal termination 1.5(Max.)	1.25(Max.)
Phase Of Channel	20Degrees (Max.)			—	—
Switching Speed	200nSec (Max.)			10μSec (Max.)	500nSec (Max.)
Operating voltage / Operating current	+9V~+12V ±5% / 100mA −24V ±10% / 10mA (Max.)			DC+12V±10% Power 50mA (Max.)	DC+5V±10% Power 50mA (Max.)
Switching number	2			2	2 root switching control
Control signal	TTL "H" (3.3V～5V) : 1 ⇔ COM TTL "L" (0V～0.8V) : 2 ⇔ COM			Voltage control	TTL Level
Power(Max.)	5W			10mW	0.1w
Connectors	SMA-J or SMA-P (Chose each connector port.)			SMA-J	SMA-J
Impedance	50Ω (Unbalanced)				
Operating Temperature Range	−20℃ ～ +60℃				

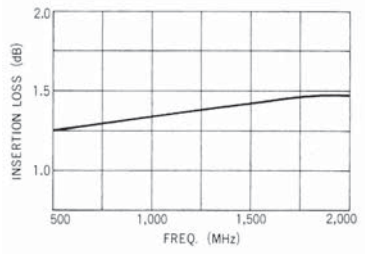
Frequency Characteristics

UNS-502D

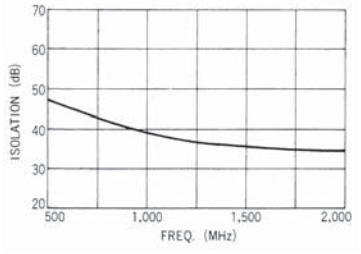
VSWR VS FREQ. CURVES



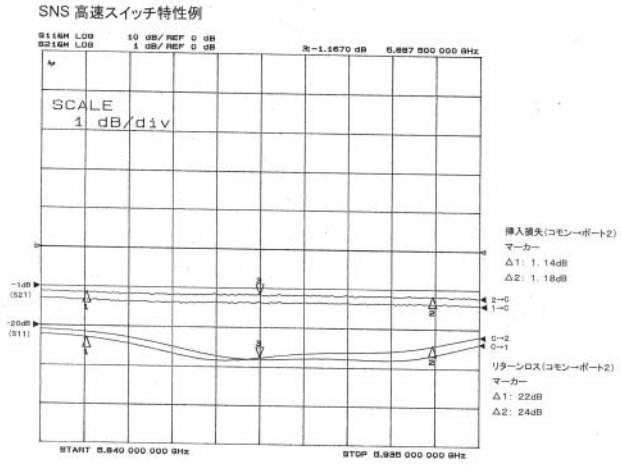
INSERTION LOSS VS FREQ. CURVES



ISOLATION VS FREQ. CURVES

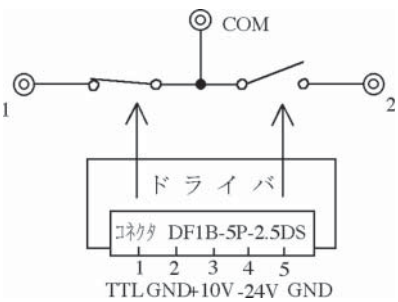


SNS 高速スイッチ特性例

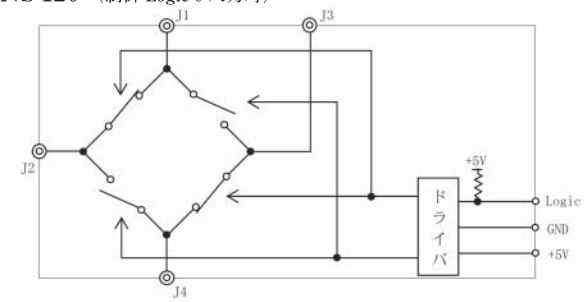


Electric circuit

SNS-120B series



UNS-120 （制御 Logic 0 入力時）



Drive Method

SNS

Connection of circuit	TTL
COM-1	1
COM-2	0

TTL 0 : 0～0.8V
TTL 1 : 3.3～5.0V

UNS502D

No.1 port	No.2 port	Circuit conditions	
＋１２V	０V	1Port・・Pass	2Port・・Not pass
０V	＋１２V	1Port・・Not pass	2Port・・Pass

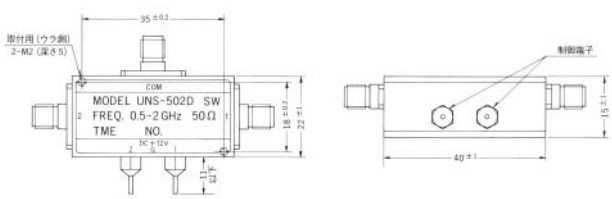
UNS-120

接続経路	Logic
J1-J2 J3-J4	0
J1-J3 J2-J4	1

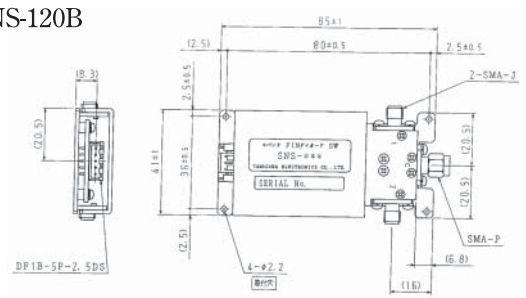
Logic 0 : 0～0.8V
Logic 1 : 2.0～5.0V

Outline Drawings

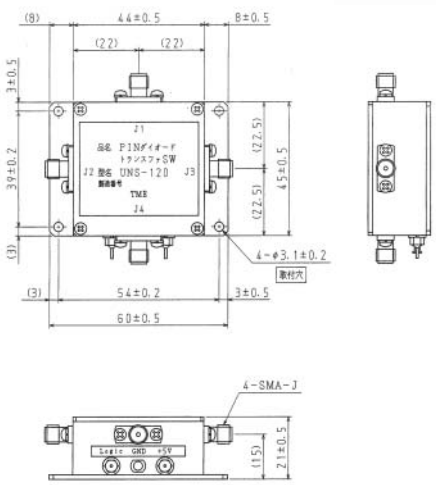
UNS-502D



SNS-120B



UNS-120



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