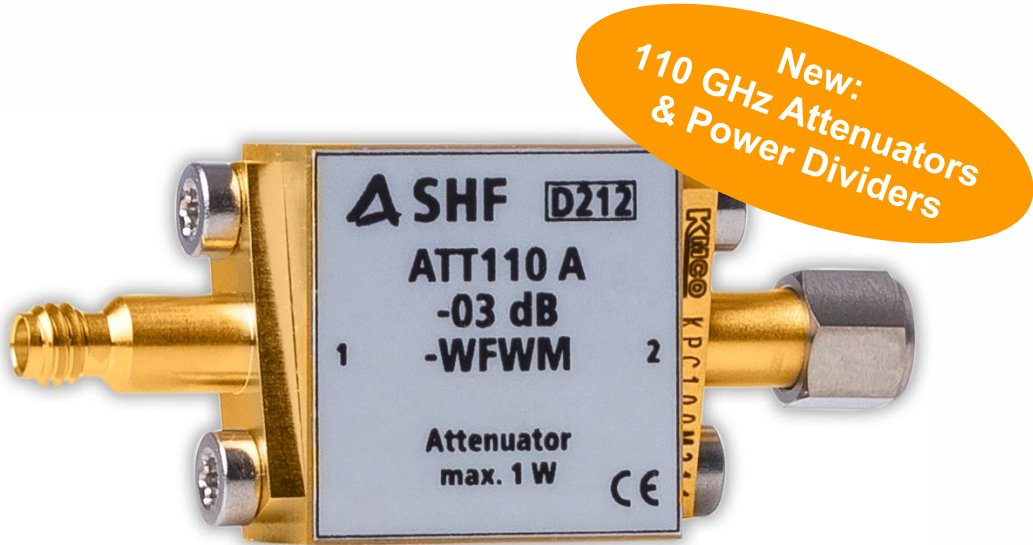
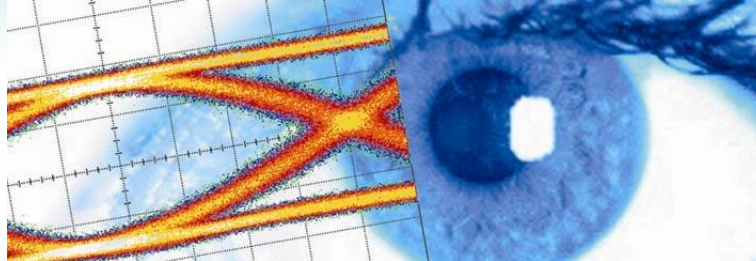




SHF RF Passive Components, Connectors & Cables



Bias Tees

Based on our air line construction, all our bias tees have resonance-free transmission over the whole specified operating frequency range. We do also offer custom modifications and variations. For example, "DC- Feeders" are bias tees without the capacitor. Therefore, they provide slightly lower insertion loss in case they are connected to an AC-coupled device which already has a capacitor on its input.

P/N or Option	Bandwidth	Max. DC Voltage	Max. DC Current
SHF BT45R			
w/o option	20 kHz – 45 GHz	16 V	
Opt. HV100	800 kHz – 45 GHz	100 V	400 mA
Opt. HV200	4 MHz – 45 GHz	200 V	
Opt. HC1000	100 kHz – 45 GHz		1000 mA
Opt. HC2000	500 kHz – 45 GHz	16 V	2000 mA
Opt. HVC100/1000	800 kHz – 45 GHz	100 V	1000 mA
SHF BT65R			
w/o option	50 kHz – 65 GHz	16 V	400 mA
Opt. HV100	3 MHz – 65 GHz	100 V	
Opt. HC800	100 kHz – 65 GHz	16 V	
Opt. HVC100/800	3 MHz – 65 GHz	100 V	800 mA
SHF BT110R			
w/o option	50 kHz – 110 GHz	10 V	400 mA
HV25	1 MHz – 110 GHz	25 V	



Diplexers

Diplexers are bias tees with a certain bandwidth in the low frequency path to combine or separate high frequency and low frequency signals into or from a single line.

P/N or Option	BW HF-Path	BE LF-Path	Max. LF Voltage	Max. HF Current
SHF DX45R				
w/o option	90 MHz – 45 GHz	DC – 25 MHz	20 V	400 mA
Opt. HVC50/1000	100 MHz – 45 GHz		50 V	1000 mA
Opt. HVC100/2000		100 V	2000 mA	
Opt. X01	1200 MHz – 32 GHz	DC – 600 MHz	50 V	1000 mA
Opt. X02	3000 MHz – 40 GHz	DC – 1000 MHz		
SHF DX65R				
w/o option	90 MHz – 65 GHz	DC – 25 MHz	20 V	400 mA
Opt. HV100			100 V	
SHF DX110R				
w/o option	1 GHz – 110 GHz	DC – 50 MHz	20 V	400 mA

DC Blocks

Small, high performance DC blocks with an extremely broad bandwidth covering 20 kHz to greater than 110 GHz. Just as our bias tees, the SHF DC blocks offer low group delay and low insertion loss.

P/N	Bandwidth	Max. DC Voltage	Max. DC Current
SHF DCB45R			
w/o option	30 kHz – 45 GHz	25 V	30 dBm
Opt. HV100	700 kHz – 45 GHz	100 V	30 dBm
Opt. HV200	3.8 MHz- 45 GHz	200 V	30 dBm
SHF DCB65R			
w/o option	50 kHz – 65 GHz	16 V	30 dBm
Opt. HV100	3 MHz – 65 GHz	100 V	30 dBm
SHF DCB110R			
w/o option	150 kHz – 110 GHz	10 V	30 dBm
Opt. HV50	1.1 MHz – 110GHz	50 V	30 dBm

NEW: Attenuators

Compact fixed 110 GHz attenuators with an extremely flat frequency response. All gender and even between series configurations are available.

P/N	Connectors	Bandwidth	Attenuation
SHF ATT110 A -W□W□ ¹	1.0 mm to 1.0 mm	DC – 110 GHz	3, 6, 10 or 20 dB ²
SHF ATT110 A -W□V□ ¹	1.0 mm to 1.85 mm	DC – 65 GHz	3, 6, 10 or 20 dB ²

NEW: Power Dividers

Our broadband power dividers split the inputs signal voltage into two equal parts. With the characteristic impedance of 50 Ohms (when all ports are terminated) this results in a 6 dB insertion loss from the input to one output port (neglecting the extremely low inherent loss of the transmission channel). Alternatively, the devices can also be used in reverse direction to combine two signals.

P/N	Connectors	Bandwidth
SHF PDV18 A	SMA	DC – 18 GHz
SHF PDV110 A -W□W□ W□ ¹	1.0 mm	DC – 110 GHz

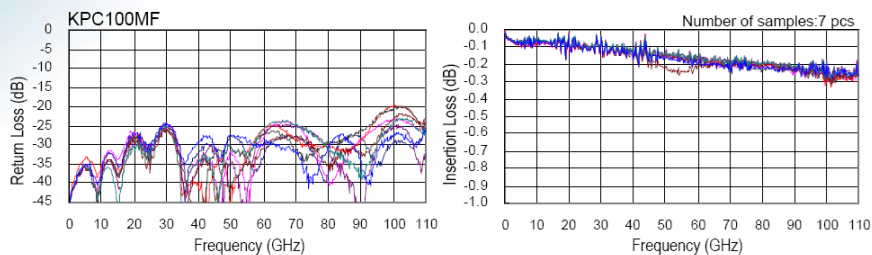
¹ □ represents the connector configuration (M: male, F: female)

² other values on request



Adapters

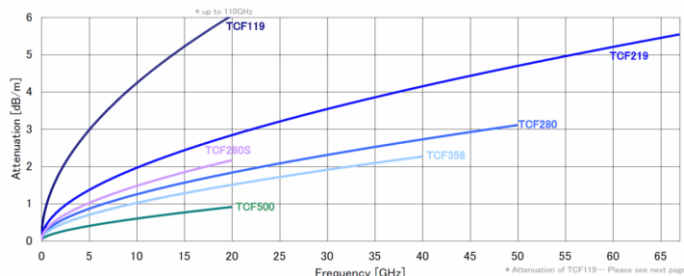
For many years now, we are working together with our Japanese partner KMCO. Our customers can benefit from KMCO's excellent expertise in designing RF connectors when using our RF adapters. The extensive product range covers all adaptation applications beyond 18 GHz and up to 110 GHz.



P/N ³	Connector 1	Connector 2	BW
KPC100□□	1.0 mm	1.0 mm	110 GHz
KPC185□100□	1.85 mm (V)	1.0 mm	67 GHz
KPC185□□	1.85 mm (V)	1.85mm (V)	65 GHz
KPC185□-SMPM-FD, KPC185□-SMPM-SB	1.85 mm (V)	SMPM	65 GHz
KPC240□□	2.4 mm	2.4 mm	50 GHz
KPC240□185□	2.4 mm	1.85 mm (V)	50 GHz
KPC292□□	2.92 mm (K)	2.92 mm (K)	40 GHz
KPC292□185□	2.92 mm (K)	1.85 mm (V)	40 GHz
KPC292□240□	2.92 mm (K)	2.4 mm	40 GHz
KPC350□□	3.5 mm	3.5 mm	26.5 GHz
KPC350□240□	3.5 mm	2.4 mm	26.5 GHz

Flexible Cable Assemblies

Totoku's cable assemblies exhibit excellent flexibility and maintain their phase stability over temperature and bending. The extremely low attenuation (see chart below) is realized by using silver plated copper and E-PTFE with a low dielectric constant. There is a huge variety of different options e.g. for phase matching (< 1 ps), right angle connectors or armoring available.



P/N ⁴	Connector 1	Connector 2	Bandwidth
TCF119 ◇◇	1.0 mm	1.0 mm	110 GHz
TCF219 ◇◇	1.85 mm (V)	1.85mm (V)	65 GHz
	2.4 mm		50 GHz
TCF280 ◇◇	2.4 mm	2.4 mm	50 GHz
	2.92 mm (K)		40 GHz
TCF358 ◇◇	2.92 mm (K)	2.92mm (K)	40 GHz
	3.5 mm		26.5 GHz
TCF500 ◇	SMA	SMA	20 GHz
	N	N	18 GHz

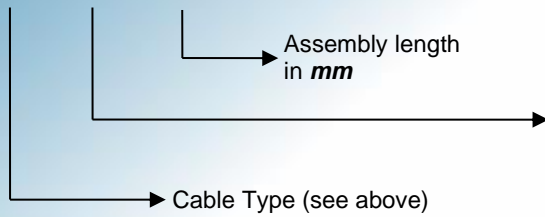
³ □ represents the connector configuration (M: male, F: female)

⁴ ◇ represents the connector configuration of a Totoku flexible cable assembly (please see next page)



Configuration Example Flexible Cable Assemblies:

TCFXXX □ □ ○ ○ ○ ○



Connector Configuration:

A: male SMA	B: female SMA
D: male N	E: female N
F: male 3.5 mm	G: female 3.5 mm
K: male 2.92 mm	M: female 2.92 mm
Q: male 2.4 mm	R: female 2.4 mm
T: male 1.85 mm	U: female 1.85 mm
X: male 1.0 mm	Y: female 1.0 mm

RF Semi-rigid Cable Assemblies

Semi-rigid cable assemblies, which can be customized in length and shape, are the ideal solution for volume use and system prototyping. All cable assemblies are precisely manufactured and have very good physical length accuracy (phase matched cables are available on request).

P/N ⁵	Connector 1	Connector 2	Bandwidth
CA100□□	1.0 mm	1.0 mm	110 GHz
CA185□119SMPM	1.85 mm (V)	SMPM (GPPO™)	65 GHz
CA185□□	1.85 mm (V)	1.85 mm (V)	60 GHz
CA240□□	2.4 mm	2.4 mm	50 GHz
CA240□185□	2.4 mm	1.85mm (V)	50 GHz
CA240□119SMPM	2.4 mm	SMPM (GPPO™)	50 GHz
CA292□□	2.92 mm (K)	2.92 mm (K)	40 GHz
CA292□185□	2.92 mm (K)	1.85 mm (V)	40 GHz
CA292□240□	2.92 mm (K)	2.4 mm	40 GHz
CA292□119SMPM	2.92 mm (K)	SMPM (GPPO™)	40 GHz

Product Number example:

A CA240MF0125 is a 125 mm cable assembly with one male and one female 2.4 mm connector.

RF Semi-Flexible Cable Assemblies

P/N ²	Connector 1	Connector 2	Bandwidth
SFCA185119□□	1.85 mm	1.85 mm	65 GHz
SFCA119SMPM	SMPM (GPPO™)	SMPM (GPPO™)	65 GHz
SFCA185□119SMPM	1.85 mm (V)	SMPM (GPPO™)	65 GHz
SFCA292119□□	2.92 mm (K)	2.92 mm (K)	40 GHz
SFCA292□119SMPM	2.92 mm (K)	SMPM (GPPO™)	40 GHz

Product Number example:

A SFCA119SMPM0100 is a 100 mm semi-flexible cable assembly with SMPM connectors.



KMCO Semi-Rigid Cable Assemblies

⁵ □ represents the connector configuration (M: male, F: female)