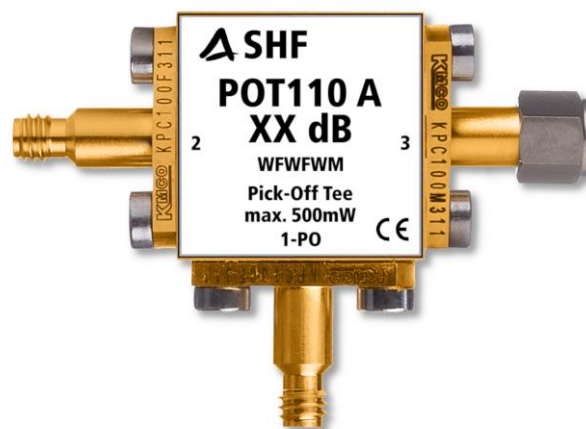


Data Sheet SHF POT110 A



110 GHz Pick-Off Tee



Description

The SHF POT110 A is a compact, high-performance, impedance-matched, resistive pick-off tee with a bandwidth exceeding 110 GHz.

Fully customizable 1.0 mm connector configurations as well as between series (1.0 mm ↔ 1.85 mm) configurations are available to meet individual requirements of the customer and to avoid additional adapters in the setup.

Dedicated mounting holes on the back side allow secure installation on a mounting plate for stable system integration.

Two different pick-off coupling values (12 dB, 20 dB) are available within the same series (POT110 A | xx dB).

Applications

- Signal coupling and monitoring (tapping)
- Injection of signals or noise
- Pick-off for prescalers or clock-data recovery

Features

- Small and lightweight
- Flat insertion loss, low reflection

Configurations

- WFWFWM
- Other configurations on request

Product Code Example

- SHF POT110 A | 20 dB | WFWFWM
Brand: SHF
Type: 110 GHz Pick-Off Tee
Revision: A
Typ. Pick-Off Value: 20 dB
Connector Configuration:
Port 3 - 1.0 mm male
Port 2 - 1.0 mm female
Port 1 - 1.0 mm female



Specifications¹

Parameter	Unit	Symbol	Min	Typ	Max	Conditions
Absolute Maximum Ratings						
Power handling	W	$P_{in,max}$			0.5	
Mechanical Characteristics						
Operating temperature	°C	T_{case}	10		50	
Connectors						1.0 mm
Dimensions	mm				42.2 30.1 9	Width Length Height
Weight	g			15		

Parameter	Unit	Symbol	Min	Typ	Max	Conditions
Electrical Characteristics (at 25°C case temperature, unless otherwise specified)						
Maximum Operating Frequency	GHz	f_{max}	110			
Minimum Operating Frequency		f_{min}			DC	
Input Impedance	Ω			50		

SHF POT110 A 12 dB						
Insertion loss (Thru line)	dB	IL_{Thru}		4	5	$f < 15$ GHz
					6	15 GHz $< f < 50$ GHz
					6.5	50 GHz $< f < 110$ GHz
Insertion loss (Pick-off)	dB	IL_{PO}	10.7 10.7 10.5 10.5	12	12	$f < 15$ GHz
					13	15 GHz $< f < 50$ GHz
					14	50 GHz $< f < 80$ GHz
					14.5	80 GHz $< f < 110$ GHz
Return loss (Ports 2 and 3 - input/output)	dB	RL_{THRU}	15			$f < 15$ GHz
			12			15 GHz $< f < 50$ GHz
			10			50 GHz $< f < 80$ GHz
			8			80 GHz $< f < 110$ GHz
Return loss (Port 1 - Pick-off)		RL_{PO}	15			$f < 15$ GHz
			12			15 GHz $< f < 50$ GHz
			10			50 GHz $< f < 80$ GHz
			8			80 GHz $< f < 110$ GHz

¹ These specifications are valid for the WFWFWM configuration.

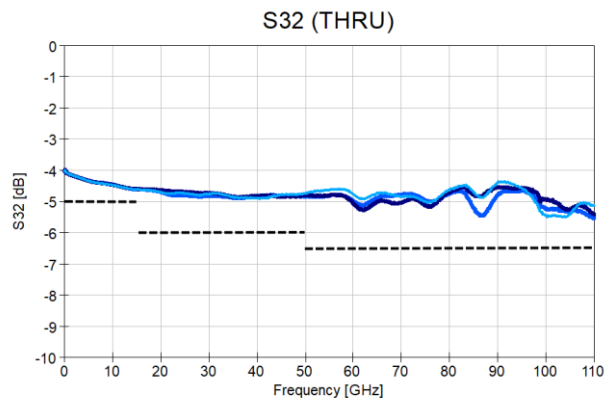
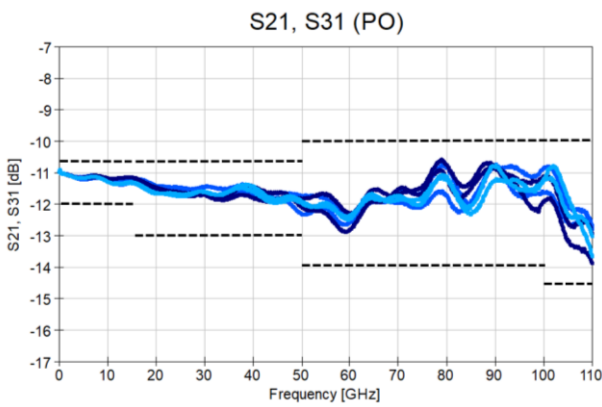
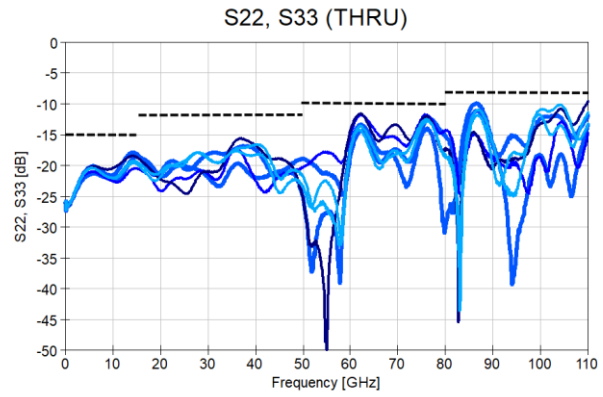
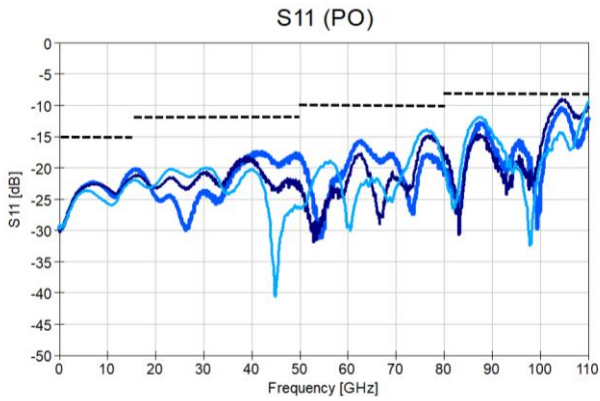


Parameter	Unit	Symbol	Min	Typ	Max	Conditions
SHF POT110 A 20 dB						
Insertion loss (Thru line)	dB	IL _{Thru}		2	3	f < 15 GHz
					4	15 GHz < f < 50 GHz
					4.5	50 GHz < f < 80 GHz
					5	80 GHz < f < 100 GHz
					5.5	100 GHz < f < 110 GHz
Insertion loss (Pick-off)	dB	IL _{PO}	18.5 18.5 18 17.5	20	20	f < 15 GHz
					21.5	15 GHz < f < 50 GHz
					22	50 GHz < f < 100 GHz
					22.5	100 GHz < f < 110 GHz
Return loss (Ports 2 and 3 - input/output)	dB	RL _{THRU}	15			f < 15 GHz
			12			15 GHz < f < 50 GHz
			10			50 GHz < f < 80 GHz
			8			80 GHz < f < 110 GHz
Return loss (Port 1 - Pick-off)		RL _{PO}	15			f < 15 GHz
			12			15 GHz < f < 50 GHz
			10			50 GHz < f < 80 GHz
			8			80 GHz < f < 110 GHz



Typical S-Parameters²

SHF POT110 A | 12 dB

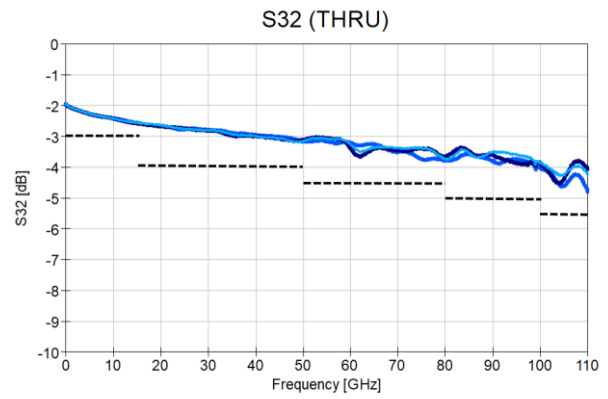
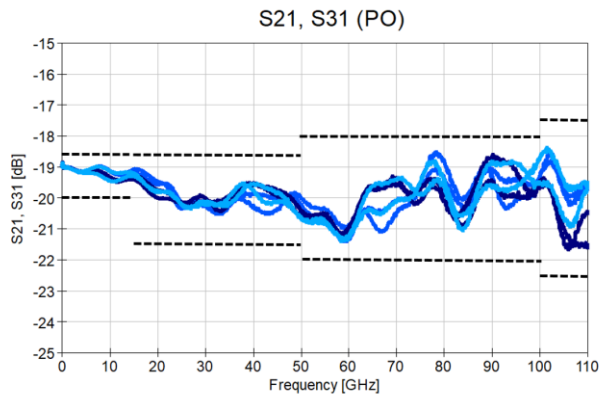
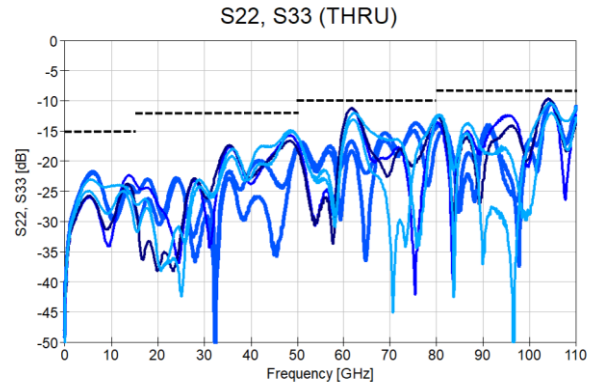
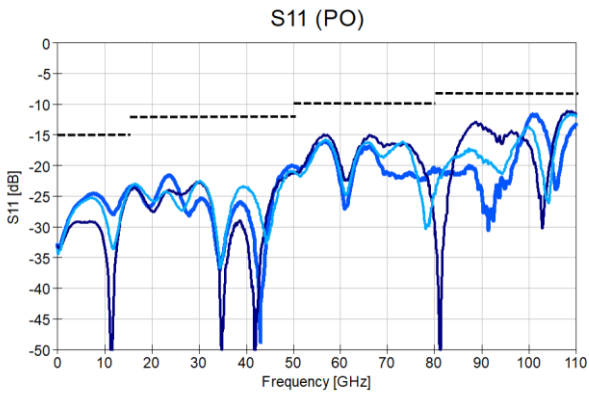


- **Blue solid lines = Measurements (three SHF POT110 A | 12 dB)**
- **Black dashed lines = Specifications**

² These typical S-Parameters are valid for the WFWFWM configuration.



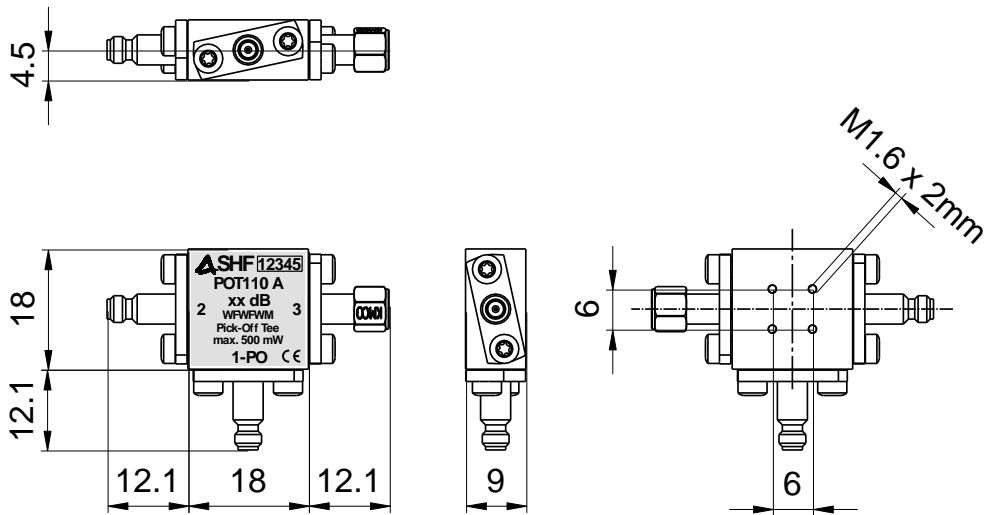
SHF POT110 A | 20 dB



- **Blue solid lines = Measurements (three SHF POT110 A | 20 dB)**
- **Black dashed lines = Specifications**



Mechanical Drawing



All dimensions in mm



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