

## SHF Communication Technologies AG

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## Datasheet SHF 2856 A Frequency Doubler



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The SHF 2856 A is a balanced diode frequency doubler with integrated output buffer amplifier. It features a low conversion gain of approximately 0 dB in the output frequency range between 50 GHz and 60 GHz. Beyond those limits the frequency doubler operates with slightly worse characteristic. A co-planar balun ensures a good suppression of the fundamental frequency.

## **Features**

- Low Input Power Drive: 0 dBm
- Fundamental Suppression: >30 dBc
- Single Supply: +5V @ 150 mA

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## Specifications – SHF 2856 A

Parameter	Unit	Symbol	Min.	Тур.	Max.	Comment
Absolut Maximum Ratings						
DC Voltage at RF Input	V				±9	AC coupled input
DC Voltage at RF Output	V				±7	AC coupled output
Case Temperature	°C	T <sub>case</sub>	10	30	50	
Input						
Input Frequency	GHz	f <sub>in</sub>	25		32	
Input Power Level	dBm	P <sub>in</sub>	-6	0	4	
Input Return Loss	dB		4			
Output						
Output Frequency	GHz	f <sub>out</sub>	50		64	
Output Power Level	dBm	P <sub>in</sub>	-6	0	4	varies with P <sub>in</sub>
Suppression of Fundamental	dBc		25	30		
Power						
Supply Voltage	V		+4.75		+5.25	
Supply Current	mA			150		
Power Consumption	mW			750		@ 5V Supply Voltage
Mechanical Parameters						
Input Connector						1.85 mm (V) female
Output Connector						1.85 mm (V) male
Dimensions	mm					27 x 18 x 10

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The measurements below have been performed using a Tektronix DSA (8300) with a 70 GHz Sampling Module (80E11) and a Phase Reference Module (82A04B-60G).





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The measurements below have been performed using a Tektronix DSA (8300) with a 70 GHz Sampling Module (80E11) and a Phase Reference Module (82A04B-60G) at 56 GHz output frequency.



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The measurements below have been performed using a Anritsu 68197C Signal Generator with a 0,5m Totoku cable assembly and an Agilent 8565 EC Spectrum Analyzer.



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The measurements below have been performed using a Tektronix DSA (8300) with a 70 GHz Sampling Head (80E11) and a Phase Reference Module (82A04B-60G) with approximately 0 dBm input power.



Output signal @ fout = 46 GHz



Output signal @ fout = 48 GHz



Output signal @ fout = 50 GHz



Output signal @ fout = 52 GHz



Output signal @ fout = 54 GHz





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Output signal @ fout = 58 GHz



Output signal @ fout = 60 GHz



Output signal @ fout = 62 GHz



Output signal @ fout = 64 GHz



Output signal @ fout = 66 GHz



Output signal @ fout = 68 GHz

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Port	Connector		
In	1.85mm (V) female		
Out	1.85mm (V) male		

All dimensions in mm



