

FAR Series

11.5-16.5GHz Input Frequency Doubler

Features

- Input Frequency: 11.5-16.5GHz
- Output Frequency: 23-33GHz
- Conversion Gain: 12dB
- F_0 Isolation: 20dB
- Input Drive Level: +3dBm
- DC Power: 12V/110mA
- SMA Input RF Connector
- K-2.92mm Output RF Connector

Performance @ $F_{in}=14\text{GHz}$, $P_{in}=+3\text{dBm}$

Description

FAR-578 is an active frequency doubler operates with input frequency range from 11.5 to 16.5GHz and output frequency range from 23 to 33GHz.

Picture



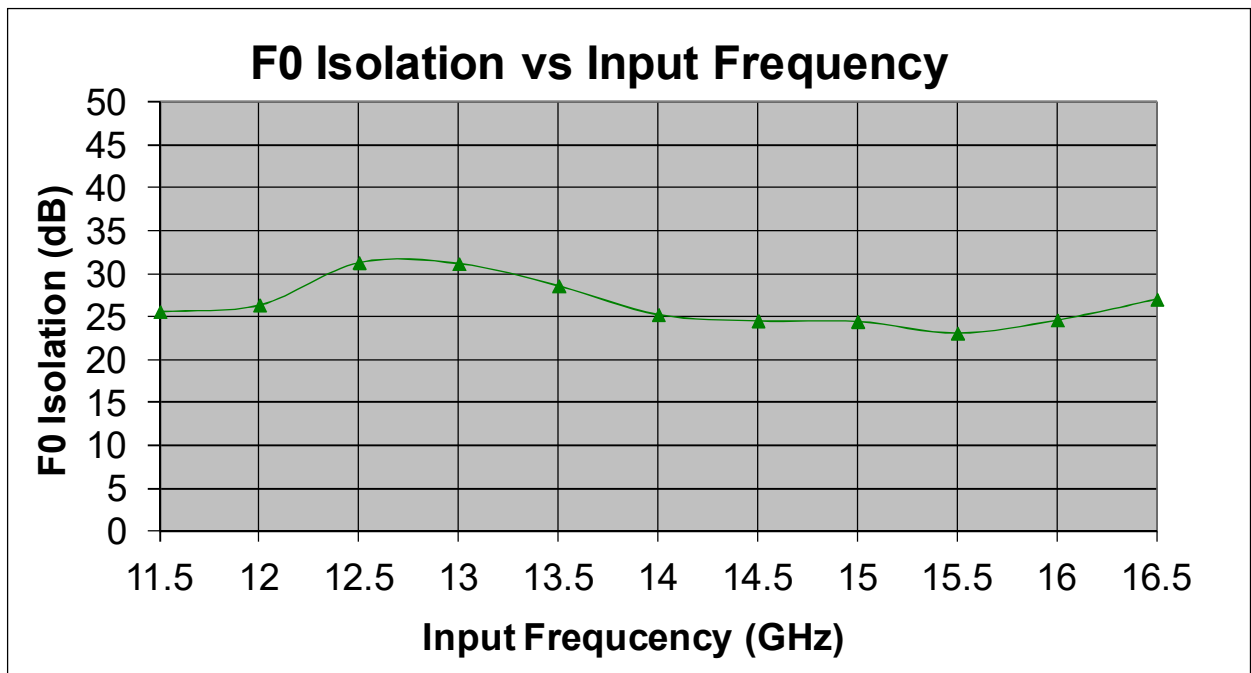
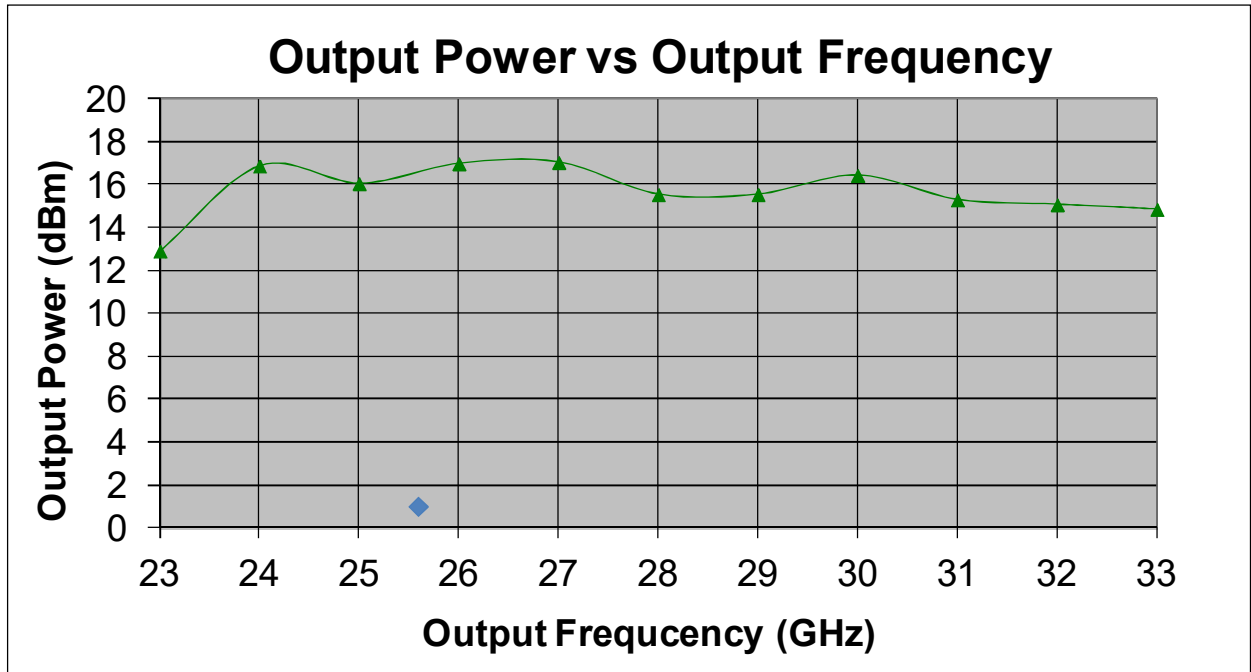
Electrical Specifications @ +25 °C, $Z_{in} = Z_{out} = 50 \Omega$, DC Voltage = +12V

Parameter	Unit	Min.	Typ.	Max.
Input Frequency Range	GHz	11.5		16.5
Output Frequency Range	GHz	23		33
Conversion Gain $P_{in}=+3\text{dBm}$	dB	8	12	
Input Power Drive Range	dBm	0	+3	+6
Output Power $F_{in}=14\text{GHz}/F_{out}=28\text{GHz}$	dBm	+10	+14	
F_0 Isolation * $F_{in}=14\text{GHz}/F_{out}=14\text{GHz}$	dB	15	20	
3 F_0 Isolation * $F_{in}=14\text{GHz}/F_{out}=42\text{GHz}$	dB	20	25	
SSB Phase Noise @ 100KHz Offset	dBc/Hz		-132	
Input VSWR S11 $F_{in}=14\text{GHz}$			1.3:1	2.0:1
Output VSWR S22 $F_{out}=28\text{GHz}$			1.6:1	2.2:1
DC Power Input	V	9	12	15
Operating Current	mA		110	125

* Isolation with respect to desired frequency output power level at 14GHz

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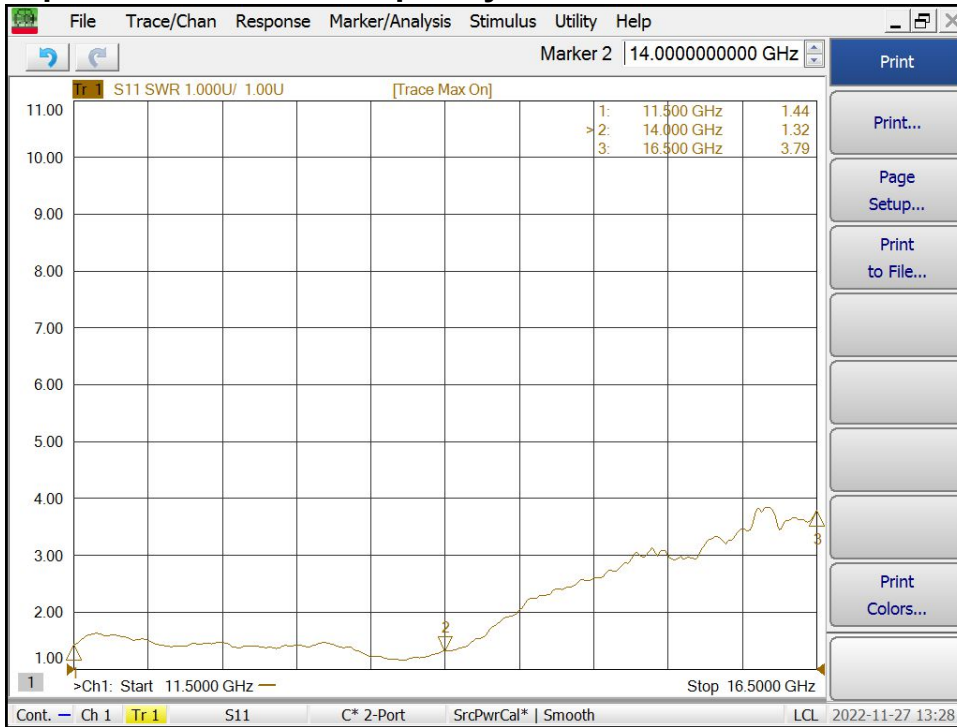
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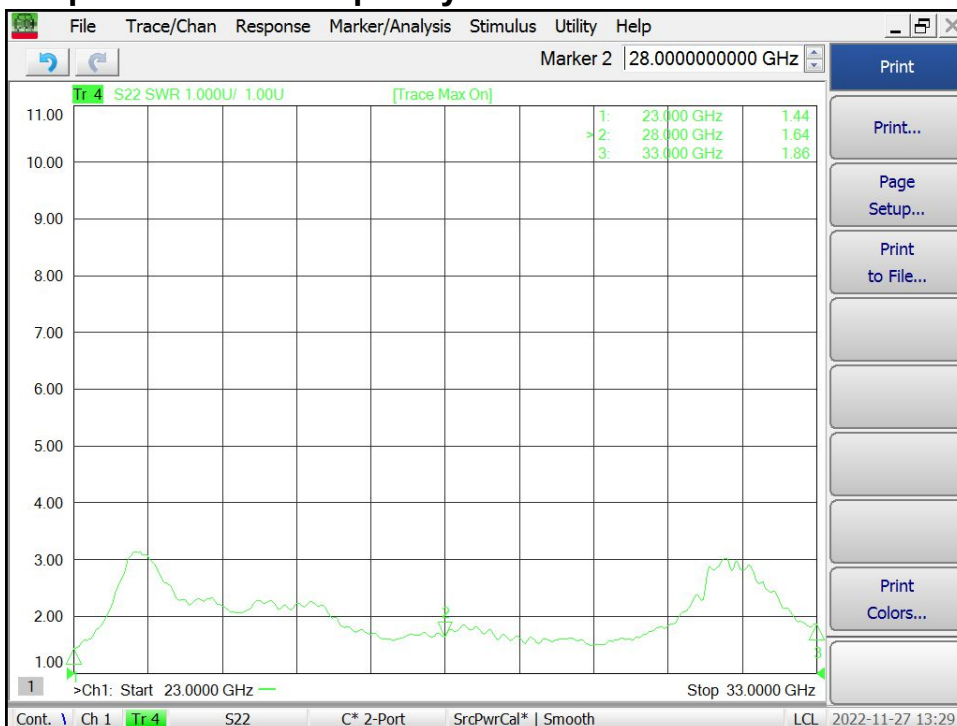
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Input VSWR S11 vs Frequency



Output VSWR vs Frequency



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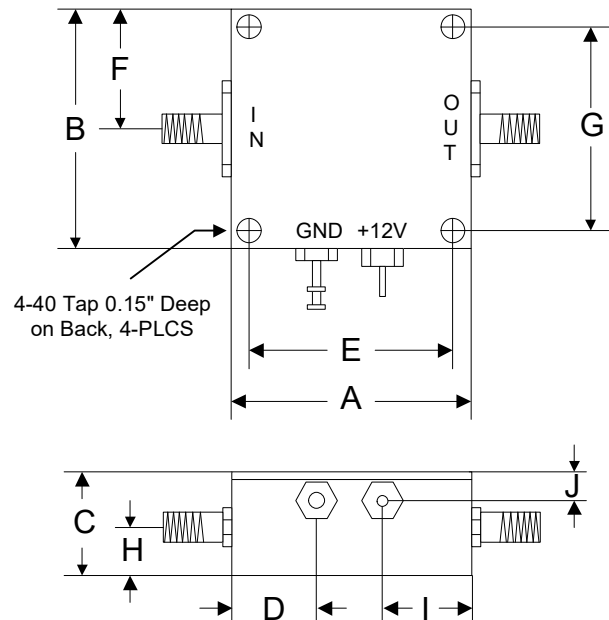
Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+13dBm
DC Supply Voltage	+25V
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C

ESD Sensitive Material



Outline



	A	B	C	D	E	F	G	H	I	J
Inch	1.250	1.250	0.563	0.450	1.000	0.625	1.000	0.250	0.500	0.187
mm	31.75	31.75	14.29	11.43	25.40	15.88	25.40	6.35	12.70	4.76