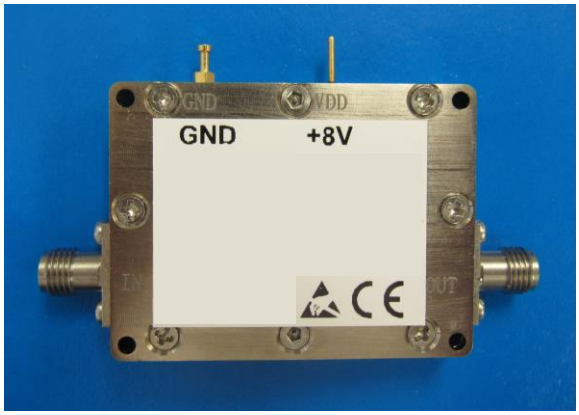
HD33789

18 – 40GHz Low Noise Amplifier

Features

- Frequency Range: 18-40GHz
- Gain: 33dB
- P_{1dB}: +13dBm
- OIP3: +27dBm
- Noise Figure: 3.5dB (typ.)
- DC Power: +8V @ 200mA
- RF Connector: 2.92mm-female

Photo



Description

HD33789 is a wide band high performance Low Noise (& Driver) Amplifier, with standard frequency range of 18 to 40GHz.

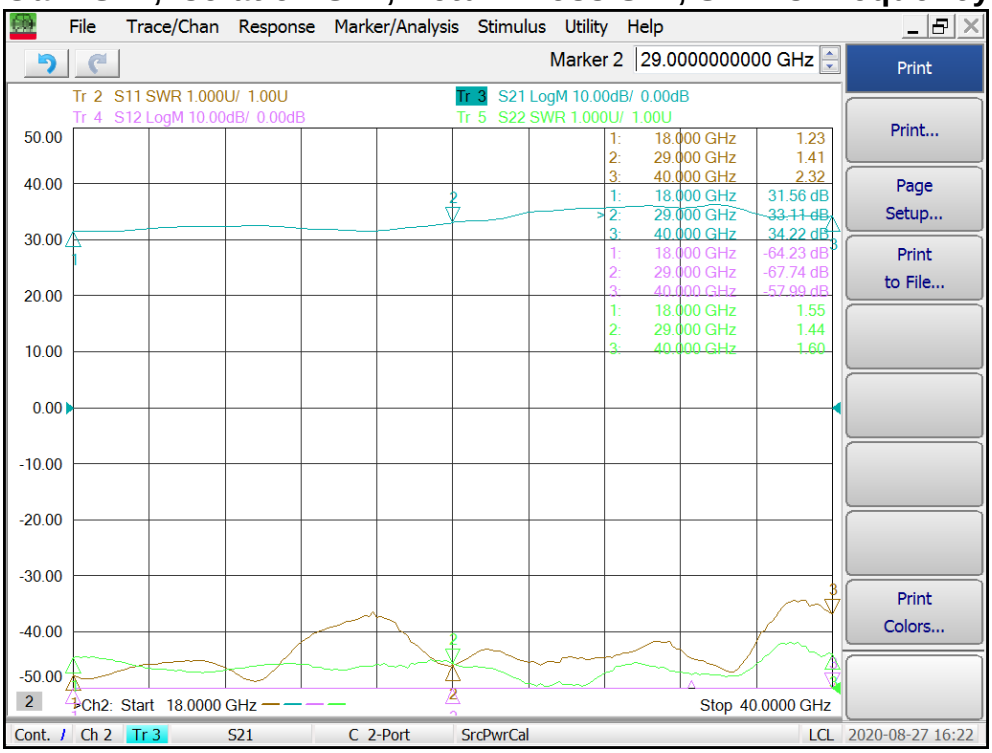
Electrical Specifications @+25 °C, Z_{in}=Z_{out}=50 Ω, DC Supply = +8VDC

Parameter		Unit	Minimum	Typical	Maximum
Frequency Range		GHz	18		32
Gain S21	f = 18GHz	dB	28	31	
	f = 29GHz	dB	30	33	
	f = 40GHz	dB	31	34	
Gain Flatness		dB		±2.0	±3.0
Output Power P_{1dB}	f = 29GHz	dBm	+10	+13	
Output Third Order Intercept IP3	f = 29GHz	dBm	+24	+27	
Noise Figure	f = 29GHz	dB		3.5	4.5
Reverse Isolation S12	f = 29GHz	dB	-55	-65	
Input VSWR S11	f = 29GHz			1.5:1	2.5:1
Output VSWR S22	f = 29GHz			1.5:1	2.5:1
DC Power Supply - voltage		V	+5.5	+8	+10
DC Power Supply - current		mA		200	250
Size (RF/DC feedthrough excluded)		Inch (mm)	1.772”x1.339”x0.335” (45x34x8.5mm)		
Weight		Oz	2.0		

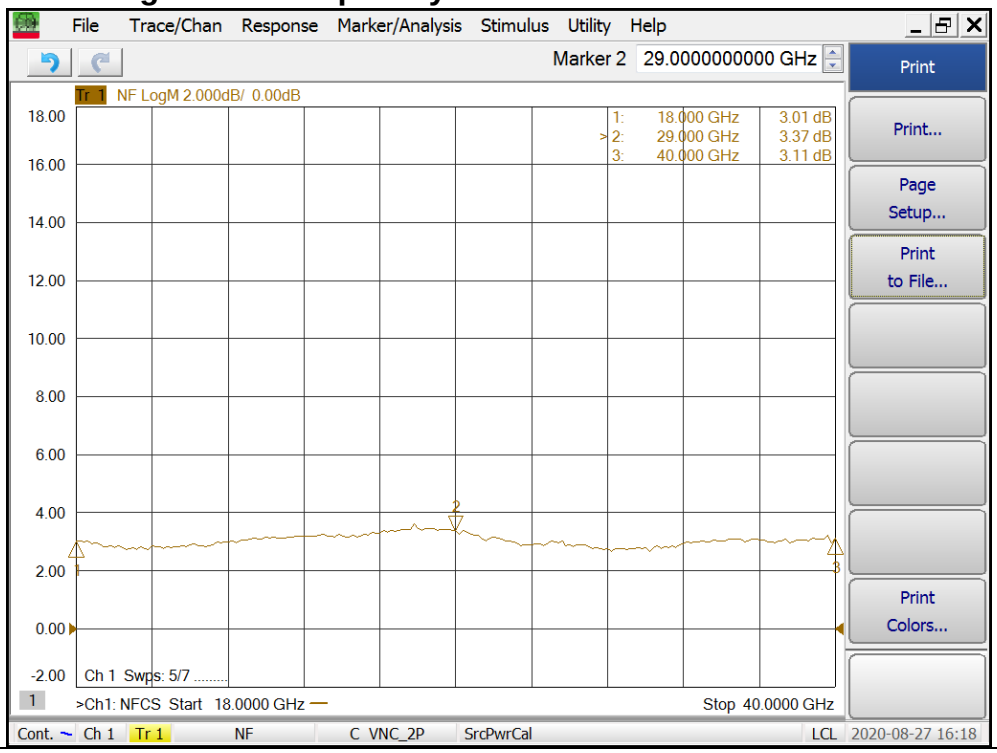
WARNING: MUST USE HEAT SINK OR MOUNT ON LARGE METAL PLATE

18 – 40GHz Low Noise Amplifier

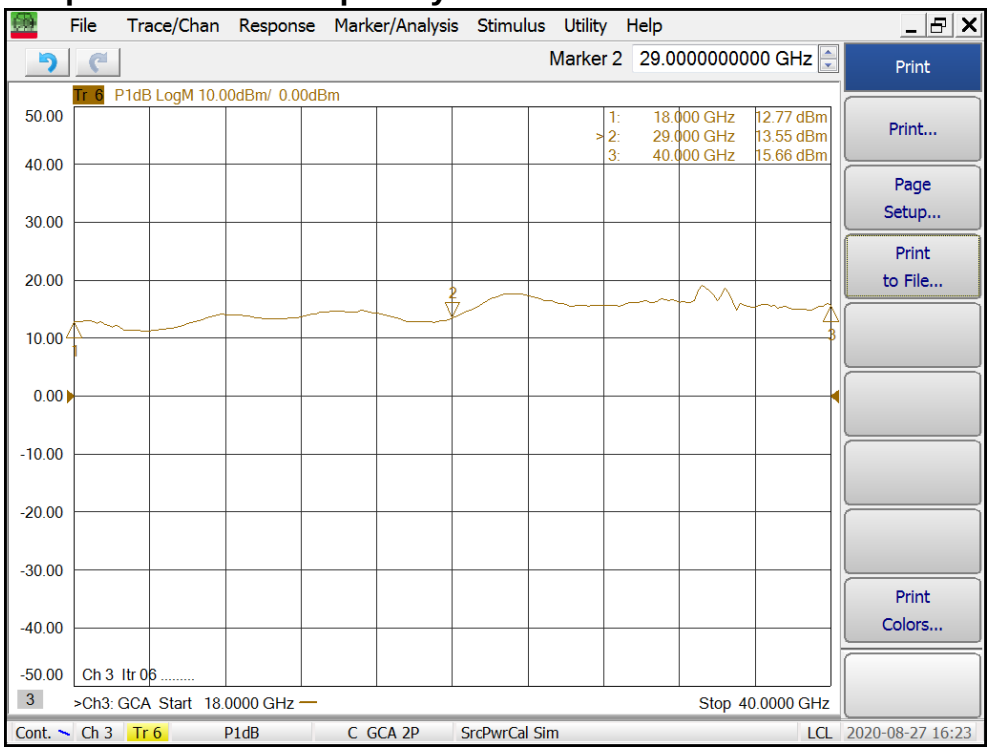
Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency



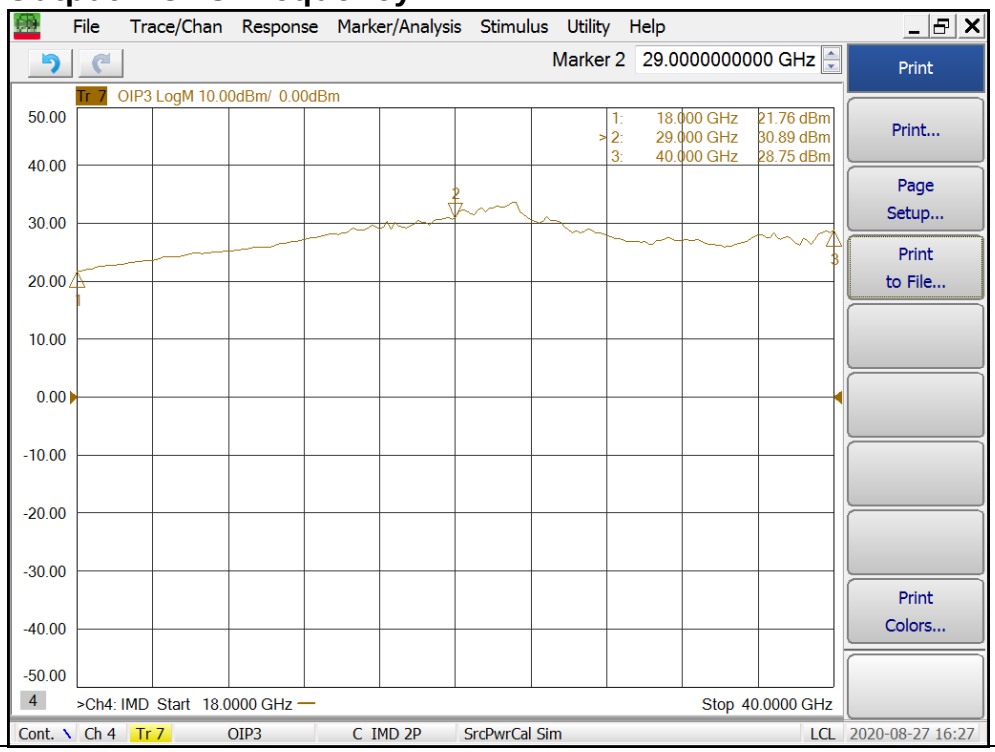
Noise Figure vs Frequency



Output P1dB vs Frequency



Output IP3 vs Frequency



18 – 40GHz Low Noise Amplifier

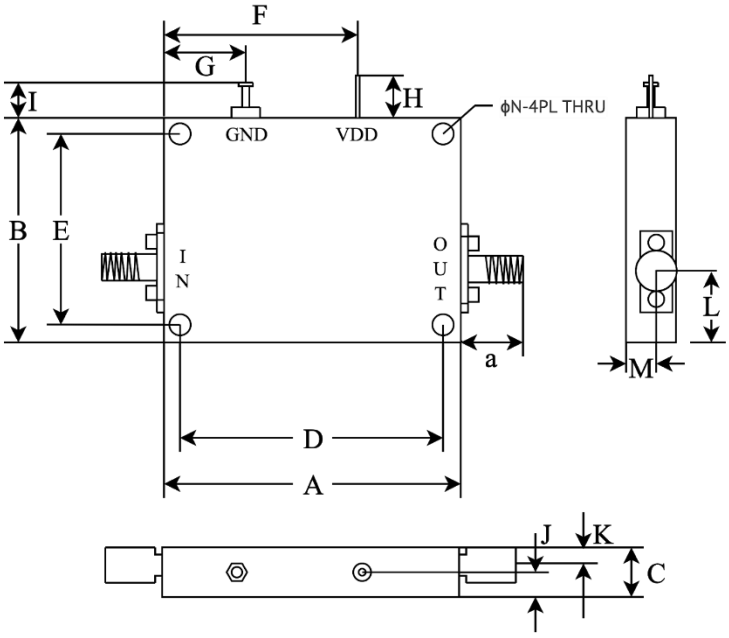
Absolute Maximum Ratings

Parameter	Absolute Maximum
Supply Voltage	+10V
RF Input Power	+0dBm
Operating Temperature	-45 °C to +85 °C
Storage Temperature	-65 °C to +150 °C

ESD Sensitive Material

CE

Outline



	A	B	C	D	E	F	G	H	I	J
Inch	1.772	1.339	0.335	1.614	1.181	1.075	0.256	0.256	0.197	0.167
mm	45.00	34.00	8.50	41.00	30.00	27.30	6.50	6.50	5.00	4.25

	K	L	M	N	a (SMA)	a (2.92mm)	a (2.4mm)	a (1.85mm)
Inch	0.130	0.390	0.205	0.087	0.370	0.374	0.425	0.445
mm	3.30	9.90	5.20	2.20	9.40	9.50	10.80	11.30