DMP300

FEATURES

- **DC TO 1.2GHZ @ 28DB GAIN**
- **EXTREMELY FLAT GAIN AND LINEAR PHASE RESPONSE**
- **LOW INPUT VOLTAGE NOISE:**
- **LOW DISTORTION**
- **LOW DC VOLTAGE OFFSET**

APPLICATIONS

- **Pulse amplifiers**
- **Base band and video communications**
- **Photodiode – photomultiplier preamps**
- **High Resolution Graphics**
- **Test Instruments**

DESCRIPTION

The DMP300 provides a convenient amplifier with dynamic range for various amplifications. The module comes with SMA connectors with 50 ohm input and output impedance. The input range of the DMP300 provides fast settling of pulse applications. The low dc offset makes this box easy to interface to existing lab equipment without the need for ac coupling the signal.

The DMP products can be order in a variety of gain settings or in some models 300 customize gain operation within the lab.

DMP PRODUCTS

	Small Signal Gain	TYPICAL NOISE FIGURE	-3dB BANDWIDTH PRODUCT (MHz)
100A	20dB	6dB	500
200	20dB	6dB	600
300	28dB	16dB	1200
700	>40dB		700 @ G=2

ABSOLUTE MAXIMUM RATINGS[1]

Power Supply..... ± $18V_{DC}$
Differential Input Voltage..... ± 1.2
Input Voltage Range..... ± 2.0
Storage Voltage Range: .....-40°C to +125°

ELECTROSTATIC DISCHARGE SENSITIVITY

This integrated circuit can be damaged by ESD. Its recommended that all boxes be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage.

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.

ORDERING INFORMATION

PRODUCT	PACKAGE-LEAD	PACKAGE DESIGNATOR[1]	Gain Setting	ORDERING NUMBER	QUANTITY
DMP300	SMA		28dB		

www.dmp-inc.net
970-726-2459

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ELECTRICAL CHARACTERISTICS: $V_S = \pm 15V$

At T_A =+25° C, V_S = ±15V, , R_L = 100Ω,

		TYP				
PARAMETER	**CONDITIONS**	**25°C**	**Min**	**Max**	**UNITS**	MIN/MAX
Small-Signal Bandwidth (Vo=0.5Vp-p)	G=25 V/V	1200	1000		MHz	typ
Bandwidth for 0.2dB Gain Flatness	G = +25, R_L = 50Ω, V_O =500mVp-p	520	500		MHz	min
Large Signal Bandwidth	G=+20 Vo=2.0Vp-p	525	500		MHz	typ
Harmonic Distortion	G = +25, f = 10MHz, V_O =2Vp-p					
2nd-Harmonic	R_L = 50Ω @30MHz	-65			dBc	max
	R_L > 500Ω	-70			dBc	max
3rd-Harmonic	R_L = 50Ω @ 70Mhz	-81			dBc	max
	R_L = 500Ω	-80			dBc	max
OIP_3:	Vo = 1 Vpp R_L=50Ω , f = 100MHz	39			dBm	min
	f = 300MHz	32			dBm	
Total Input Referred Voltage Noise		2.8			nV/√Hz	max
Noise Figure		16			dB	typ
Rise-and-Fall Time	G=+25, Vo=0.5V Step				ns	max
	G=+25, Vo=2V Step	1.0			ns	max
Slew Rate	G=+25, Vo=2V Step	5500			V/µs	min
Settling Time to 0.02%	1V Step				ns	typ
0.1%	1V Step				ns	max
DC PERFORMANCE[4]						
Input Offset Voltage	V_{CM} = 0v	±2	**±5.00**	±5.25	mV	max
Average Offset Voltage Drift	V_{CM} = 0v			±20	µV/° C	max
INPUT						
Common-Mode Input Range(CMIR)[5]	50 ohm	±1.2	**±1**	±1.2	V	min
Common-Mode Rejection (CMR)	V_{CM} = ±1V, Input Referred	60	**52**	50	dB	min
Input/Output Impedance		50			Ohm	typ
OUTPUT						
Power Output	At -1dB compression				dBm	
Current Output, Sourcing	V_O = 0V	±160	**±140**	±100	mA	min
POWER SUPPLY						
Specified Operating Voltage		±15			V	typ
Maximum Operating Voltage		±18			V	max
Minimum Operating Voltage		±9			V	min
Max Quiescent Current	V_S = ±15V				mA	max
+PSRR, -PSRR	ÍV_SÍ = 4.5 to 5.5, Input Referred	100	**90**	88	dB	min

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