Monolithic Amplifier

PAM07G 10.5 dBm typ. DC-7 GHz

Features

- Miniature SOT-89 Package
- Frequency range, DC to 7 GHz
- Output power, 10.5 dBm typ.
- Excellent package for heat dissipation, exposed metal bottom
- Aqueous washable
- Protected by US Patent 6,943,629

Applications

- Cellular
- PCS
- Communication receivers & transmitters

General Description

PAM07G is a wideband amplifier offering high dynamic range. Lead finish is SnAgNi. It has repeatable performance from lot to lot, and is enclosed in a specific Aluminum package. It uses patented Transient Protected Darlington configuration and is fabricated using InGaP HBT technology. Expected MTBF is 4,000 years at 85°C case temperature. PAM07G is designed to be rugged for ESD and supply switch-on transients.

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Electrical Specifications at 25°C and 35mA, unless noted

Parameter		Min.	Typ.	Max.	Units
Frequency Range*		DC		7	GHz
Gain	f=0.1 GHz		20.8		dB
	f=1 GHz		21.1		
	f=2 GHz	17.7	19.7		
	f=3 GHz		17.7		
	f=4 GHz		17.0		
	f=5 GHz		16.1		
	f=7 GHz		17.6		
	f=10 GHz		9.8		
Input Return Loss	f= DC to 3 GHz		12.5		dB
	f= 3 to 7 GHz		11		
Output Return Loss	f= DC to 3 GHz		14		dB
	f= 3 to 7 GHz		8.0		
Output Power @ 1 dB compression	f=7 GHz	9.0	10.5		dBm
Output IP3	f=2 GHz		22.9		dBm
Noise Figure	f=2 GHz		2.4		dB
Recommended Device Operating Current			35		mA
Device Operating Voltage		3.1	3.5	3.9	V
Device Voltage Variation vs. Temperature at 35 mA			-2.5		mV/°C
Device Voltage Variation vs. Current at 25°C			2.9		mV/mA
Thermal Resistance, junction-to-case[1]			350		°C/W

*Guaranteed specification DC-7 GHz. Low frequency cut off determined by external coupling capacitors.

Absolute Maximum Ratings

Parameter	Ratings
Operating Temperature*	-45°C to 85°C
Storage Temperature	-65°C to 150°C
Operating Current	55mA
Input Power	13dBm

Note: Permanent damage may occur if any of these limits are exceeded.

These ratings are not intended for continuous normal operation.

1Case is defined as ground leads.

*Based on typical case temperature rise 2°C above ambient.