



RFMD Green, RoHS Compliant, Pb-Free (Z Part Number)
Package: SOT-363

Product Description

The SAMP7720 is a high performance SiGe HBT MMIC Amplifier. A Darlington configuration featuring one-micron emitters provides high F_T and excellent thermal performance. The heterojunction increases breakdown voltage and minimizes leakage current between junctions. Cancellation of emitter junction non-linearities results in higher suppression of intermodulation products. Only two DC-blocking capacitors, a bias resistor, and an optional RF choke are required for operation.

Features

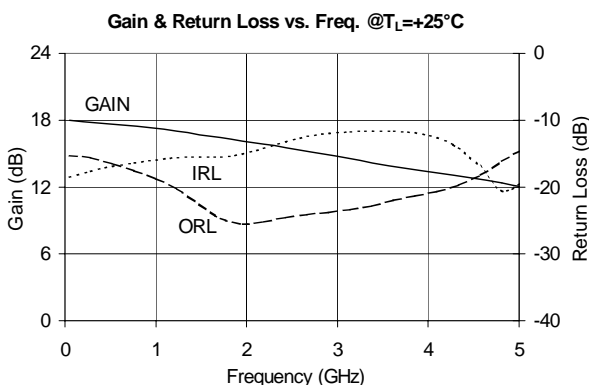
- High Gain: 16.1dB at 1950MHz
- Cascadable 50Ω
- Operates from Single Supply
- Low Thermal Resistance Package

Applications

- PA Driver Amplifier
- Cellular, PCS, GSM, UMTS
- IF Amplifier
- Wireless Data, Satellite

Optimum Technology Matching® Applied

- GaAs HBT
- GaAs MESFET
- InGaP HBT
- SiGe BiCMOS
- Si BiCMOS
- SiGe HBT
- GaAs pHEMT
- Si CMOS
- Si BJT
- GaN HEMT
- RF MEMS



Parameter	Specification			Unit	Condition
	Min.	Typ.	Max.		
Small Signal Gain	15.8	17.5	19.3	dB	850MHz
		16.1		dB	1950MHz
		15.6		dB	2400MHz
Output Power at 1dB Compression		8.2		dBm	850MHz
		7.2		dBm	1950MHz
Output Third Intercept Point		19.4		dBm	850MHz
		19.0		dBm	1950MHz
Bandwidth Determined by Return Loss		5000		MHz	>10dB
Input Return Loss		15.1		dB	1950MHz
Output Return Loss		25.5		dB	1950MHz
Noise Figure		3.2		dB	1950MHz
Device Operating Voltage	2.4	2.7	3.0	V	
Device Operating Current	17	20	23	mA	
Thermal Resistance		255		°C/W	junction - lead

Test Conditions: $V_S=5V$, $I_D=20mA$ Typ., OIP_3 Tone Spacing=1MHz, P_{OUT} per tone=-5dBm, $R_{BIAS}=120\Omega$, $T_L=25^\circ C$, $Z_S=Z_L=50\Omega$