Stanford Microdevices

SMW Series
24-31 GHz MMIC Amplifier

Product Description

Stanford Microdevices' SMW Series are high performance GaAs High Electron Mobility Transistor (HEMT) MMICs housed in thermally-efficient ceramic packages. These HEMT MMICs are fabricated using molecular beam epitaxial growth technology and electron beam lithography for consistent and repeatable performance from wafer to wafer and lot to lot.

These amplifiers operate at +4V and -0.2V and are designed for use in commercial digital radios and wireless LANs at 24 GHz as well as LMDS (27-31 GHz) applications.

Also available in die form, these devices are fully passivated for ruggedness and durability. Both bond pad and backside metal are Ti/Au for compatibility with automatic and manual die attach and bonding equipment.

Product Features

- **High Reliability 0.1 micron HEMT Technology**
- **Linear Gain : 16dB Typical**
- **High 3rd Order Intercept**
- **Patented GaAs HBT Technology**
- **Unconditionally Stable**
- **Balanced Design for Excellent VSWR**

Applications

- **Commercial Digital Radios**
- **Wireless LAN**
- **LMDS Subscriber Equipment**

Electrical Specifications at Ta = 25C

Symbol	Parameters: Test Conditions: Z_0 = 50 Ohms		Units	Min.	Typ.	Max.
P_{1dB}	Output Power at 1dB Compression	SMW-1 SMW-2 SMW-3 SMW-4	dBm	20 23 26 29	22 25 28 31	
S_{21}	Power Gain	SMW-1 SMW-2 SMW-3 SMW-4	dB		16 15 15 15	
VSWR	Input and Output VSWR	f = 24-31 GHz	-		1.25	
IP_3	Third Order Intercept Point	SMW-1 SMW-2 SMW-3 SMW-4	dBm		32 35 38 41	
I_d	Device Current	SMW-1 Vd=4.0V SMW-2 Vd=4.0V SMW-3 Vd=4.0V SMW-4 Vd=4.0V	mA		400 325 650 1350	

Technology

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