

Preliminary

Specifications are subject to change without notice.

MGFS36E2527

2.5-2.7GHz HBT HYBRID IC

DESCRIPTION

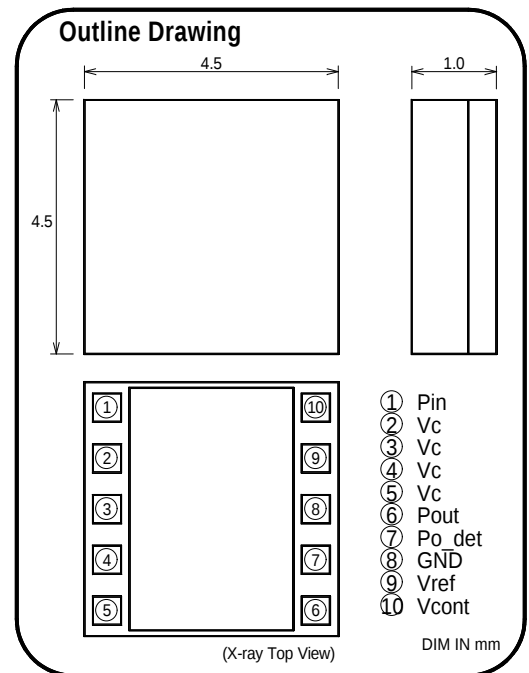
MGFS36E2527 is GaAs RF amplifier designed for WiMAX CPE.

FEATURES

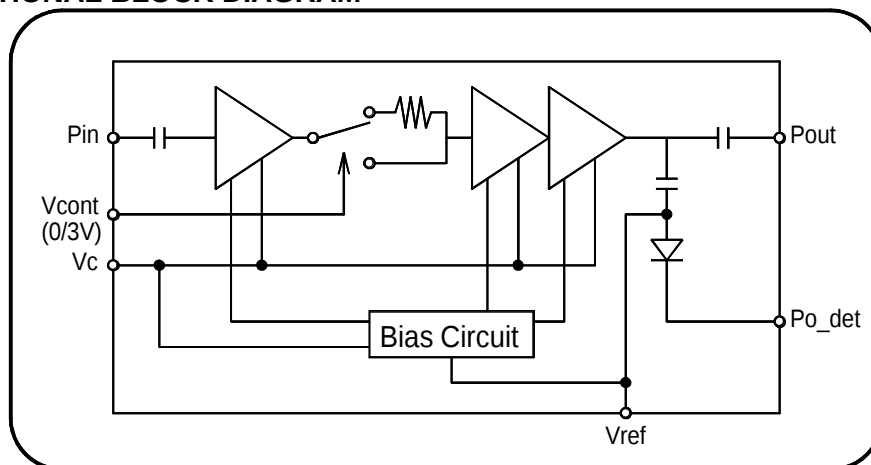
- InGaP HBT Device
- 6V Operation
- 27dBm Linear Output Power
- 33dB Linear Gain
- Integrated Output Power Detector
- Integrated 1-bit 19dB Step Attenuator
- 50ohms Matched
- Surface Mount Package
- RoHS Compliant Package

APPLICATION

IEEE802.16-2004, IEEE802.16e-2005



FUNCTIONAL BLOCK DIAGRAM



ELECTRICAL CHARACTERISTICS(Ta=25°C)

Symbol	Parameter	Test Conditions*	Limits			Unit
			Min	Typ	Max	
f	Frequency		2.5		2.7	GHz
Gp	Gain	Vc=6V, Vref=2.85V		33		dB
η_t	Efficiency	Pout=27dBm		10		%
EVM	EVM	64QAM OFDM Modulation		2.5		%
pin	Input Return Loss	Duty Cycle < 10%		-10		dB
Vdet	Power Detector Voltage			1.5		V
ATT	Control Gain Step	Vcont=3V		19		dB
Ileak	Leakage Current	Vc=6V, Vref=0V			10	μ A

*NOTE : Ta=25°C, Zin=Zout=50 Ω

Mitsubishi Electric Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage. Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i)placement of substitutive, auxiliary, circuits, (ii)use of non-flammable material or (iii)prevention against any malfunction or mishap.

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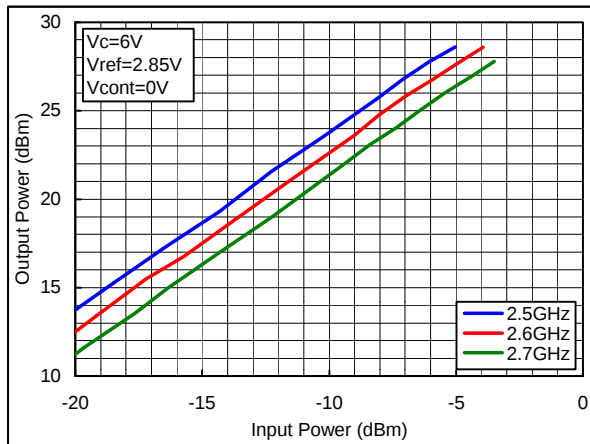
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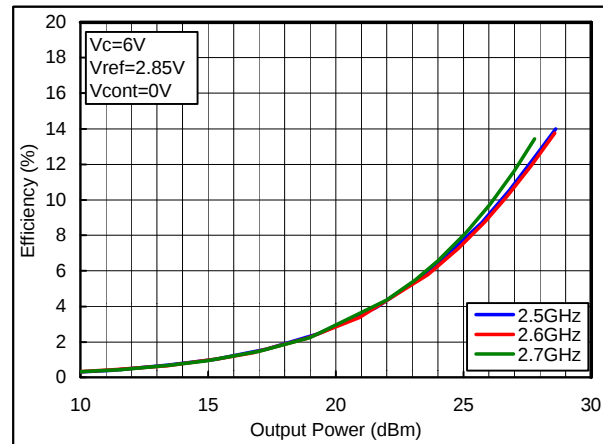
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PERFORMANCE DATA

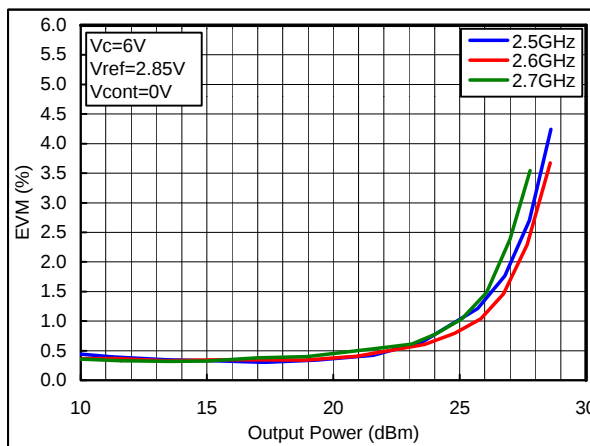
Output Power vs. Input Power



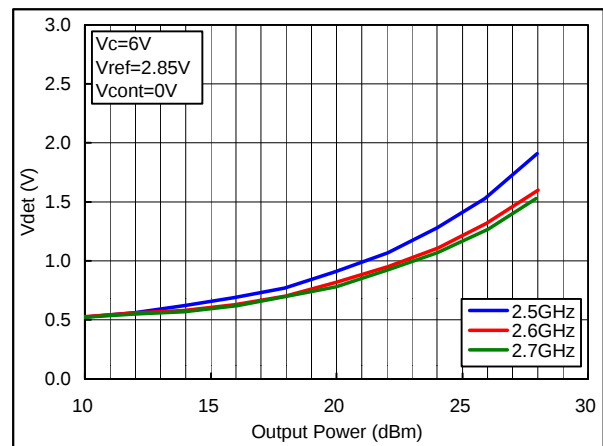
Efficiency vs. Output Power



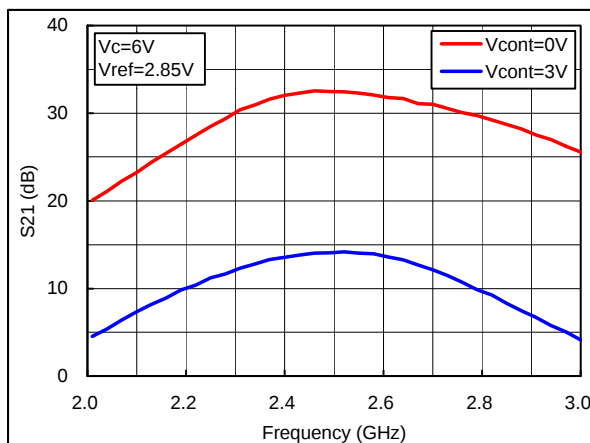
EVM vs. Output Power



Detector Voltage vs. Output Power



Attenuation Performance



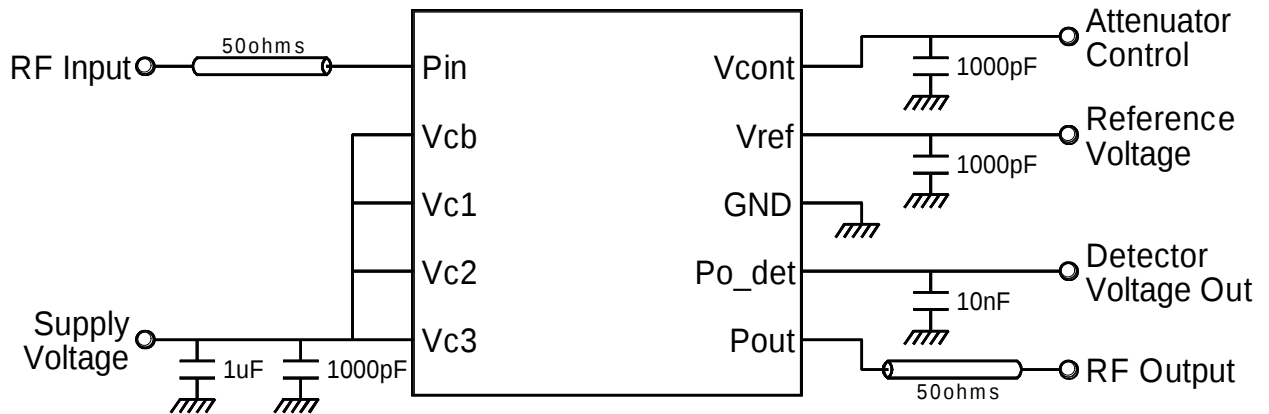
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APPLICATION CIRCUIT



Pulse Operation is controlled by Vref