GD090 50V, DC – 3.7GHZ, 90W GAN HEMT

FEATURES

- Operating Frequency Range: DC to 3.7GHz
- Operating Drain Voltage: +50V
- Maximum Output Power (P_{SAT}): 110.0W
- Maximum Drain Efficiency: 60%
- Efficiency-Tuned P3dB Gain: 15.5dB
- Bare die shipped in Gel-Pak containers

3.08 X 0.75 mm Die

DESCRIPTION

The GD090 is a 110W (P3dB) unmatched discrete GaN-on-SiC HEMT which operates from DC to 3.7GHz on a 50V supply rail. The wide bandwidth of the GD090 makes it suitable for a variety of applications including cellular infrastructure, radar, communications, and test instrumentation, and can support both CW and pulsed mode of operations.

Bare die are shipped in Gel-Pak containers for safe transport and storage.

TYPICAL PERFORMANCE: POWER TUNED, T_A = 25°C

	3.6 GHz	Units
Gain	14.0	dB
Saturated Output Power	110	W
Drain Efficiency	52	%

V_D = 50V, I_{DQ} = 100mA

TYPICAL PERFORMANCE: EFFICIENCY TUNED, T_A = 25°C

	3.6 GHz	Units
Gain	15.5	dB
Saturated Output Power	90	W
Drain Efficiency	60	%

V_D = 50V, I_{DQ} = 100mA

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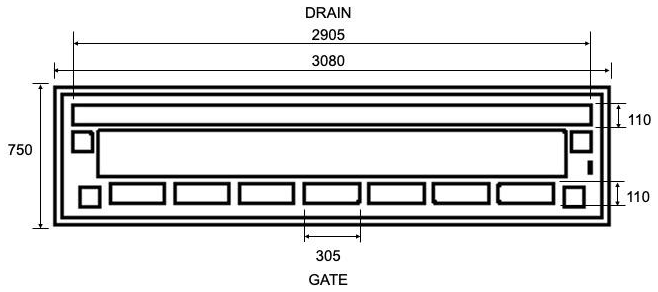
ABSOLUTE MAXIMUM RATINGS

Parameter	Rating	Units
Breakdown Voltage	>150	BV_{DG} (V)
Gate Source Voltage	-8 to +2	V_{GS} (V)
Operating Voltage	55	V (V)
Junction Temperature	+225	(°C)
Storage Temperature	-65 to +150	(°C)

BLOCK DIAGRAM



ELECTRICAL SPECIFICATIONS: T_A = 25°C

Parameter	Min.	Typ.	Max.	Units	Notes
Frequency Range	DC		3700	MHz	
DC Characteristics					
Drain Source Breakdown Voltage		>150		V_{DS} (V)	
Drain Source Leakage Current		1.09		I_{DS} (mA)	
Gate Threshold Voltage		-3 to -1.3		V_{GS} (V)	
Operating Conditions					
Gate Voltage		-2.5		V_G (V)	
Drain Voltage		50		V_D (V)	
Quiescent Drain Current		100		I_{DQ} (mA)	
Thermal Characteristics					
Thermal Resistance		TBD		(°C/W)	