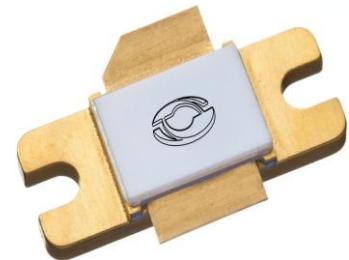


GENERAL DESCRIPTION

The 0912GN-100LV is an internally matched, COMMON SOURCE, class AB, GaN on SiC HEMT transistor capable of providing over 17 dB gain, 100 Watts of pulsed RF output power at 3ms pulse width, 30% duty factor across the 960 to 1215 MHz band.

CASE OUTLINE 55-KR Common Source



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation

Device Dissipation @ 25°C 200W

Maximum Voltage and Current

Drain-Source Voltage (V_{DSS}) 150 V
Gate-Source Voltage (V_{GS}) -8 to +0 V

Maximum Temperatures

Storage Temperature (T_{STG}) -55 to +125° C
Operating Junction Temperature +250 °C

ELECTRICAL CHARACTERISTICS @ 25°C

Symbol	Characteristics	Test Conditions	Min	Typ	Max	Units
Pout	Output Power	Pin=2W Freq=960,1090,1215 MHz	100	110		W
Gp	Power Gain	Pin=2W Freq=960,1090,1215 MHz	17	17.5		dB
η_d	Drain Efficiency	Pin=2W Freq=960,1090,1215 MHz	55	59		%
Dr	Droop	Pin=2W Freq=960,1090,1215 MHz			0.8	dB
VSWR-T	Load Mismatch Tolerance	Pout=100W, Freq= 1090MHz			3:1	
θ_{jc}	Thermal Resistance	Pulse Width=3mS, Duty=30%			1.44	°C/W

- Bias Condition: Vdd=+50V, Idq=70mA constant current (Vgs= -2.0 ~ -4.5V typical)

FUNCTIONAL CHARACTERISTICS @ 25°C

$I_{D(Off)}$	Drain leakage current	$V_{gs} = -8V, V_D = 50V$			15	mA
$I_{G(Off)}$	Gate leakage current	$V_{gs} = -8V, V_D = 0V$			12	mA
BV_{DSS}	Drain-source breakdown voltage	$V_{gs} = -8V, I_D = 30mA$	150			V

Export Classification: ER99



0912GN-100LV

100 Watts - 50 Volts, 3 ms, 30%
960 - 1215 MHz

TYPICAL BROAD BAND PERFORMANCE DATA

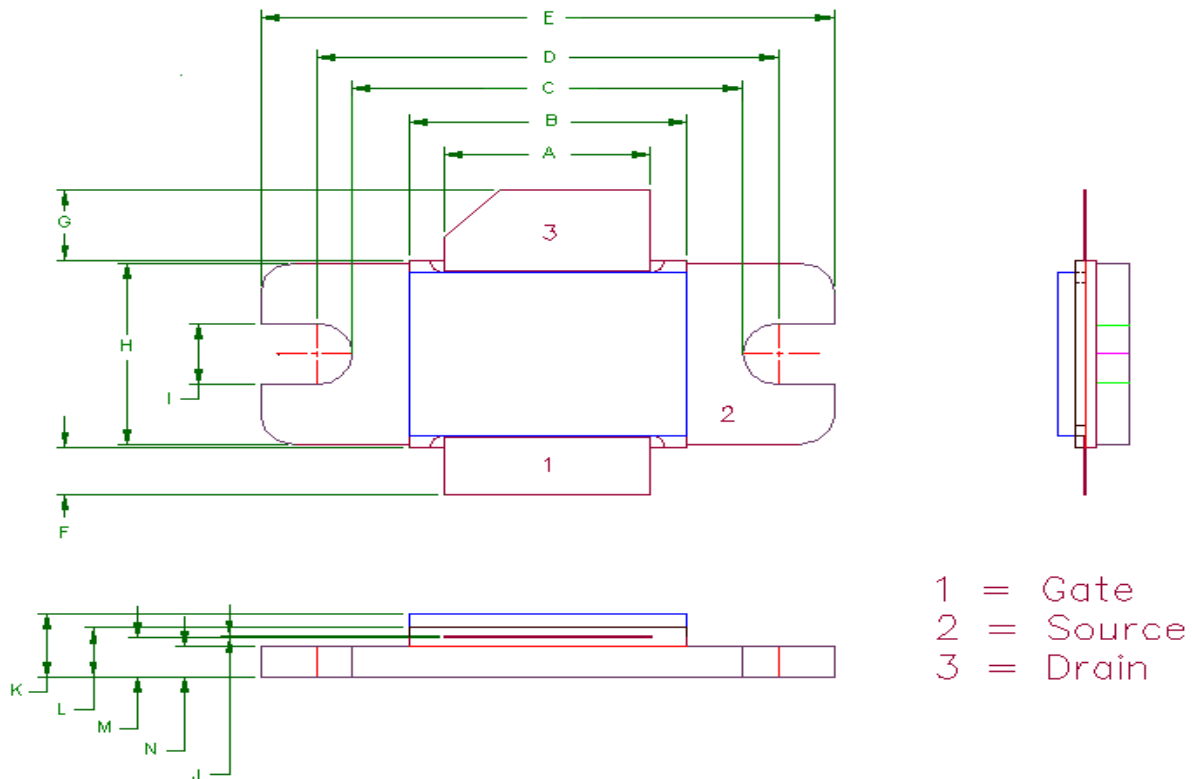
Frequency	Pin (W)	Pout (W)	Id (A)	RL (dB)	Nd (%)	G (dB)	Droop (dB)
960 MHz	2	130	1.23	-7	62	18.2	.6
1090 MHz	2	125	1.14	-7	68	18	.4
1215 MHz	2	110	1.12	-10	59	17.5	.6

Test Circuit Available Upon Request

0912GN-100LV

100 Watts - 50 Volts, 3 ms, 30%
960 - 1215 MHz

55-KR PACKAGE DIMENSION



Dimension	Min (mil)	Min (mm)	Max (mil)	Max (mm)
A	370	9.40	372	9.44
B	498	12.65	500	12.7
C	700	17.78	702	17.83
D	830	21.08	832	21.13
E	1030	26.16	1032	26.21
F	101	2.56	102	2.59
G	151	3.84	152	3.86
H	385	9.78	387	9.83
I	130	3.30	132	3.35
J	003	.076	004	0.10
K	135	3.43	137	3.48
L	105	2.67	107	2.72
M	085	2.16	86	2.18
N	065	1.65	66	1.68



0912GN-100LV

100 Watts - 50 Volts, 3 ms, 30%
960 - 1215 MHz

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Revision History

Revision Level / Date	Para. Affected	Description
0.1 / 10 July 2014	-	Initial Preliminary Release

For the most current data, consult MICROSEMI's website: www.MICROSEMI.com
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