

NGN5359L1S-M60 is a Gallium Nitride RF power transistor internally matched to 50Ω. It is developed primarily for use in 5.3-5.9 GHz high power pulsed radar amplifiers. This transistor has hermetically sealed package to enable use in applications with high reliability requirements.

Features

- 60W typical peak power
- 10dB power gain
- 50Ω input and output impedance
- 50% power added efficiency



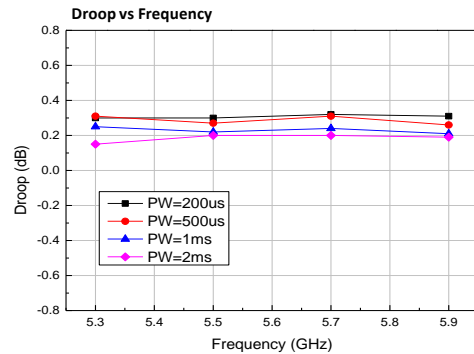
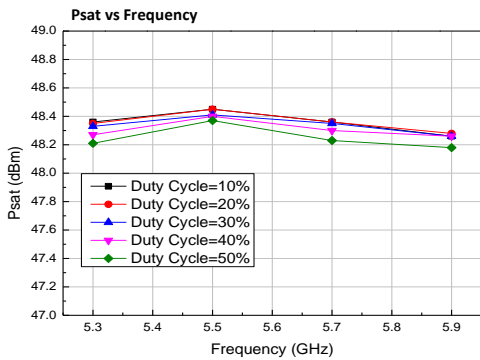
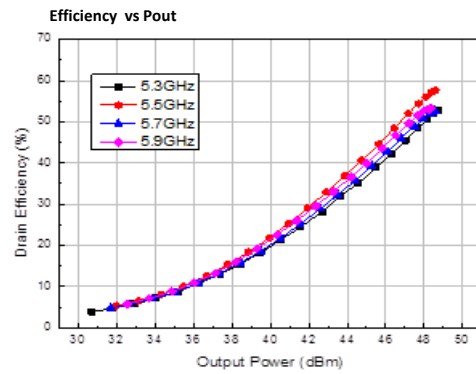
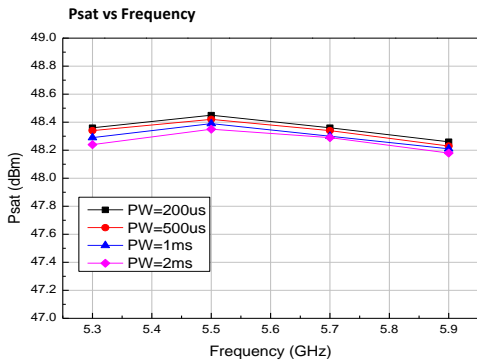
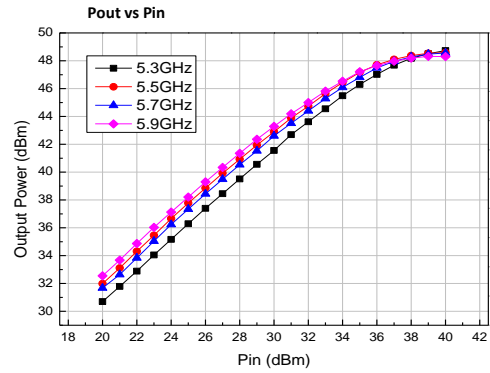
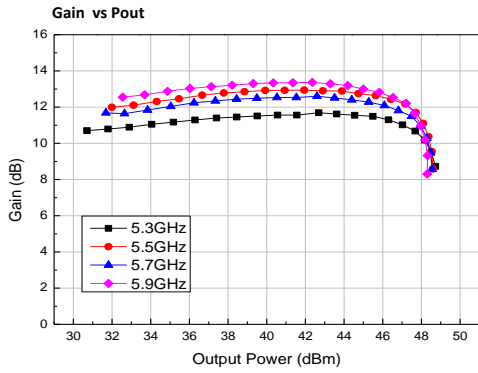
Characteristics	Symbol	Min.	Typ.	Max.	Units	Conditions
DC Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$		-3.0		V _{DC}	$V_{DS} = 10\text{ V}, I_D = 14.4\text{ mA}$
Gate Quiescent Voltage	$V_{GS(Q)}$		-2.9		V _{DC}	$V_{DS} = 32\text{ V}, I_D = 50\text{ mA}$
Drain Current	I_{DS}		14		A	$V_{DS} = 6.0\text{ V}, V_{GS} = 2.0\text{ V}$
Drain-Source Breakdown Voltage	V_{BR}	100			V _{DC}	$V_{GS} = -8\text{ V}, I_D = 14.4\text{ mA}$
RF Characteristics ($V_{DD} = 32\text{ V}, T_c = 25^\circ\text{C}, F = 5.3\text{-}5.9\text{ GHz}, I_{DQ} = 50\text{ mA}, DC = 10\%/200\mu\text{s}$)						
Power Gain	G_{LS}		10		dB	$P_{in} = 38.5\text{ dBm}$
Small Signal Gain	G_{SS}		13		dB	$P_{in} = 10\text{ dBm}$
Power Output	P_{SAT}		60		W	$P_{in} = 38.5\text{ dBm}$
Input Return Loss	S_{11}		-7		dB	$P_{in} = 10\text{ dBm}$
PAE	η	-	50	-	%	$P_{in} = 38.5\text{ dBm}$
Output Mismatch	VSWR			5:1	ψ	

Maximum Ratings	Symbol	Rating	Units	Conditions
Parameter				
Drain-Source Voltage	V_{DSS}	84	V _{DC}	25°C
Gate-Source Voltage	V_{GS}	-10, +2	V _{DC}	25°C
Storage temperature	T_{STG}	-65 - 150	°C	
Operating Junction Temperature	T_J	225	°C	
Maximum Drain Current	I_{DMAX}	6	A	25°C
Maximum Forward Gate Current	I_{GMAX}	14	mA	25°C
Thermal Resistance Junction to Case	$R_{\theta JC}$	2.5	°C/W	
Duty cycle	DC	10	%	

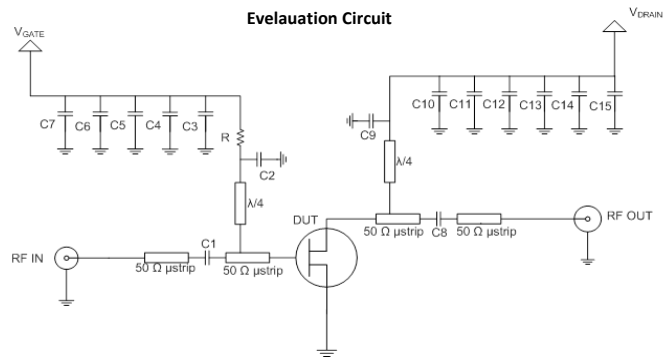
Subject to change without notice.

Typical Performance

(VDD= 32V, Tc = 25 °C, F = 5.3-5.9 GHz, IDQ = 50mA, DC=10%/200 μ s, Pin=38.5dBm)

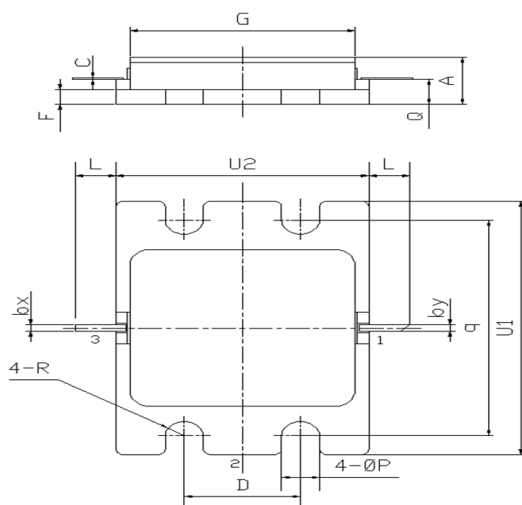


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Pos.	Descr.
R	10Ω
C1,C2,C8,C9	3.3pF
C3,C10	10pF
C4, C11	100μF
C5, C12	1000pF
C6, C13	33nF
C7, C14	0.01μF
C15	470μF
PCB 4350B	$\epsilon_r=3.66$

Package Drawing



Item	Measure mm	
	Min	Max
A	4.05	4.5
bx	0.55	0.65
by	0.55	0.65
C	0.05	0.15
D	7.85	8.15
F	1.2	1.6
L	2.85	3.15
G	15.35	15.65
ØP	2.45	2.75
Q	2.25	2.55
q	20.2	20.6
R	1.15	1.45
U1	23.8	24.2
U2	17.2	17.6

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