LET9060C

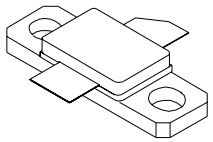
RF POWER TRANSISTORS

Ldmos Enhanced Technology

PRELIMINARY DATA

N-CHANNEL ENHANCEMENT-MODE LATERAL MOSFETs

- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION
- P_{OUT} = 60 W WITH 17.3 dB gain @ 945 MHz
- BeO FREE PACKAGE
- HIGH GAIN
- ESD PROTECTION



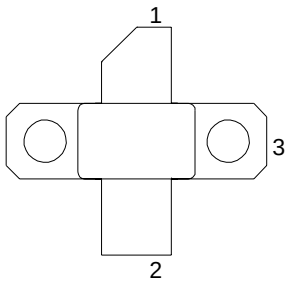
M243
epoxy sealed

ORDER CODE	BRANDING
LET9060C	LET9060C

DESCRIPTION

The LET9060C is an N-Channel enhancement-mode lateral Field-Effect RF power transistor, designed for high gain broadband, commercial and industrial applications. It operates at 28 V in common source mode at frequencies up to 1.0 GHz. LET9060C boasts the excellent gain, linearity and reliability of the ST latest LDMOS technology. Its superior performances make it an ideal solution for base station applications.

PIN CONNECTION



1. Drain
2. Gate
3. Source

ABSOLUTE MAXIMUM RATINGS (T_{CASE} = 25°C)

Symbol	Parameter	Value	Unit
$V_{(BR)DSS}$	Drain-Source Voltage	65	V
V_{GS}	Gate-Source Voltage	-0.5 to +15	V
I_D	Drain Current	7	A
P_{DISS}	Power Dissipation (@ Tc = 70°C)	118	W
Tj	Max. Operating Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

THERMAL DATA

$R_{th(j-c)}$	Junction -Case Thermal Resistance	1.1	°C/W

ELECTRICAL SPECIFICATION (T_{CASE} = 25°C)

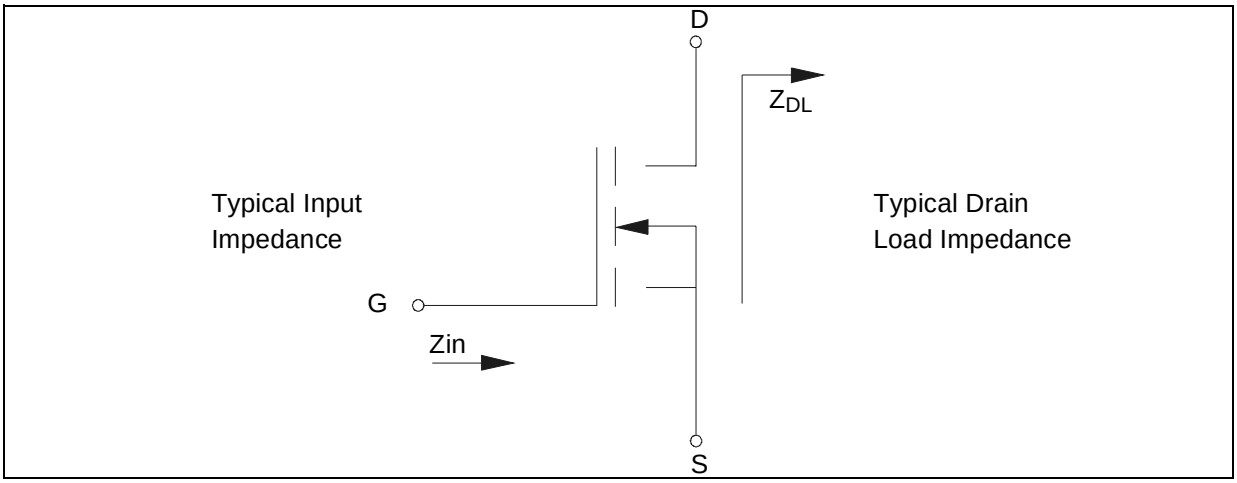
STATIC

Symbol	Test Conditions			Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	V_{GS} = 0 V	I_{DS} = 1 mA		65			V
I_{DSS}	V_{GS} = 0 V	V_{DS} = 28 V				1	µA
I_{GSS}	V_{GS} = 5 V	V_{DS} = 0 V				1	µA
$V_{GS(Q)}$	V_{DS} = 28 V	I_D = 100 mA		2.0		5.0	V
$V_{DS(ON)}$	V_{GS} = 10 V	I_D = 3 A			0.7	0.8	V
G_{FS}	V_{DS} = 10 V	I_D = 3 A			2.3		mho
C_{ISS}	V_{GS} = 0 V	V_{DS} = 28 V	f = 1 MHz		69.5		pF
C_{OSS}	V_{GS} = 0 V	V_{DS} = 28 V	f = 1 MHz		38		pF
C_{RSS}	V_{GS} = 0 V	V_{DS} = 28 V	f = 1 MHz		1.6		pF

DYNAMIC

Symbol	Test Conditions				Min.	Typ.	Max.	Unit
P_{1dB}	V_{DD} = 26 V	I_{DQ} = 250 mA		f = 945 MHz	60	65		W
G_P	V_{DD} = 26 V	I_{DQ} = 250 mA	P_{OUT} = 60 W	f = 945 MHz		17.3		dB
η_D	V_{DD} = 26 V	I_{DQ} = 250 mA	P_{OUT} = 60 W	f = 945 MHz		60		%
Load mismatch	V_{DD} = 26 V ALL PHASE ANGLES	I_{DQ} = 250 mA	P_{OUT} = 60 W	f = 945 MHz	5:1			VSWR

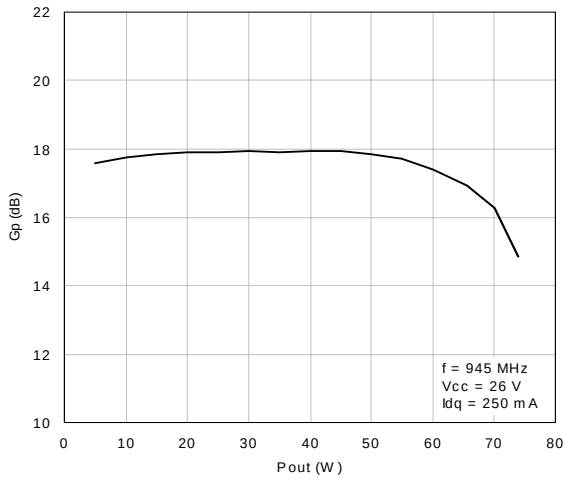
IMPEDANCE DATA



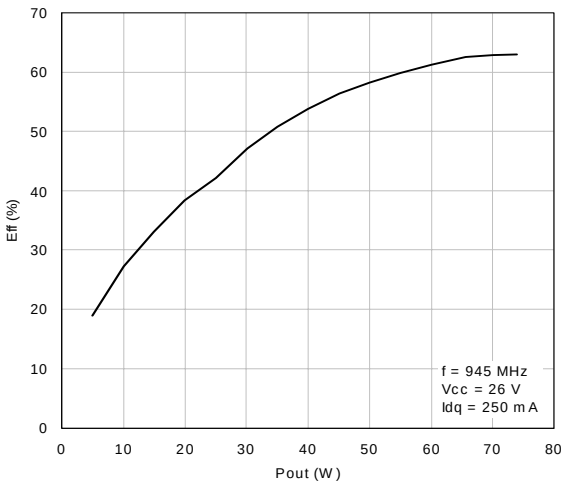
FREQ.	Z_{IN} (Ω)	Z_{DL}(Ω)
925 MHz	TBD	TBD
945 MHz	TBD	TBD
960 MHz	TBD	TBD

TYPICAL PERFORMANCE

Power Gain vs. Output Power

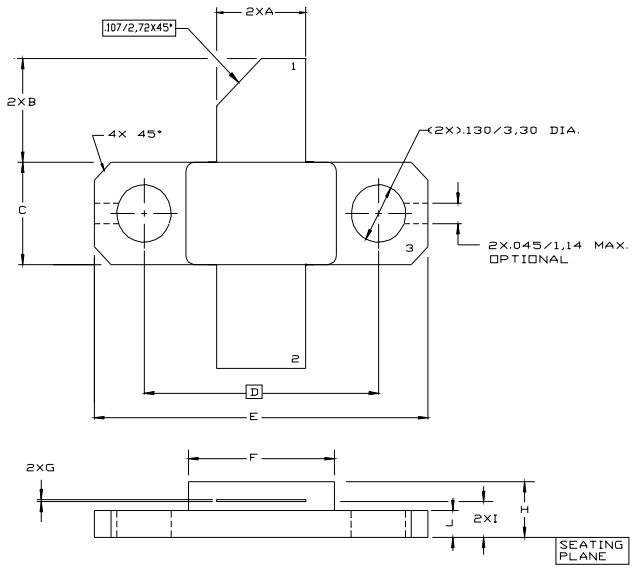


Efficiency vs. Output Power



M243 (.230 x .360 2L N/HERM W/FLG) MECHANICAL DATA

DIM.	mm			Inch		
	MIN.	TYP.	MAX	MIN.	TYP.	MAX
A	5.21		5.72	0.205		0.225
B	5.46		6.48	0.215		0.255
C	5.59		6.10	0.220		0.240
D		14.27			0.562	
E	20.07		20.57	0.790		0.810
F	8.89		9.40	0.350		0.370
G	0.10		0.15	0.004		0.006
H	3.18		4.45	0.125		0.175
I	1.83		2.24	0.072		0.088
J	1.27		1.78	0.050		0.070



Controlling dimension: Inches

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