LET19060C

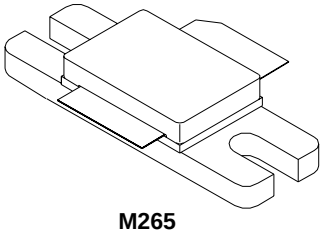
RF POWER TRANSISTORS

Ldmos Enhanced Technology

TARGET DATA

N-CHANNEL ENHANCEMENT-MODE LATERAL MOSFETs

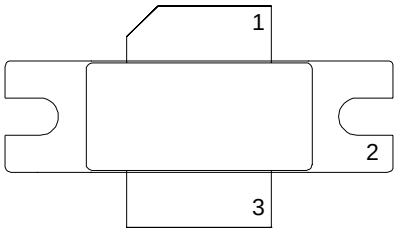
- IS-97 CDMA PERFORMANCES
  P_{OUT} = 7.5 W
  EFF. = 18 %
- EDGE PERFORMANCES
  P_{OUT} = 30 W
  EFF. = 25 %
- GSM PERFORMANCES
  P_{OUT} = 65 W
  EFF. = 45 %
- EXCELLENT THERMAL STABILITY
- BeO FREE PACKAGE
- INTERNAL INPUT/OUTPUT MATCHING
- ESD PROTECTION



M265
epoxy sealed

ORDER CODE	BRANDING
LET19060C	LET19060C

PIN CONNECTION



1. Drain
2. Source
3. Gate

DESCRIPTION

The LET19060C is a common source N-Channel enhancement-mode lateral Field-Effect RF power transistor designed for broadband commercial and industrial applications at frequencies up to 1.0 GHz. The LET19060C is designed for high gain and broadband performance operating in common source mode at 26 V. Its internal matching makes it ideal for base station applications requiring high linearity.

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)	130	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	1.0	°C/W

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

STATIC (Per Section)

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	V_{GS} = 0 V I_D = 10 µA	65			V
I_{DSS}	V_{GS} = 0 V V_{DS} = 26 V			6	µA
I_{GSS}	V_{GS} = 5 V V_{DS} = 0 V			1	µA
$V_{GS(Q)}$	V_{DS} = 26 V I_D = TBD	2.5		4.5	V
$V_{DS(ON)}$	V_{GS} = 10 V I_D = 2 A		0.27		V
G_{FS}	V_{DS} = 10 V I_D = 2 A		4.7		mho
C_{ISS}*	V_{GS} = 0 V V_{DS} = 26 V f = 1 MHz		TBD		pF
C_{OSS}*	V_{GS} = 0 V V_{DS} = 26 V f = 1 MHz		TBD		pF
C_{RSS}	V_{GS} = 0 V V_{DS} = 26 V f = 1 MHz		TBD		pF

* Includes Internal Matching

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
DYNAMIC (*f = 2000 MHz*)					
P_{1dB}	V_{DD} = 26 V I_{DQ} = TBD	70	75		W
η_D (1)	V_{DD} = 26 V I_{DQ} = TBD	45	50		%
Load mismatch	V_{DD} = 26 V I_{DQ} = TBD P_{OUT} = 60 W ALL PHASE ANGLES			10:1	VSWR
DYNAMIC (*f = 1930 - 1990 MHz*)					
P_{1dB}	V_{DD} = 26 V I_{DQ} = TBD	60	65		W
G_P	V_{DD} = 26 V I_{DQ} = TBD P_{OUT} = 60 W	11	13		dB
η_D (1)	V_{DD} = 26 V I_{DQ} = TBD	40	45		%
$P_{OUT(CDMA)}$ (2)	885 KHz < -47 dBc 1.25 MHz < -55 dBc 2.25 MHz < -55 dBc		7.5		W
$\eta_{D(CDMA)}$ (2)	885 KHz < -47 dBc 1.25 MHz < -55 dBc 2.25 MHz < -55 dBc		18		%
DYNAMIC (*f = 1805 - 1880 MHz*)					
P_{1dB}	V_{DD} = 26 V I_{DQ} = TBD	60	65		W
G_P	V_{DD} = 26 V I_{DQ} = TBD P_{OUT} = 60 W	11	13		dB
η_D (1)	V_{DD} = 26 V I_{DQ} = TBD	45			%
$P_{OUT(EDGE)}$	400 KHz < -60 dBc 600 KHz < -70 dBc EVM < 3 %		30		W
$\eta_{D(EDGE)}$	400 KHz < -60 dBc 600 KHz < -70 dBc EVM < 3 %		25		%

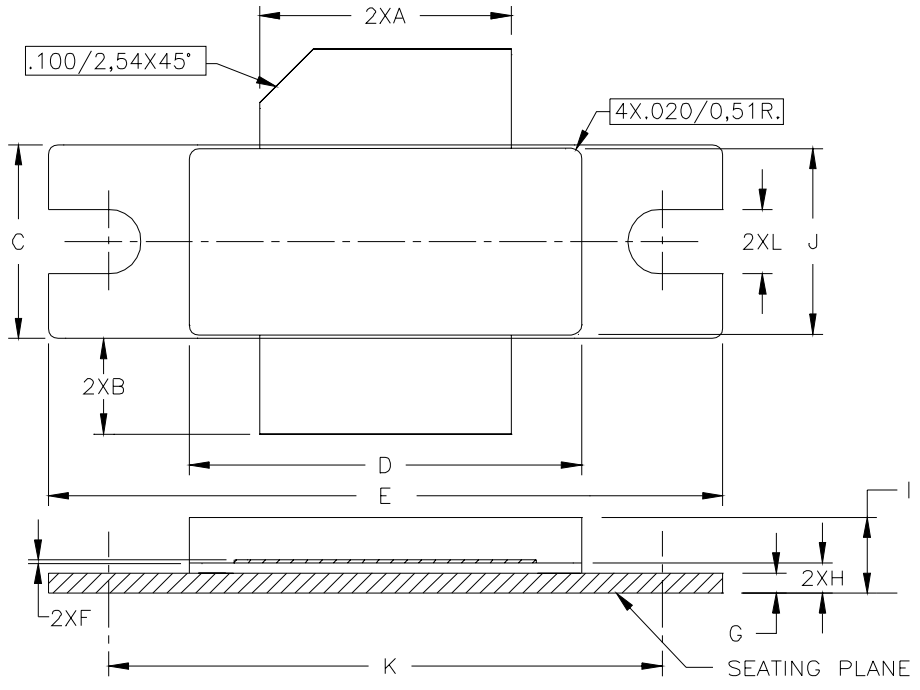
(1) 1 dB Compression point (2) IS-97 CDMA Pilot, Sync, Paging, Traffic, Codes 8 Thru 13

ESD PROTECTION CHARACTERISTICS

Test Conditions	Class
Human Body Model	2
Machine Model	M3

M265 (.370 x .780 WIDE 2/L N/HERM W/FLG) MECHANICAL DATA

DIM.	mm			Inch		
	MIN.	TYP.	MAX	MIN.	TYP.	MAX
A	12.57		12.83	.495		.505
B	4.32		5.33	.170		.210
C	9.65		9.91	.380		.390
D	19.61		20.02	.772		.788
E	33.91		34.16	1.335		1.345
F	0.08		0.15	.003		.006
G	0.89		1.14	.035		.045
H	1.45		1.70	.057		.067
I	3.18		4.32	.125		.170
J	9.27		9.53	.365		.375
K	27.69		28.19	1.090		1.110
L	3.00		3.51	.118		.138



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