



LET21030C

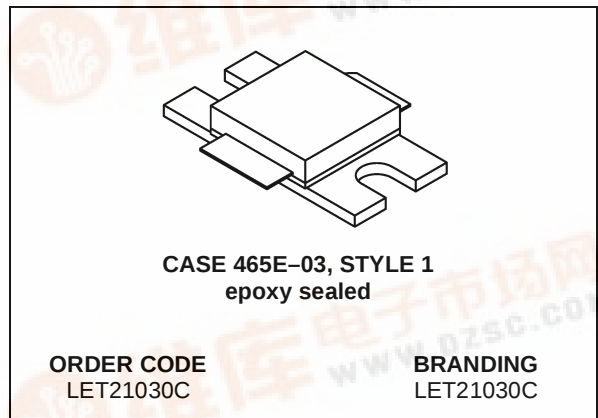
RF POWER TRANSISTORS

Ldmos *Enhanced Technology*

TARGET DATA

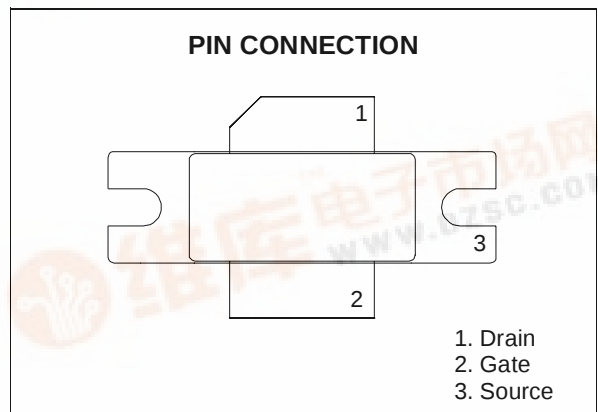
Designed for GSM / EDGE / IS-97 / WCDMA applications

- EXCELLENT THERMAL STABILITY
- $P_{OUT} = 30\text{ W}$ with 11 dB gain @ 2170 MHz
- BeO FREE PACKAGE
- INTERNAL INPUT MATCHING
- ESD PROTECTION



DESCRIPTION

The LET21030C 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 2.1 GHz. The LET21030C 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 ($T_{CASE} = 25^{\circ}\text{C}$)

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	4	A
P_{DISS}	Power Dissipation (@ $T_c = 70^{\circ}\text{C}$)	65	W
T_J	Max. Operating Junction Temperature	200	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-65 to +200	$^{\circ}\text{C}$

THERMAL DATA

$R_{th(j-c)}$	Junction -Case Thermal Resistance	2	$^{\circ}\text{C/W}$
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LET21030C

ELECTRICAL SPECIFICATION ($T_{CASE} = 25^{\circ}C$)

STATIC (Per Section)

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}$ $I_D = 20\text{ }\mu\text{A}$	65			V
I_{DSS}	$V_{GS} = 0\text{ V}$ $V_{DS} = 26\text{ V}$			1	μA
I_{GSS}	$V_{GS} = 5\text{ V}$ $V_{DS} = 0\text{ V}$			1	μA
$V_{GS(Q)}$	$V_{DS} = 28\text{ V}$ $I_D = \text{TBD}$	2		4.5	V
$V_{DS(ON)}$	$V_{GS} = 10\text{ V}$ $I_D = 1\text{ A}$		0.29	0.4	V
G_{FS}	$V_{DS} = 10\text{ V}$ $I_D = 1\text{ A}$		2		mho
C_{ISS}^*	$V_{GS} = 0\text{ V}$ $V_{DD} = 26\text{ V}$ $f = 1\text{ MHz}$		TBD		pF
C_{OSS}	$V_{GS} = 0\text{ V}$ $V_{DD} = 26\text{ V}$ $f = 1\text{ MHz}$		TBD		pF
C_{RSS}	$V_{GS} = 0\text{ V}$ $V_{DS} = 26\text{ V}$ $f = 1\text{ MHz}$		TBD		pF

* Including input matching capacitor in package ?

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
DYNAMIC ($f = 2170\text{ MHz}$)					
$P_{OUT}^{(1)}$	$V_{DD} = 26\text{ V}$ $I_{DQ} = \text{TBD}$	30	35		W
$\eta_D^{(1)}$	$V_{DD} = 26\text{ V}$ $I_{DQ} = \text{TBD}$	45	50		%
Load mismatch	$V_{DD} = 26\text{ V}$ $P_{OUT} = 30\text{ W}$ ALL PHASE ANGLES			10:1	VSWR
DYNAMIC ($f = 2110 - 2170\text{ MHz}$)					
$P_{OUT}^{(1)}$	$V_{DD} = 26\text{ V}$ $I_{DQ} = \text{TBD}$	25	30		W
$\eta_D^{(1)}$	$V_{DD} = 26\text{ V}$ $I_{DQ} = \text{TBD}$	40	45		%
G_P	$V_{DD} = 26\text{ V}$ $I_{DQ} = \text{TBD mA}$ $P_{OUT} = 30\text{ W}$		11		dB
$P_{OUT(W-CDMA)}^{(2)}$	ACPR -45 dBc		5		W
$\eta_{D(W-CDMA)}^{(2)}$	ACPR -45 dBc		20		%

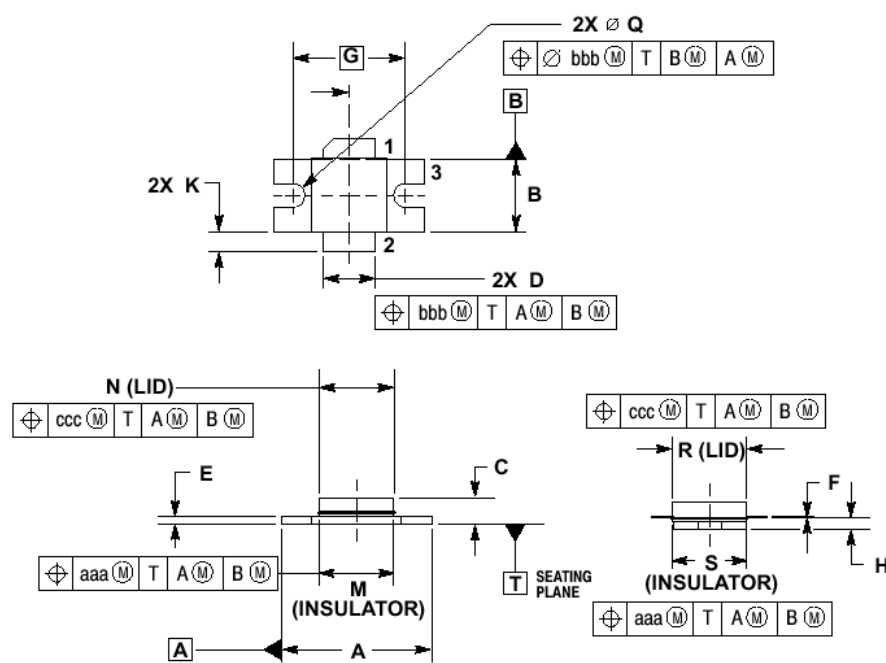
(1) 1 dB Compression point

(2) +/- 5 MHz offset; 3.84 MHz Bandwidth

ESD PROTECTION CHARACTERISTICS

Test Conditions	Class
Human Body Model	2
Machine Model	M3

465E-03 MECHANICAL DATA



NOTES:

- NOTES:
1. CONTROLLING DIMENSION: INCH.
 2. INTERPRET DIMENSIONS AND TOLERANCES PER ASME Y14.5M, 1994.
 3. DIMENSION H IS MEASURED 0.030 (0.762) AWAY FROM PACKAGE BODY.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.795	.805	20.19	20.44
B	.380	.390	9.65	9.9
C	.125	.163	3.17	4.14
D	.275	.285	6.98	7.24
E	.035	.045	0.89	1.14
F	.003	.006	0.07	0.15
G	.600 BSC		15.24 BSC	
H	.057	.067	1.45	1.7
K	.092	.122	2.33	3.1
M	.395	.405	10	10.3
N	.395	.405	10	10.3
Q	Ø .110	Ø .130	Ø 2.79	Ø 3.3
R	.395	.405	10	10.3
S	.395	.405	10	10.3
aaa	.005 BSC		0.127 BSC	
bbb	.010 BSC		0.254 BSC	
ccc	.015 BSC		0.381 BSC	

STYLE 1:

- STYLE 1:
PIN 1. DRAIN
2. GATE
3. SOURCE

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