LET21030C

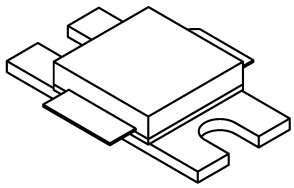
RF POWER TRANSISTORS

Ldmos Enhanced Technology

TARGET DATA

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

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



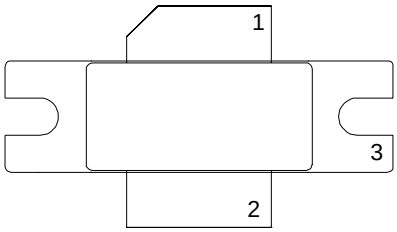
CASE 465E–03, STYLE 1
epoxy sealed

ORDER CODE	BRANDING
LET21030C	LET21030C

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.

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	4	A
P_{DISS}	Power Dissipation (@ Tc = 70 °C)	65	W
Tj	Max. Operating Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to +200	°C

THERMAL DATA

$R_{th(j-c)}$	Junction -Case Thermal Resistance	2	°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 = 20 µA	65			V
I_{DSS}	V_{GS} = 0 V V_{DS} = 26 V			1	µA
I_{GSS}	V_{GS} = 5 V V_{DS} = 0 V			1	µA
$V_{GS(Q)}$	V_{DS} = 28 V I_D = TBD	2		4.5	V
$V_{DS(ON)}$	V_{GS} = 10 V I_D = 1 A		0.29	0.4	V
G_{FS}	V_{DS} = 10 V I_D = 1 A		2		mho
C_{ISS}*	V_{GS} = 0 V V_{DD} = 26 V f = 1 MHz		TBD		pF
C_{OSS}	V_{GS} = 0 V V_{DD} = 26 V f = 1 MHz		TBD		pF
C_{RSS}	V_{GS} = 0 V V_{DS} = 26 V f = 1 MHz		TBD		pF

* Including input matching capacitor in package **?**

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

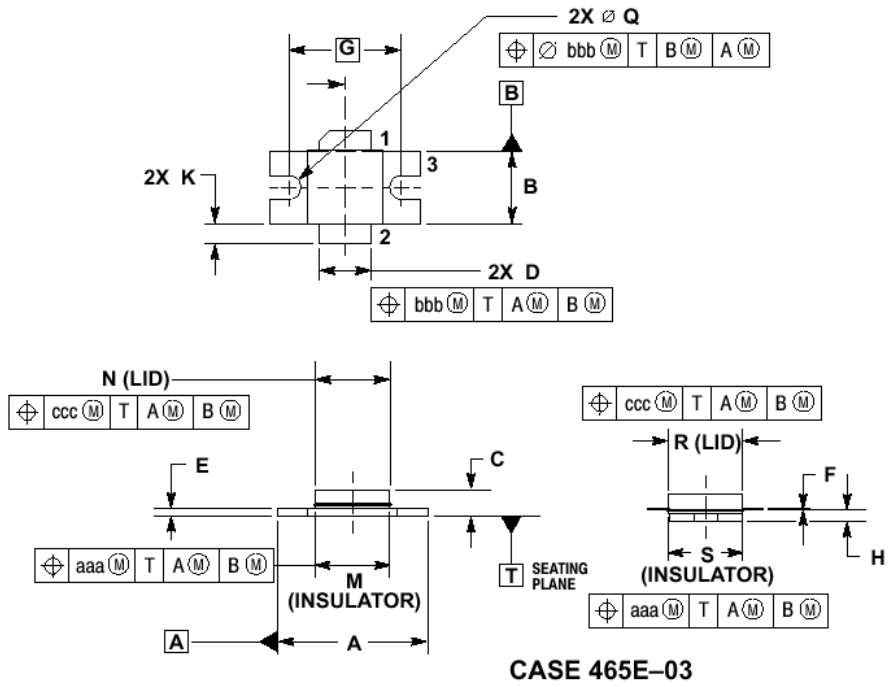
(1) 1 dB Compression point

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

ESD PROTECTION CHARACTERISTICS

Test Conditions	Class
Human Body Model	2
Machine Model	M3

465E-03 MECHANICAL DATA



CASE 465E–03

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.

	INCHES		MILLIMETERS	
DIM	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	⌀ .110	⌀ .130	⌀ 2.79	⌀ 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:
PIN 1. DRAIN
2. GATE
3. SOURCE