



LET21008

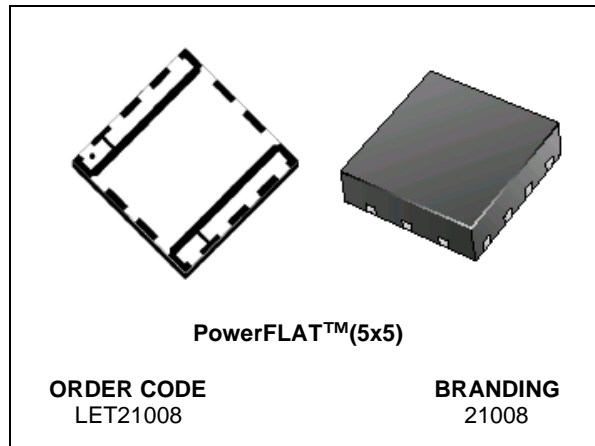
RF POWER TRANSISTORS

Ldmos Enhanced Technology in Plastic Package

TARGET DATA

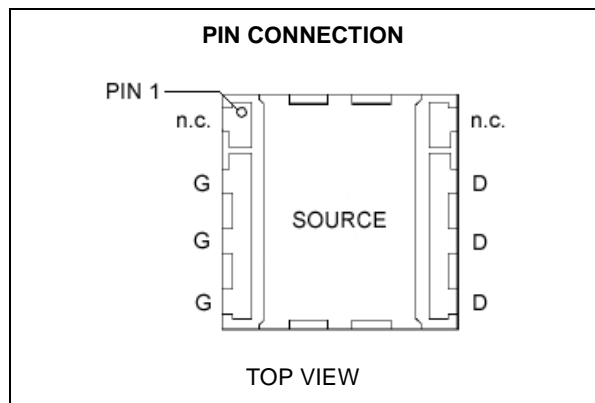
Designed for GSM / EDGE / IS-97 / WCDMA applications

- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION
- P_{OUT} = 8 W with 11 dB gain @ 2170 MHz / 26V
- NEW LEADLESS PLASTIC PACKAGE
- ESD PROTECTION



DESCRIPTION

The LET21008 is a common source N-Channel, enhancement-mode lateral Field-Effect RF power transistor. It is designed for high gain, broad band commercial and industrial applications. It operates at 26 V in common source mode at frequencies up to 2.1 GHz. LET21008 boasts the excellent gain, linearity and reliability of ST's latest LDMOS technology mounted in the innovative leadless SMD plastic package, PowerFLAT™. LET21008's superior linearity performance makes it an ideal solution for base station applications.



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	2.0	A
P _{DISS}	Power Dissipation (@ T _c = 70°C)	TBD	W
T _j	Max. Operating Junction Temperature	150	°C
T _{STG}	Storage Temperature	-65 to +150	°C

THERMAL DATA

R _{th(j-c)}	Junction -Case Thermal Resistance	TBD	°C/W
----------------------	-----------------------------------	-----	------

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

STATIC

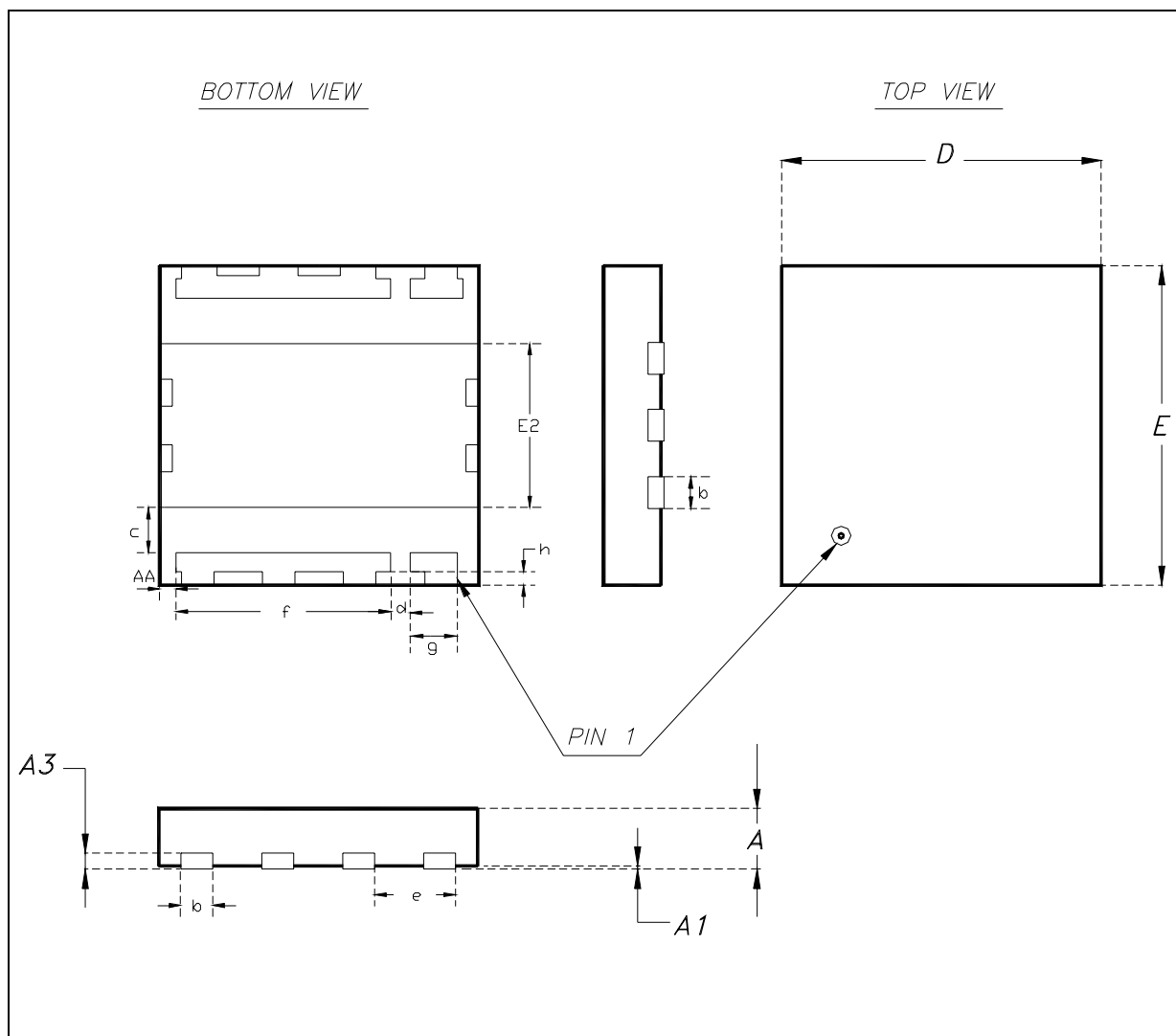
Symbol	Test Conditions		Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}$	$I_{DS} = 1\text{ mA}$	65			V
I_{DSS}	$V_{GS} = 0\text{ V}$	$V_{DS} = 26\text{ V}$			1	μA
I_{GSS}	$V_{GS} = 5\text{ V}$	$V_{DS} = 0\text{ V}$			1	μA
$V_{GS(Q)}$	$V_{DS} = 26\text{ V}$	$I_D = \text{TBD}$	2.5		5.0	V
$V_{DS(ON)}$	$V_{GS} = 10\text{ V}$	$I_D = 1\text{ A}$		TBD		V
G_{FS}	$V_{DS} = 10\text{ V}$	$I_D = 1\text{ A}$		TBD		mho
C_{ISS}	$V_{GS} = 0\text{ V}$	$V_{DS} = 26\text{ V}$		TBD		pF
C_{OSS}	$V_{GS} = 0\text{ V}$	$V_{DS} = 26\text{ V}$		TBD		pF
C_{RSS}	$V_{GS} = 0\text{ V}$	$V_{DS} = 26\text{ V}$		TBD		pF

Symbol	Test Conditions		Min.	Typ.	Max.	Unit
DYNAMIC ($f = 2170\text{ MHz}$)						
$P_{OUT}^{(1)}$	$V_{DD} = 26\text{ V}$	$I_{DQ} = \text{TBD}$	12	15		W
$\eta_D^{(1)}$	$V_{DD} = 26\text{ V}$	$I_{DQ} = \text{TBD}$	45	50		%
Load mismatch	$V_{DD} = 26\text{ V}$	$P_{OUT} = 8\text{ W}$ ALL PHASE ANGLES			20:1	VSWR
DYNAMIC ($f = 2110 - 2170\text{ MHz}$)						
$P_{OUT}^{(1)}$	$V_{DD} = 26\text{ V}$	$I_{DQ} = \text{TBD}$	8			W
$\eta_D^{(1)}$	$V_{DD} = 26\text{ V}$	$I_{DQ} = \text{TBD}$	40	45		%
G_P	$V_{DD} = 26\text{ V}$	$I_{DQ} = \text{TBD}$	11	13		dB
$P_{OUT(W\text{-CDMA})}$	ACPR -45 dBc			2.5		W
$\eta_D(W\text{-CDMA})$	ACPR -45 dBc			25		%

(1) 1 dB Compression point

PowerFLAT™ MECHANICAL DATA

DIM.	mm			Inch		
	MIN.	TYP.	MAX	MIN.	TYP.	MAX
A		0.90	1.00		0.035	0.039
A1		0.02	0.05		0.001	0.002
A3		0.24			0.009	
AA	0.15	0.25	0.35	0.006	0.01	0.014
b	0.43	0.51	0.58	0.017	0.020	0.023
c	0.64	0.71	0.79	0.025	0.028	0.031
D		5.00			0.197	
d		0.30			0.011	
E		5.00			0.197	
E2	2.49	2.57	2.64	0.098	0.101	0.104
e		1.27			0.050	
f		3.37			0.132	
g		0.74			0.03	
h		0.21			0.008	



Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is registered trademark of STMicroelectronics
© 2003 STMicroelectronics - All Rights Reserved

All other names are the property of their respective owners.

STMicroelectronics GROUP OF COMPANIES
Australia - Brazil - Canada - China - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan -
Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - U.S.A.
<http://www.st.com>