



LET9006

RF POWER TRANSISTORS

Ldmos Enhanced Technology in Plastic Package

TARGET DATA

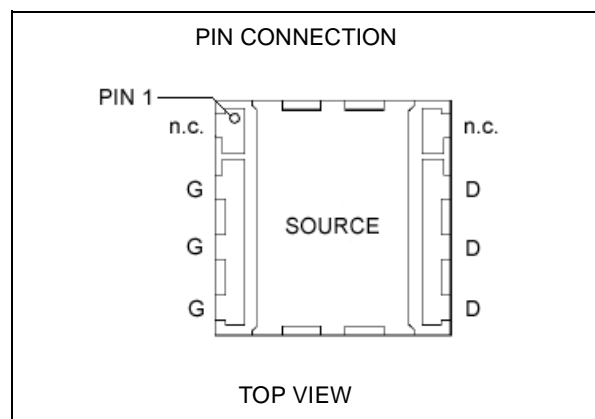
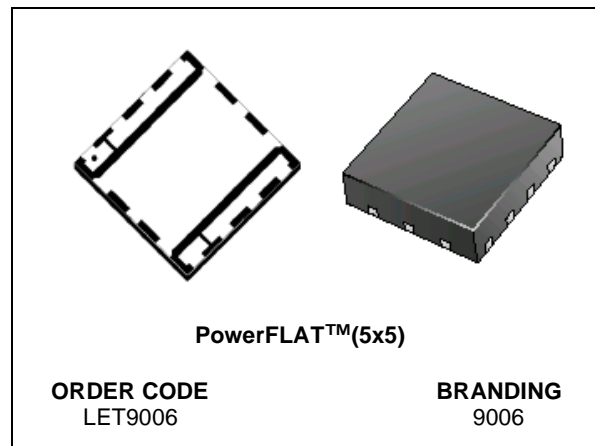
N-CHANNEL ENHANCEMENT-MODE LATERAL MOSFETs

- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION
- $P_{OUT} = 6\text{ W}$ with 17 dB gain @ 960 MHz / 26V
- NEW LEADLESS PLASTIC PACKAGE
- ESD PROTECTION
- SUPPLIED IN TAPE & REEL OF 3K UNITS

DESCRIPTION

The LET9006 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 1 GHz. LET9006 boasts the excellent gain, linearity and reliability of ST's latest LDMOS technology mounted in the innovative leadless SMD plastic package, PowerFLAT™.

It is ideal for digital cellular BTS applications requiring high linearity.



ABSOLUTE MAXIMUM RATINGS ($T_{CASE} = 25\text{ }^{\circ}\text{C}$)

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	1	A
P_{DISS}	Power Dissipation (@ $T_c = 70^{\circ}\text{C}$)	16	W
T_j	Max. Operating Junction Temperature	150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-65 to +150	$^{\circ}\text{C}$

THERMAL DATA

$R_{th(j-c)}$	Junction -Case Thermal Resistance	5	$^{\circ}\text{C/W}$
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ELECTRICAL SPECIFICATION (T_{CASE} = 25 °C)

STATIC

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
V _{(BR)DSS}	V _{GS} = 0 V I _D = 1 mA	65			
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} = 26 V I _D = TBD	2.0		5.0	V
V _{DS(ON)}	V _{GS} = 10 V I _D = 0.5 A			0.9	V
g _{FS}	V _{DS} = 10 V I _D = 800 mA		TBD		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

DYNAMIC (f = 960 MHz)

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
P _{OUT} ⁽¹⁾	V _{DD} = 26 V I _{DQ} = TBD	7	8		W
η _D ⁽¹⁾	V _{DD} = 26 V I _{DQ} = TBD P _{OUT} = 6 W	55	65		%
Load mismatch	V _{DD} = 26 V I _{DQ} = TBD P _{OUT} = 6 W ALL PHASE ANGLES			10:1	VSWR

(1) 1 dB Compression point

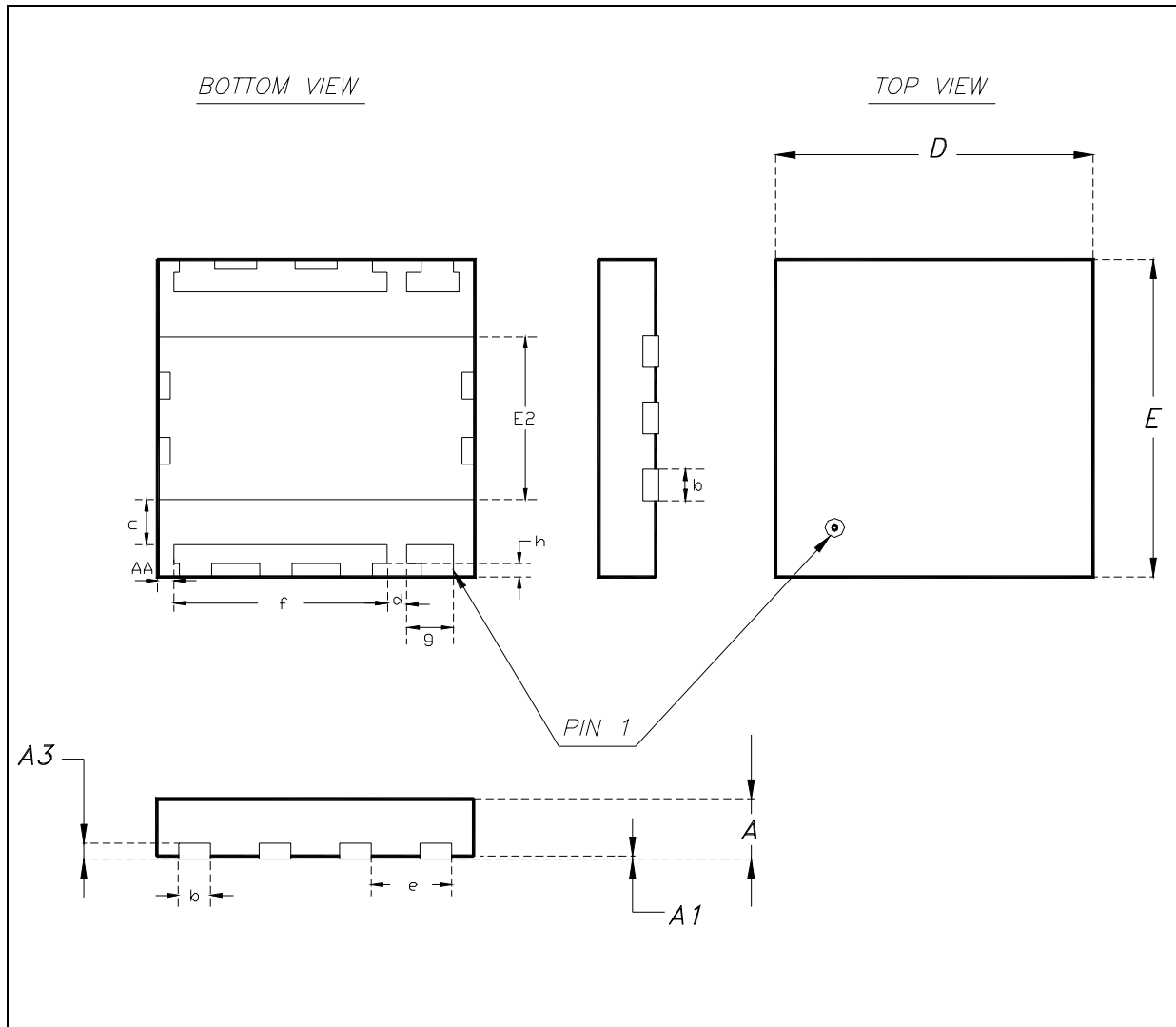
DYNAMIC (f = 920 - 960 MHz)

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
P _{out} ⁽¹⁾	V _{DD} = 26 V I _{DQ} = TBD	6	7		W
G _P	V _{DD} = 26 V I _{DQ} = TBD P _{OUT} = 6 W	17			dB
η _D ⁽¹⁾	V _{DD} = 26 V I _{DQ} = TBD P _{OUT} = 6 W	55	60		%

(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	



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