



# LET9006

## RF POWER TRANSISTORS

### *Ldmos Enhanced Technology in Plastic Package*

TARGET DATA

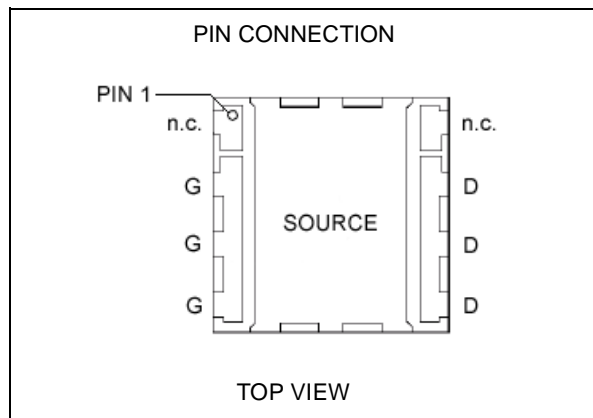
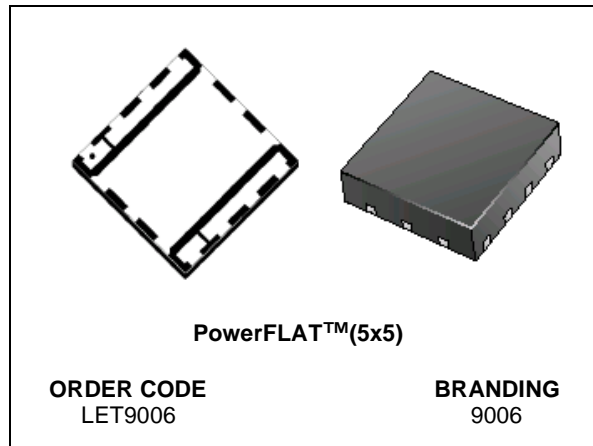
N-CHANNEL ENHANCEMENT-MODE LATERAL MOSFETs

- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION
- P<sub>OUT</sub> = 6 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<sub>case</sub> = 25 °C)

Symbol	Parameter	Value	Unit
V <sub>(BR)DSS</sub>	Drain-Source Voltage	65	V
V <sub>GS</sub>	Gate-Source Voltage	-0.5 to +15	V
I <sub>D</sub>	Drain Current	1	A
P <sub>DISS</sub>	Power Dissipation (@ T <sub>c</sub> = 70°C)	16	W
T <sub>j</sub>	Max. Operating Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	-65 to +150	°C

#### THERMAL DATA

R <sub>th(j-c)</sub>	Junction -Case Thermal Resistance	5	°C/W
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**ELECTRICAL SPECIFICATION (T<sub>CASE</sub> = 25 °C)**

**STATIC**

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0 V I <sub>D</sub> = 1 mA	65			
I <sub>DSS</sub>	V <sub>GS</sub> = 0 V V <sub>DS</sub> = 26 V			1	μA
I <sub>GSS</sub>	V <sub>GS</sub> = 5 V V <sub>DS</sub> = 0 V			1	μA
V <sub>GS(Q)</sub>	V <sub>DS</sub> = 26 V I <sub>D</sub> = TBD	2.0		5.0	V
V <sub>DS(ON)</sub>	V <sub>GS</sub> = 10 V I <sub>D</sub> = 0.5 A			0.9	V
g <sub>FS</sub>	V <sub>DS</sub> = 10 V I <sub>D</sub> = 800 mA		TBD		mho
C <sub>ISS</sub>	V <sub>GS</sub> = 0 V V <sub>DS</sub> = 26 V f = 1 MHz		TBD		pF
C <sub>OSS</sub>	V <sub>GS</sub> = 0 V V <sub>DS</sub> = 26 V f = 1 MHz		TBD		pF
C <sub>RSS</sub>	V <sub>GS</sub> = 0 V V <sub>DS</sub> = 26 V f = 1 MHz		TBD		pF

**DYNAMIC (f = 960 MHz)**

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
P <sub>OUT</sub> <sup>(1)</sup>	V <sub>DD</sub> = 26 V I <sub>DQ</sub> = TBD	7	8		W
η <sub>D</sub> <sup>(1)</sup>	V <sub>DD</sub> = 26 V I <sub>DQ</sub> = TBD P <sub>OUT</sub> = 6 W	55	65		%
Load mismatch	V <sub>DD</sub> = 26 V I <sub>DQ</sub> = TBD P <sub>OUT</sub> = 6 W ALL PHASE ANGLES			10:1	VSWR

(1) 1 dB Compression point

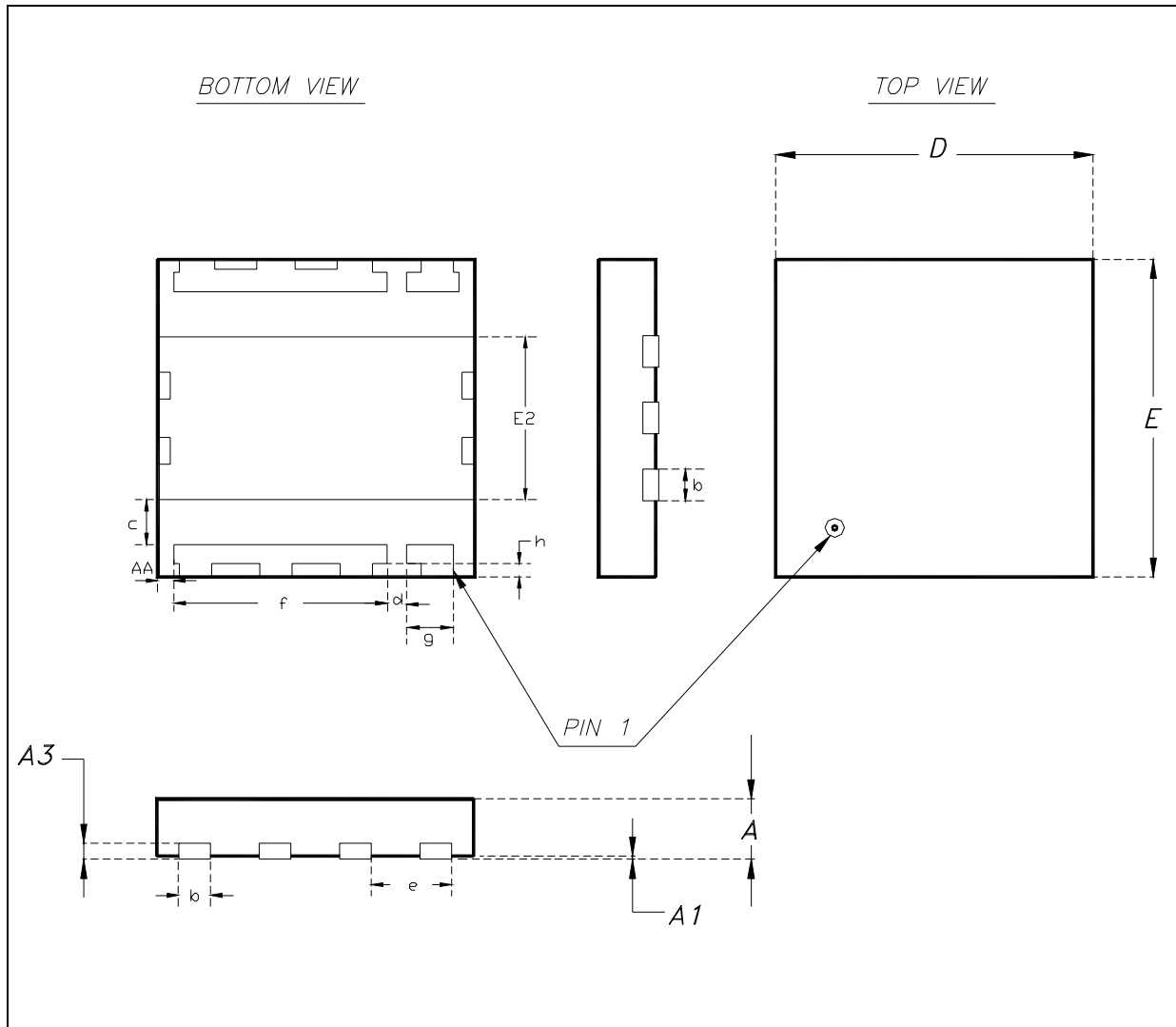
**DYNAMIC (f = 920 - 960 MHz)**

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
P <sub>out</sub> <sup>(1)</sup>	V <sub>DD</sub> = 26 V I <sub>DQ</sub> = TBD	6	7		W
G <sub>P</sub>	V <sub>DD</sub> = 26 V I <sub>DQ</sub> = TBD P <sub>OUT</sub> = 6 W	17			dB
η <sub>D</sub> <sup>(1)</sup>	V <sub>DD</sub> = 26 V I <sub>DQ</sub> = TBD P <sub>OUT</sub> = 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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