LET9006

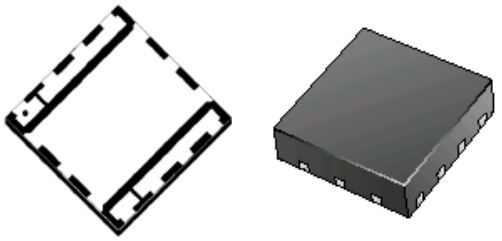
RF POWER TRANSISTORS

Ldmos Enhanced Technology in Plastic Package

TARGET DATA

N-CHANNEL ENHANCEMENT-MODE LATERAL MOSFETs

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



PowerFLAT™(5x5)

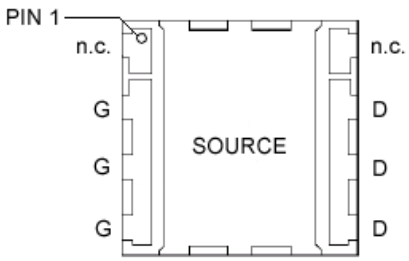
ORDER CODE	BRANDING
LET9006	9006

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.

PIN CONNECTION



TOP VIEW

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	1	A
P_{DISS}	Power Dissipation (@ Tc = 70°C)	16	W
Tj	Max. Operating Junction Temperature	150	°C
T_{STG}	Storage Temperature	-65 to +150	°C

THERMAL DATA

$R_{th(j-c)}$	Junction -Case Thermal Resistance	5	°C/W

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