LET9002

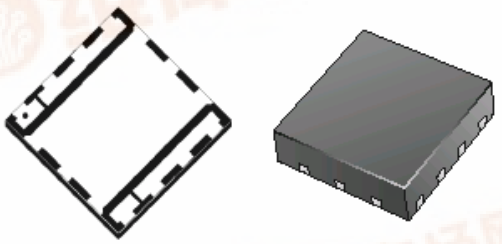
RF POWER TRANSISTORS

Ldmos Enhanced Technology in Plastic Package

TARGET DATA

N-CHANNEL ENHANCEMENT-MODE LATERAL MOSFETs

- EXCELLENT THERMAL STABILITY
- COMMON SOURCE CONFIGURATION
- P_{OUT} = 2 W with 17 dB gain @ 960 MHz / 26 V
- NEW LEADLESS PLASTIC PACKAGE
- ESD PROTECTION
- SUPPLIED IN TAPE & REEL OF 3K UNITS



PowerFLAT™ (5x5)

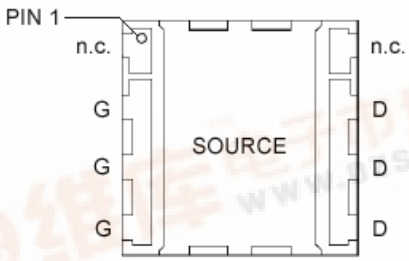
ORDER CODE	BRANDING
LET9002	9002

DESCRIPTION

The LET9002 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 1000 MHz. The LET9002 is designed for high gain and broadband performance operating in common source mode at 26 V. LET9002 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	0.25	A
P_{DISS}	Power Dissipation (@ Tc = 70°C)	4	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	20	°C/W

ELECTRICAL SPECIFICATION (T_{CASE} = 25 °C)

STATIC

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	V_{GS} = 0 V I_{DS} = 1 mA	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} = 26 V I_D = TBD	2.0		5.0	V
$V_{DS(ON)}$	V_{GS} = 10 V I_D = 125 mA			0.9	V
g_{FS}	V_{DS} = 10 V I_D = 200 mA		--		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	2.5	3		W
η_D(1)	V_{DD} = 26 V I_{DQ} = TBD P_{OUT} = 2 W	55	65		%
Load mismatch	V_{DD} = 26 V I_{DQ} = TBD P_{OUT} = 2 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	2	2.5		W
η_D(1)	V_{DD} = 26 V I_{DQ} = TBD	55	60		%
G_P	V_{DD} = 26 V I_{DQ} = TBD P_{OUT} = 2 W	17			dB

(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