LET9085

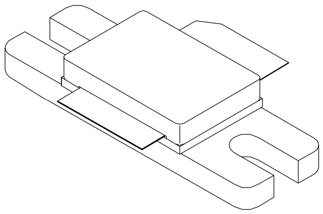
RF POWER TRANSISTORS

Ldmos Enhanced Technology

TARGET DATA

N-CHANNEL ENHANCEMENT-MODE LATERAL MOSFETs

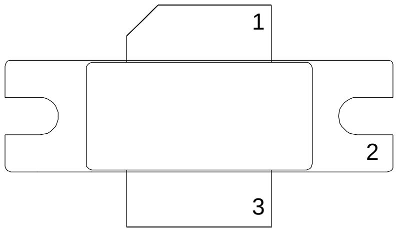
- IS-95 CDMA PERFORMANCES
  P_{OUT} = 20 W
  EFF. = 28 %
- EDGE PERFORMANCES
  P_{OUT} = 35 W
  EFF. = 35 %
- GSM PERFORMANCES
  P_{OUT} = 75 W
  EFF. = 55 %
- EXCELLENT THERMAL STABILITY
- BeO FREE PACKAGE
- INTERNAL INPUT MATCHING
- ESD PROTECTION



M265
epoxy sealed

ORDER CODE	**BRANDING**
LET9085	LET9085

PIN CONNECTION



1. Drain
2. Source
3. Gate

DESCRIPTION

The LET9085 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 1.0 GHz. The LET9085 is designed for high gain and broadband performance operating in common source mode at 26 V. Its internal matching makes it ideal for base station applications requiring high linearity.

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	12	A
P_{DISS}	Power Dissipation (@ Tc = 70 °C)	186	W
Tj	Max. Operating Junction Temperature	200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

THERMAL DATA

$R_{th(j-c)}$	Junction -Case Thermal Resistance	0.7	°C/W

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

STATIC (Per Section)

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)DSS}$	V_{GS} = 0 V I_D = 10 µA	65			V
I_{DSS}	V_{GS} = 0 V V_{DS} = 26 V			1	µA
I_{DSS}	V_{GS} = 0 V V_{DS} = 65 V			10	µA
I_{GSS}	V_{GS} = 5 V V_{DS} = 0 V			1	µA
$V_{GS(Q)}$	V_{DS} = 26 V I_D = TBD		TBD		V
$V_{DS(ON)}$	V_{GS} = 10 V I_D = 2 A		0.19	0.4	V
G_{FS}	V_{DS} = 10 V I_D = 6 A		8		mho
C_{ISS}*	V_{GS} = 0 V V_{DS} = 28 V f = 1 MHz		TBD		pF
C_{OSS}	V_{GS} = 0 V V_{DS} = 28 V f = 1 MHz			75	pF
C_{RSS}	V_{GS} = 0 V V_{DS} = 28 V f = 1 MHz		2.9		pF

* Includes Internal Input Moscap.

DYNAMIC (*f = 865 - 895 MHz*)

Symbol	Test Conditions	Min.	Typ.	Max.	Unit
P_{1dB}	V_{DD} = 26 V I_{DQ} = TBD	90	105		W
η_D	V_{DD} = 26 V I_{DQ} = TBD P_{OUT} = 90 W	50	55		%
G_P	V_{DD} = 26 V I_{DQ} = TBD P_{OUT} = 90 W PEP	17			dB
IMD3	V_{DD} = 26 V I_{DQ} = TBD P_{OUT} = 90 W PEP		-31	-28	dBc
Load mismatch	V_{DD} = 26 V I_{DQ} = TBD P_{OUT} = 90 W ALL PHASE ANGLES			10:1	VSWR
$P_{OUT\ (CDMA)}^{(1)}$	750 KHz ACPR: -45dBc 1.98 MHz ACPR: -60dBc		20		W
$\eta_{D\ (CDMA)}^{(1)}$	750 KHz ACPR: -45dBc 1.98 MHz ACPR: -60dBc		28		%

(1) IS-95 CDMA Pilot, Sync, Paging, Traffic, Codes 8 Thru 13

DYNAMIC (*f = 920 - 960 MHz*)

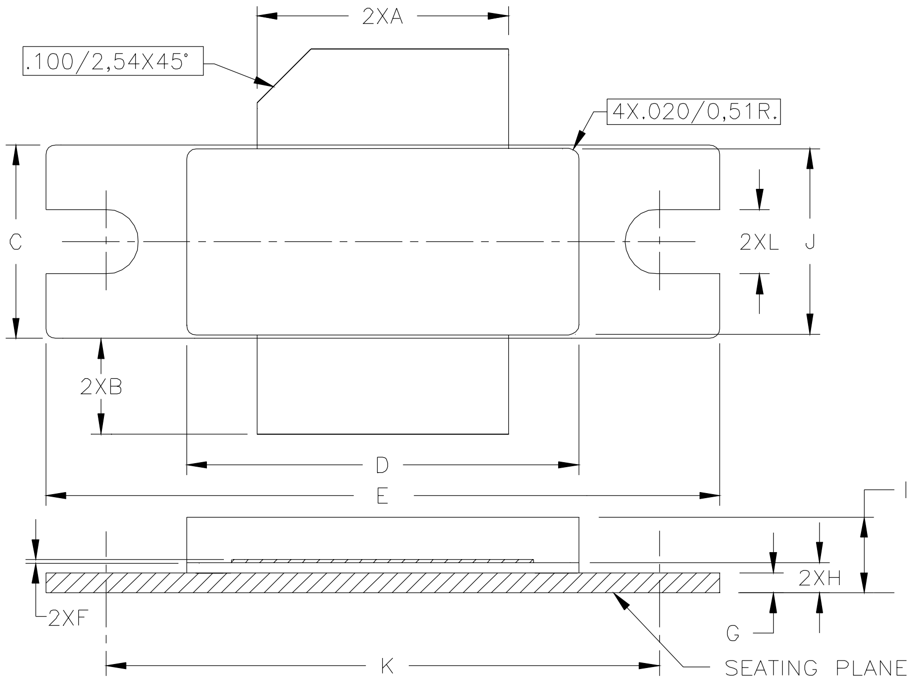
P_{1dB}	V_{DD} = 26 V I_{DQ} = TBD	70	75		W
G_P	V_{DD} = 26 V I_{DQ} = TBD P_{OUT} = 70 W	15	16		dB
η_D	V_{DD} = 26 V I_{DQ} = TBD P_{OUT} = 70 W	50	55		%
Load mismatch	V_{DD} = 26 V I_{DQ} = TBD P_{OUT} = 85 W ALL PHASE ANGLES			10:1	VSWR
$P_{OUT(EDGE)}$	400 KHz < -60 dBc 600 KHz < -70 dBc EVM < 3 %		35		W
$\eta_{D(EDGE)}$	400 KHz < -60 dBc 600 KHz < -70 dBc EVM < 3 %		35		%

ESD PROTECTION CHARACTERISTICS

Test Conditions	Class
Human Body Model	2
Machine Model	M3

M265 (.370 x .780 WIDE 2/L N/HERM W/FLG) MECHANICAL DATA

DIM.	mm			Inch		
	MIN.	TYP.	MAX	MIN.	TYP.	MAX
A	12.57		12.83	.495		.505
B	4.32		5.33	.170		.210
C	9.65		9.91	.380		.390
D	19.61		20.02	.772		.788
E	33.91		34.16	1.335		1.345
F	0.08		0.15	.003		.006
G	0.89		1.14	.035		.045
H	1.45		1.70	.057		.067
I	3.18		4.32	.125		.170
J	9.27		9.53	.365		.375
K	27.69		28.19	1.090		1.110
L	3.00		3.51	.118		.138



Ref. 1023153

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