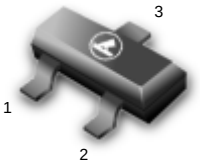
20V N-Channel Enhancement-Mode MOSFET

LN4501BLT1G

APPLICATIONS

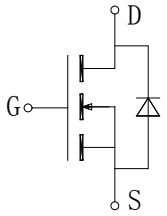
1) Advanced trench process technology
2) High Density Cell Design For Ultra Low On-Resistance
3)ESD Rating of Class 0 (<100V) per Human Body Model
3) We declare that the material of product are Halogen Free and compliance with RoHS requirements.



SOT– 23 (TO–236AB)

FEATURES

- V_{DSS} (Minimum) =20V
- I_D (Maximum) =5A
- $R_{DS\ (ON)}$ =40 mΩ (Typ.) @ V_{GS}=4.5V
  $R_{DS\ (ON)}$ =50 mΩ (Typ.) @ V_{GS}=2.5V



N-Channel MOSFET

DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LN4501BLT1G		3000/Tape&Reel
LN4501BLT3G		10000/Tape&Reel

MAXIMUM RATINGS(Ta = 25oC)

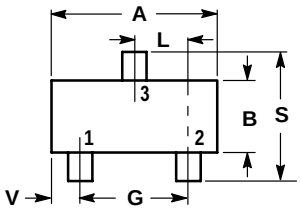
Parameter		Symbol	Limits	Unit
Drain–Source Voltage		VDSS	20	V
Gate–to–Source Voltage – Continuous		VGS	±12	V
Continuous Drain Current (Note 1)	TA =25℃	ID	3	A
	TA =70℃		2.4	
Pulsed Drain Current		IDM	12	A
Maximum Power Dissipation	TA =25℃	PD	1.4	W
	TA =70℃		0.9	
Operating Junction Temperature		TJ	-55~+150	℃
Thermal Resistance-Junction to Ambient(Note 2)		RθJA	90	℃/W

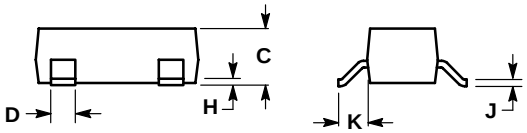
Notes: 1. Repetitive Rating: Pulse width limited by the Maximum junction temperationr
2. 1-in^2 2oz Cu PCB board

ELECTRICAL CHARACTERISTICS (Ta= 25℃)

Symbol	Parameter	Test Condition	TJM038A			Unit
			Min.	Typ.	Max.	
Static Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V, I_{DS}=250μA	20			V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=20V, V_{GS}=0V			1	μA
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_{DS}=250μA	0.5	0.7	1.5	V
I_{GSS}	Gate Leakage Current	V_{GS}=±10V, V_{DS}=0V			±100	nA
$R_{DS(ON)}$	Drain-Source On-state Resistance (Note 3)	V_{GS}=4.5V, I_{DS}=5A		40	60	mΩ
		V_{GS}=2.5V, I_{DS}=3A		50	70	mΩ
Diode Characteristics						
V_{SD}	Diode Forward Voltage(Note 3)	I_{SD}=1A, V_{GS}=0V			1	V
t_{rr}	Reverse Recovery Time	I_{SD}=1A, dI_{SD}/dt=100A/μs		5		ns
Q_{rr}	Reverse Recovery Charge			3		nC
Dynamic Characteristics (Note 4)						
R_G	Gate Resistance	V_{GS}=0V,V_{DS}=0V,F=1MHz		0.8		Ω
C_{iss}	Input Capacitance	V_{GS}=0V, V_{DS}=10V, Frequency=1.0MHz		410		pF
C_{oss}	Output Capacitance			58		
C_{rss}	Reverse Transfer Capacitance			32		
$t_{d(ON)}$	Turn-on Delay Time	V_{DD}=10V, R_L=1.7Ω, I_{DS}=5A, V_{GEN}=4.5V, R_G=6Ω		5		ns
t_r	Turn-on Rise Time			9		
$t_{d(OFF)}$	Turn-off Delay Time			17		
t_f	Turn-off Fall Time			7		
Gate Charge Characteristics (Note 4)						
Q_g	Total Gate Charge	V_{DS}=16V, V_{GS}=4.5V, I_{DS}=5A		5		nC
Q_{gs}	Gate-Source Charge			1.1		
Q_{gd}	Gate-Drain Charge			1.9		

SOT-23





NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

