

60V N-Channel Enhancement-Mode MOSFET

FEATURES

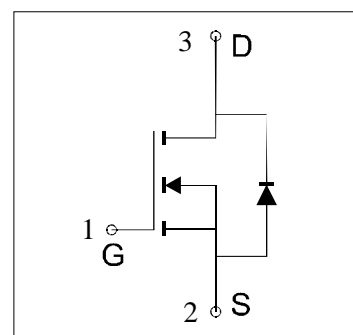
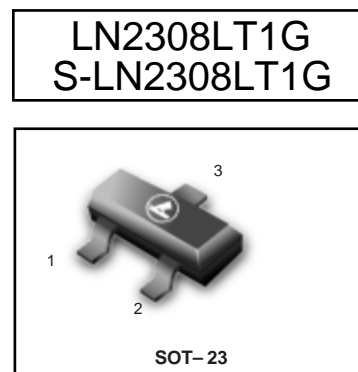
- $R_{DS(ON)} \leq 100m\Omega @ V_{GS}=10V$
- $R_{DS(ON)} \leq 130m\Omega @ V_{GS}=4.5V$
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- Capable doing Cu wire bonding
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

APPLICATIONS

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- Load Switch
- DSC

Ordering Information

Device	Marking	Shipping
LN2308LT1G S-LN2308LT1G	N08	3000/Tape&Reel
LN2308LT3G S-LN2308LT3G	N08	10000/Tape&Reel



Absolute Maximum Ratings ($T_A=25^\circ C$ Unless Otherwise Noted)

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DSS}	60	V
Gate-Source Voltage		V_{GSS}	± 20	V
Continuous Drain Current($t_J=150^\circ C$)	$T_A=25^\circ C$	I_D	2.6	A
	$T_A=70^\circ C$		1.8	
Pulsed Drain Current		I_{DM}	8	
Maximum Body-Diode Continuous Current		I_S	1.6	A
Maximum Power Dissipation	$T_A=25^\circ C$	P_D	0.7	W
	$T_A=70^\circ C$		0.45	
Operating Junction Temperature		T_J	150	$^\circ C$
Maximum Junction-to-Ambient	R_{thJA}	$T \leq 10$ sec	150	$^\circ C/W$
		Steady State	175	
Thermal Resistance-Junction to Case		$R_{\theta JC}$	120	$^\circ C/W$

*The device mounted on 1in² FR4 board with 2 oz copper

LN2308LT1G , S-LN2308LT1G

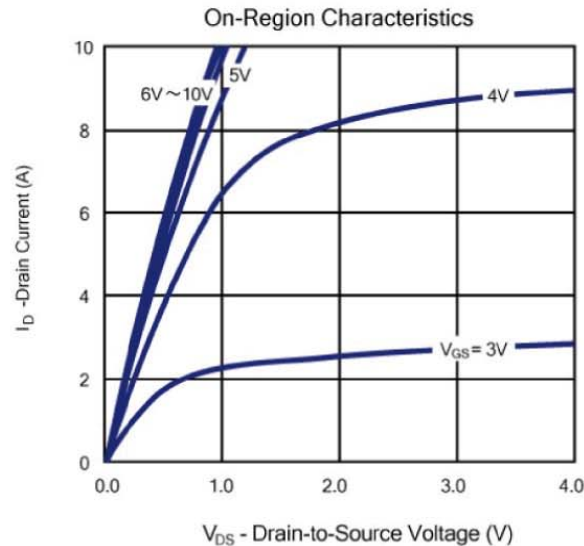
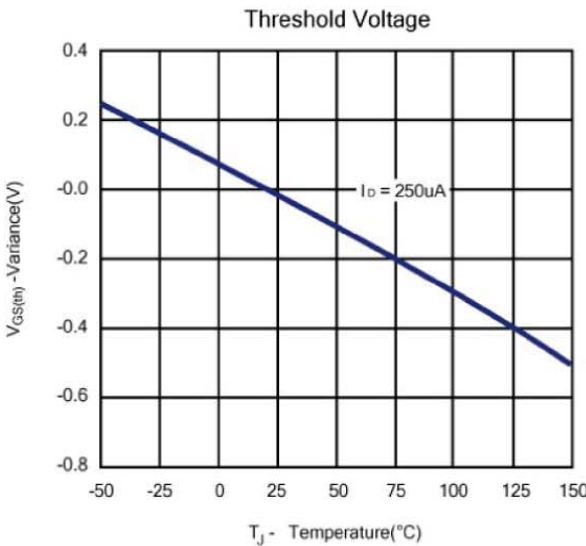
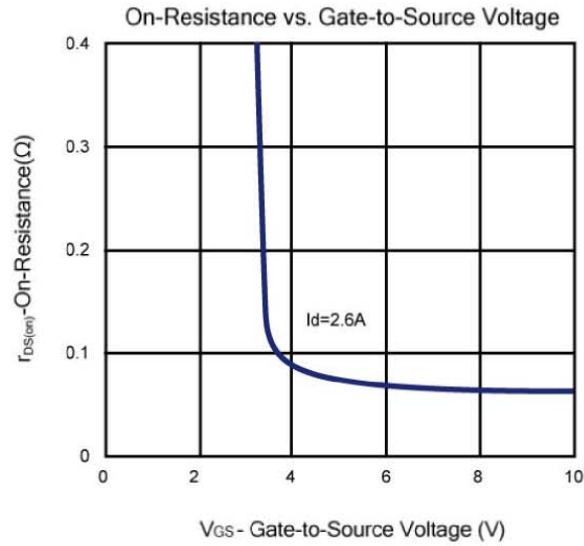
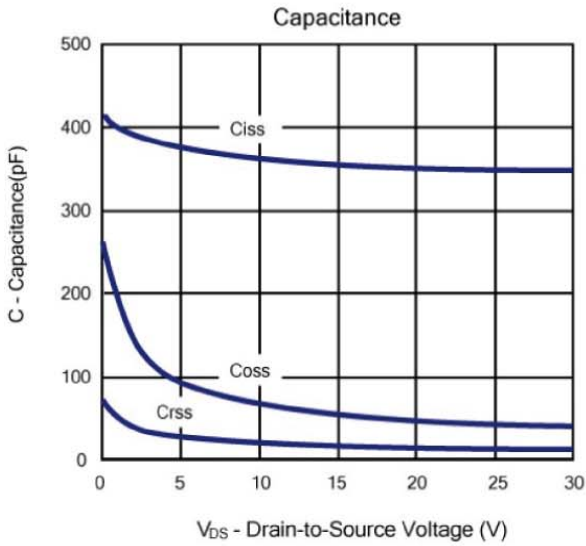
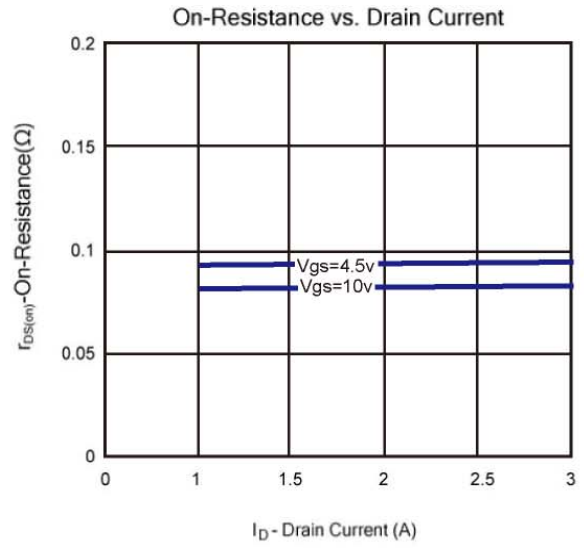
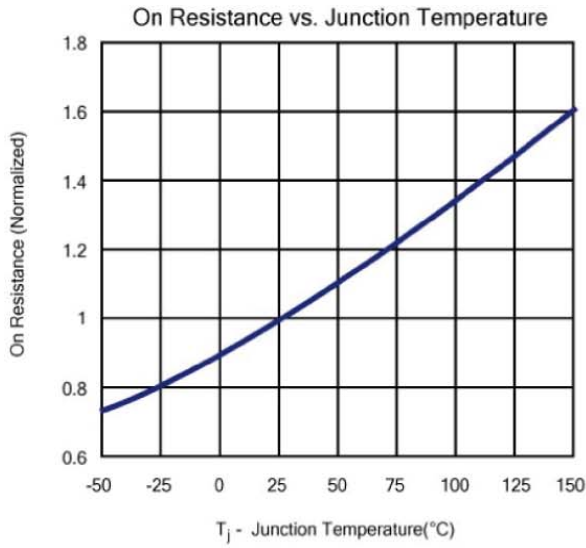
Electrical Characteristics ($T_a=25^{\circ}\text{C}$ Unless Otherwise Specified)

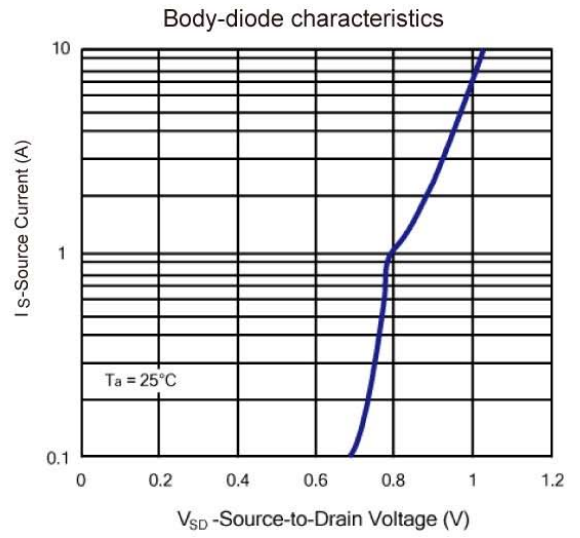
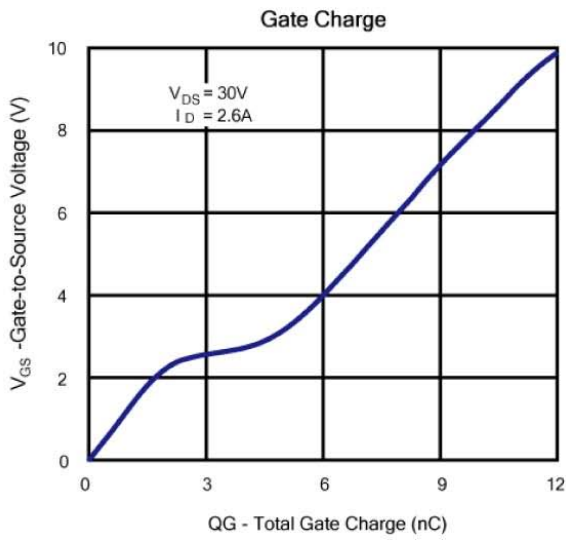
Symbol	Parameter	Limit	Min	Typ	Max	Unit
STATIC						
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0, I_D=250\ \mu\text{A}$	60			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\ \mu\text{A}$	1		3	V
I_{GSS}	Gate Body Leakage	$V_{DS}=0\text{V}, V_{GS}=\pm 20\text{V}$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=60\text{V}, V_{GS}=0\text{V}$			1	μA
$R_{DS(ON)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}, I_D=2.6\text{A}$		82	100	m Ω
		$V_{GS}=4.5\text{V}, I_D=2.1\text{A}$		96	130	
V_{SD}	Diode Forward Voltage	$I_S=1.0\text{A}, V_{GS}=0\text{V}$		0.8	1.2	V
DYNAMIC						
Q_g	Total Gate Charge	$V_{DS}=30\text{V}, V_{GS}=10\text{V}, I_D=2.6\text{A}$		12		nC
Q_g	Total Gate Charge	$V_{DS}=30\text{V}, V_{GS}=4.5\text{V}, I_D=2.6\text{A}$		6.5		
Q_{gs}	Gate-Source Charge			2.2		
Q_{gd}	Gate-Drain Charge			2.7		
C_{iss}	Input capacitance	$V_{DS}=30\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$		350		pF
C_{oss}	Output Capacitance			40		
C_{rss}	Reverse Transfer Capacitance			12		
R_g	Gate Resistance	$V_{DS}=0\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$		0.7		Ω
$t_{d(on)}$	Turn-On Delay Time	$V_{DD}=20\text{V}, R_L=20\ \Omega$ $I_D=1\text{A}, V_{GEN}=10\text{V}$ $R_G=1\ \Omega$		10		ns
t_r	Turn-On Rise Time			11		
$t_{d(off)}$	Turn-Off Delay Time			29		
t_f	Turn-Off Fall Time			3		

 Notes: Pulse test; pulse width $\leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$.

Typical Characteristics (Ta =25°C Noted)

LN2308LT1G , S-LN2308LT1G



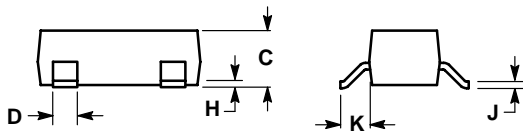
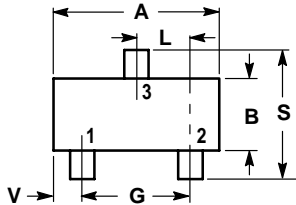
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SOT-23

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

