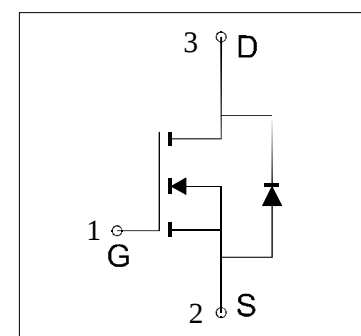
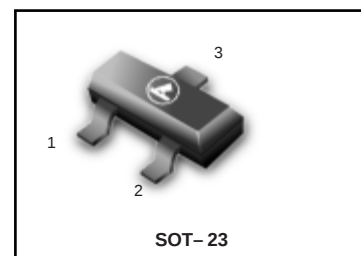


60V N-Channel Enhancement-Mode MOSFET

FEATURES

- $R_{DS(ON)} \leq 100m\Omega @ V_{GS}=10V$
- $R_{DS(ON)} \leq 130m\Omega @ V_{GS}=4.5V$
- $R_{DS(ON)} \leq 200m\Omega @ V_{GS}=3.3V$
- 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.

LN2308LT1G
S-LN2308LT1G



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 ($T_A=25^\circ\text{C}$ Unless Otherwise Noted)

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

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

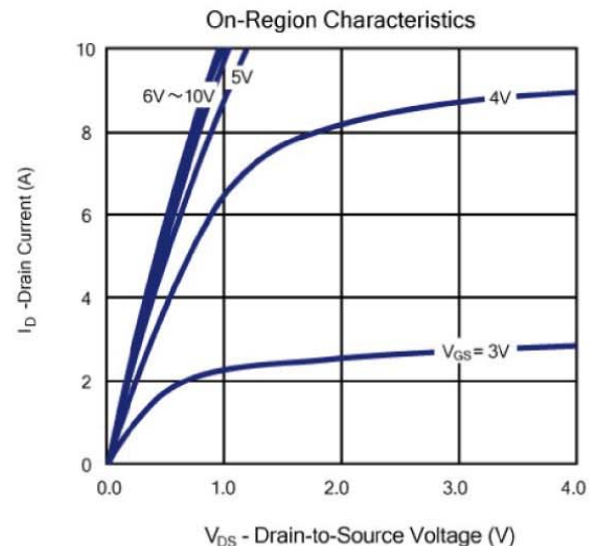
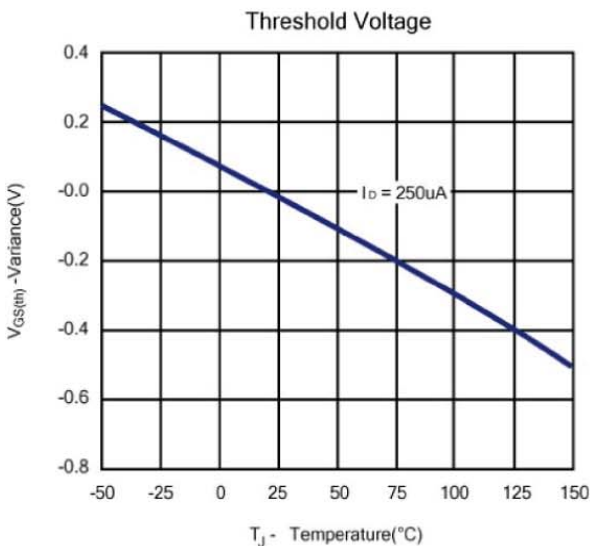
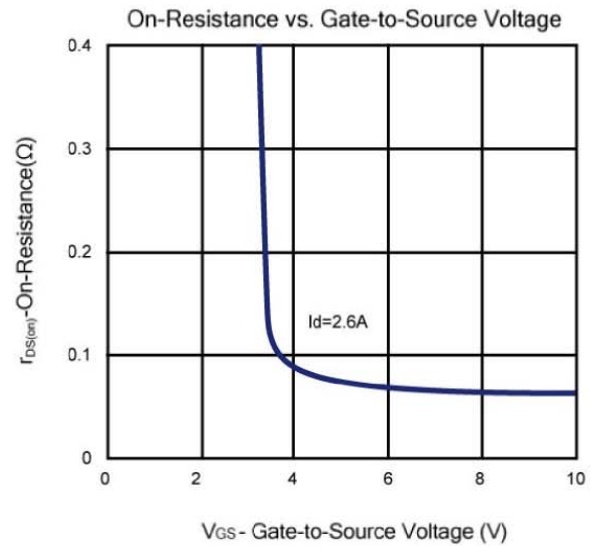
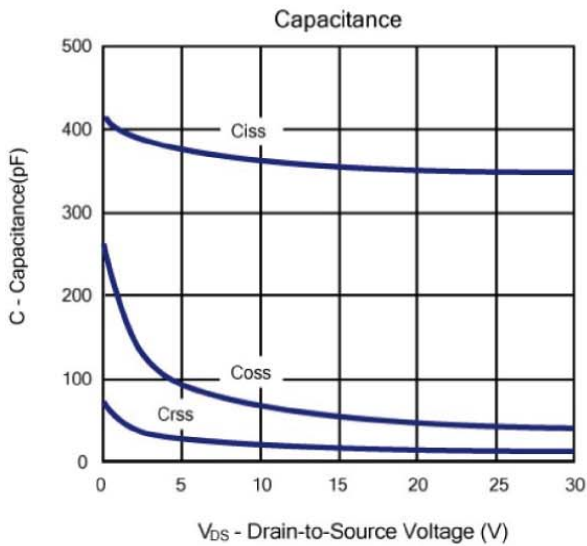
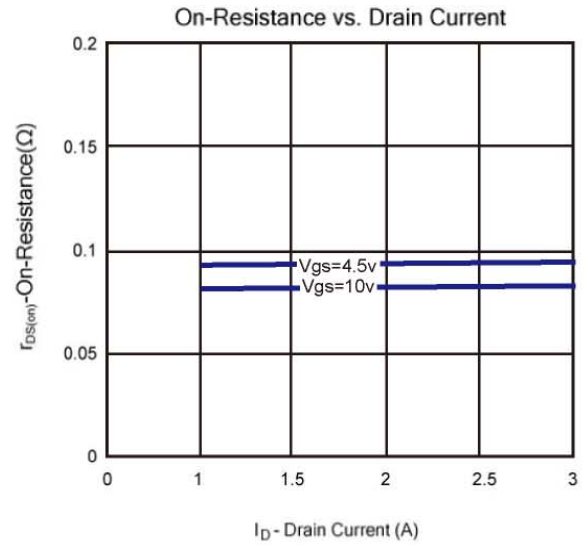
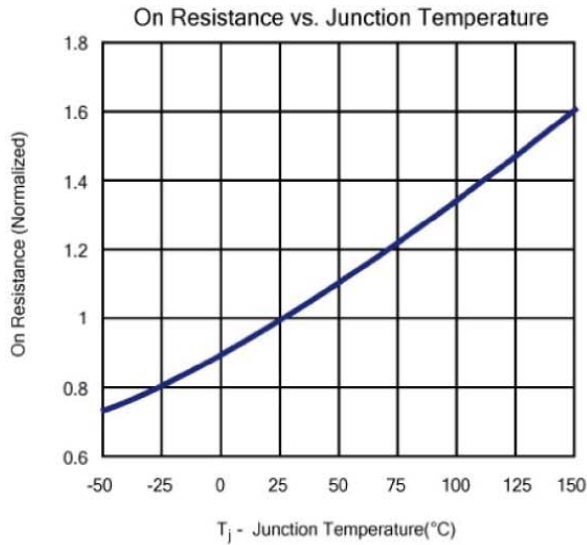
Electrical Characteristics ($T_a=25^{\circ}\text{C}$ Unless Otherwise Specified)

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	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=60V, V_{GS}=0V$			1	μA
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V, I_D=2.6A$		82	100	m Ω
		$V_{GS}=4.5V, I_D=2.1A$		96	130	
		$V_{GS}=3.3V, I_D=1.8A$		139	200	
V_{SD}	Diode Forward Voltage	$I_S=1.0A, V_{GS}=0V$		0.8	1.2	V
DYNAMIC						
Q_g	Total Gate Charge	$V_{DS}=30V, V_{GS}=10V, I_D=2.6A$		12		nC
Q_g	Total Gate Charge	$V_{DS}=30V, V_{GS}=4.5V, I_D=2.6A$		6.5		
Q_{gs}	Gate-Source Charge			2.2		
Q_{gd}	Gate-Drain Charge			2.7		
C_{iss}	Input capacitance	$V_{DS}=30V, V_{GS}=0V, f=1\text{MHz}$		350		pF
C_{oss}	Output Capacitance			40		
C_{rss}	Reverse Transfer Capacitance			12		
R_g	Gate Resistance	$V_{DS}=0V, V_{GS}=0V, f=1\text{MHz}$		0.7		Ω
$t_{d(on)}$	Turn-On Delay Time	$V_{DD}=20V, R_L=20\Omega$ $I_D=1A, V_{GEN}=10V$ $R_G=1\Omega$		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 $\leq 2\%$.

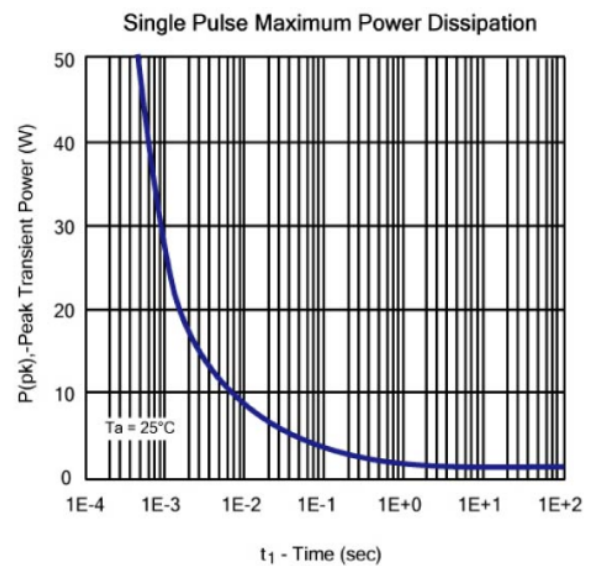
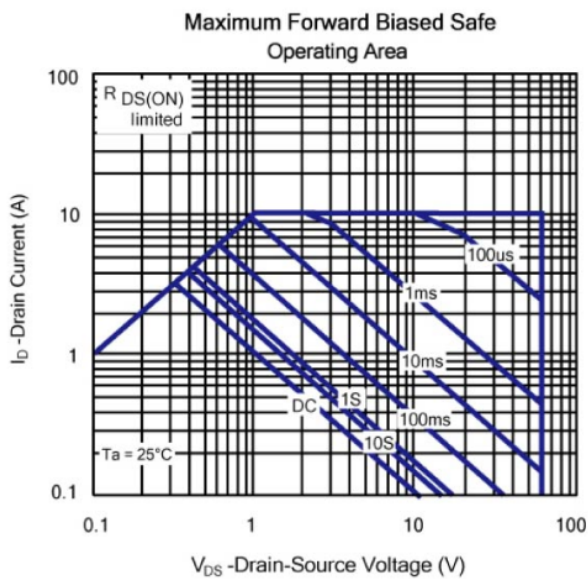
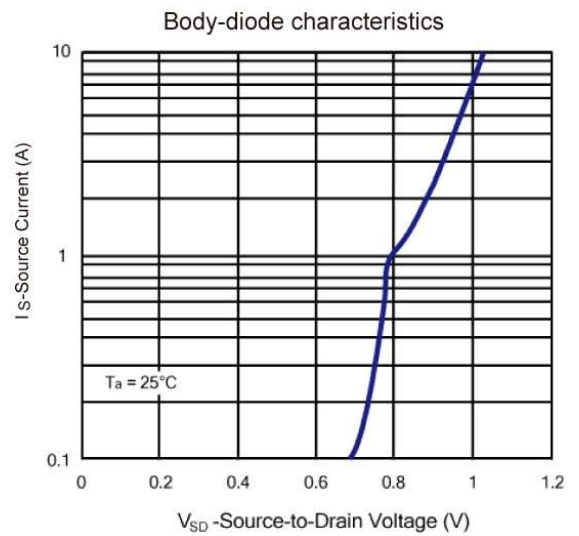
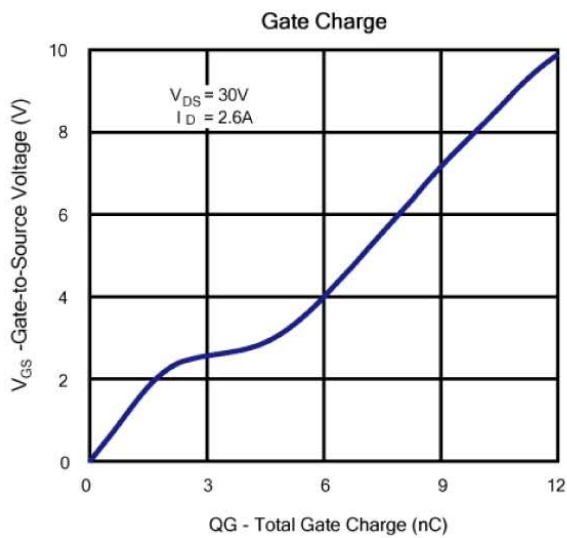
Typical Characteristics (Ta =25°C Noted)

LN2308LT1G , S-LN2308LT1G



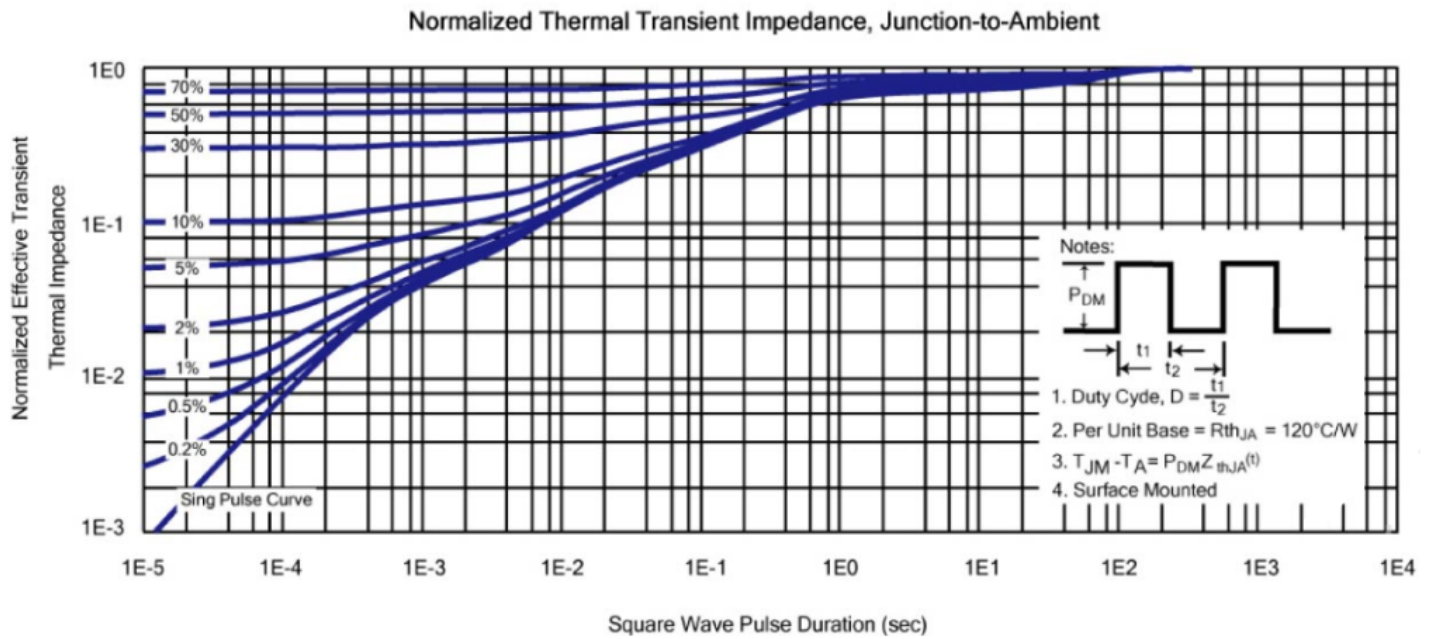
Typical Characteristics ($T_a = 25^\circ\text{C}$ Noted)

LN2308LT1G , S-LN2308LT1G



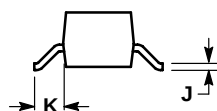
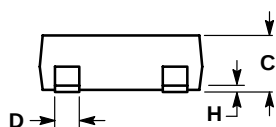
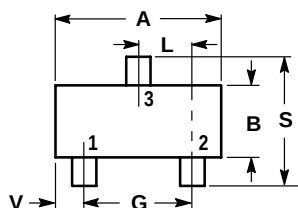
Typical Characteristics ($T_a = 25^\circ\text{C}$ Noted)

LN2308LT1G , S-LN2308LT1G



LN2308LT1G , S-LN2308LT1G
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

