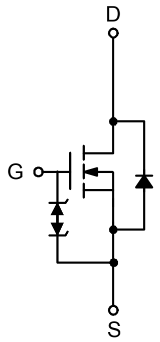
WL3400

N-Channl Enhancement Mode MOSFET

- 30V/6.2A
- $R_{DS(ON)}$=18mΩ (typ) @VGS=10V
  $R_{DS(ON)}$=20mΩ (typ) @VGS=4.5V
  $R_{DS(ON)}$=24mΩ (typ) @VGS=2.5V
- 100% UIS & RG Tested
- Reliableand Rugged
- Lead Freeand Green Devices Available
  (RoHS Compliant)

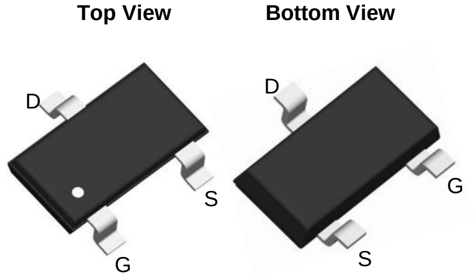


N-Channel MOSFET

Applications

- Power Management for Industrial DC/DC Converters

SOT23-3L



Absolute Maximum Ratings (T_A= 25°C unless otherwise noted)

Symbol	Parameter		Rating	Unit
Common Ratings				
V_{DSS}	Drain-Source Voltage		30	V
V_{GSS}	Gate-Source Voltage		±12	
I_D	Continuous Drain Current	T_J=150°C	6.2	A
I_{DM}	Pulsed Drain Current		25	
I_S	Diode Continuous Forward Current	Tc=25°C	1.7	A
PD	Power Dissipation	T_A=25°C	1.25	W
		T_A=70°C	0.8	
T_{STG}, T_j	Storage Temperature Range		-55 to 150	°C
$R_{\theta JA}$	Thermal Resistance-Junction to Ambient		90	°C/W

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress rating only and functional device operation is not implied

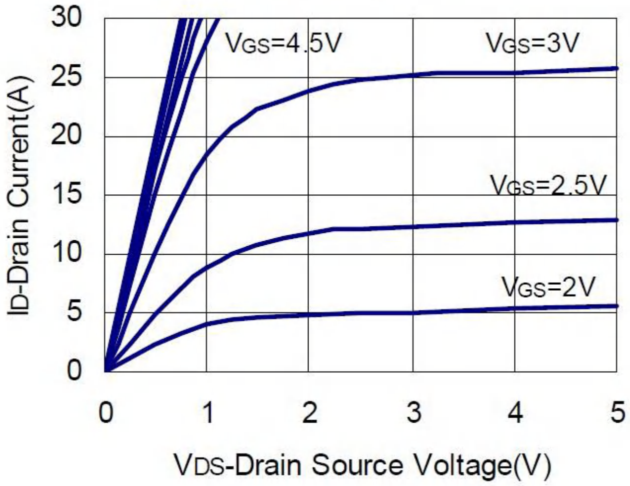
Electrical Characteristics (T_A= 25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V, I_{DS}=250 A	30	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} =24V, V_{GS}=0V	-	-	1	μA
		T_J=55°C	-	-	30	
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} =V_{GS}, I_{DS}=250μA	0.5	-	1	V
I_{GSS}	Gate Leakage Current	V_{GS}=±12V, V_{DS}=0V	-	-	±100	nA
$R_{DS(ON)}$	Drain-Source On-state Resistance	V_{GS}=10V, I_{DS}=5.7A	-	18	26	mΩ
		V_{GS}=4.5V, I_{DS}=5A	-	20	32	
		V_{GS}=2.5V, I_{DS}=3.2A	-	24	46	
Body Diode Characteristics						
V_{SD}	Diode Forward Voltage	I_{SD}=1A, V_{GS}=0V	-	0.7	1.0	V
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{GS}=0V, V_{DS} =15V, Frequency=1.0MHz	-	416	-	pF
C_{oss}	Output Capacitance		-	62	-	
C_{rss}	Reverse transfer capacitance		-	40	-	
$t_{d(ON)}$	Turn-on delay Time	V_{GS}=10V ,V_{DS}=15V R_G=6Ω, I_D=1A,R_L=15Ω,	-	7	15	nS
t_r	Turn-on rise Time		-	10	20	
$t_{d(OFF)}$	Turn-off delay Time		-	20	40	
t_f	Turn-off rise Time		-	11	20	
Gate Charge Characteristics						
Q_g	Total Gate Charge	V_{DS} =15V, V_{GS}=10V, I_{DS}=5.6A	-	10	19	nC
Q_{gs}	Gate-Source Charge		-	1.7	-	
Q_{gd}	Gate-Drain Charge		-	3.2	-	

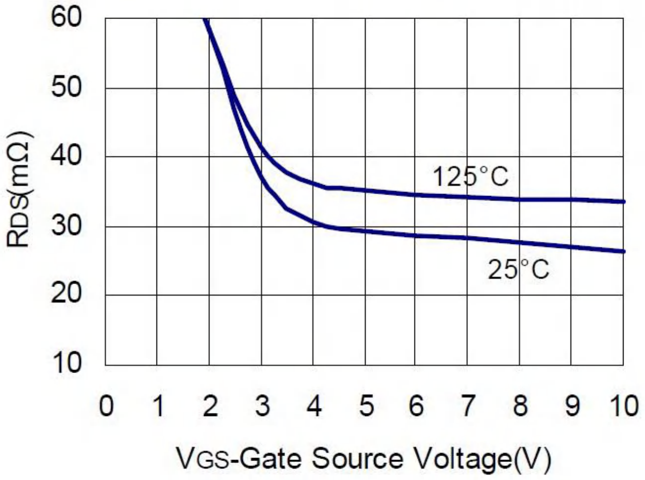
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress rating only and functional device operation is not implied

TYPICAL CHARACTERISTICS *(25℃ Unless Note)*

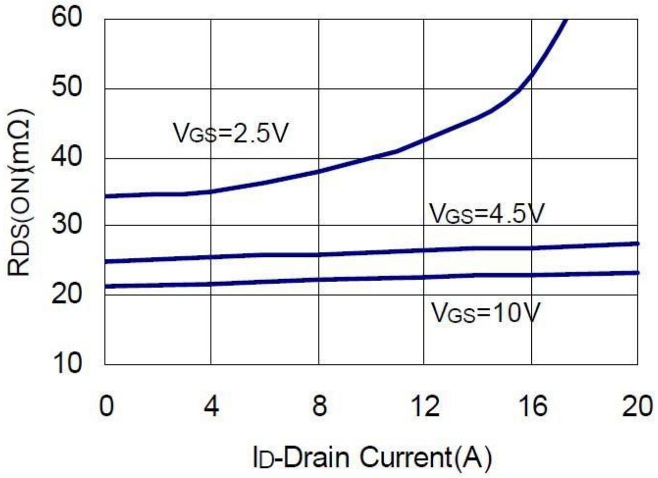
Output Characteristics



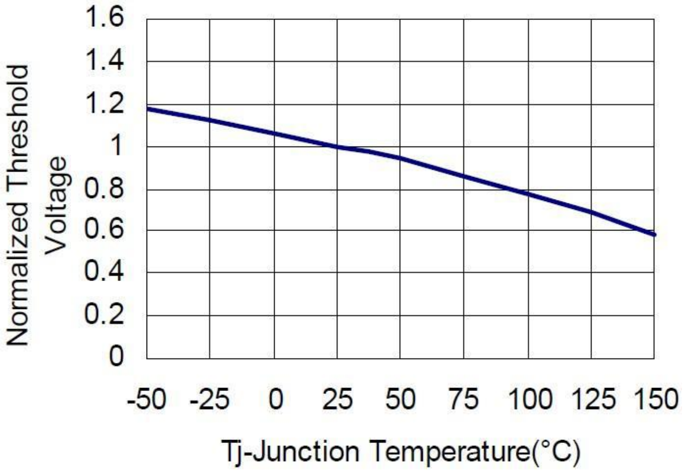
Drain-Source On Resistance



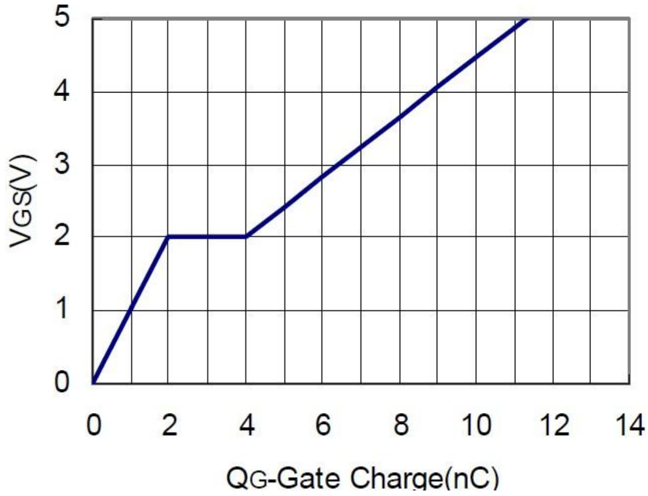
Drain Source On Resistance



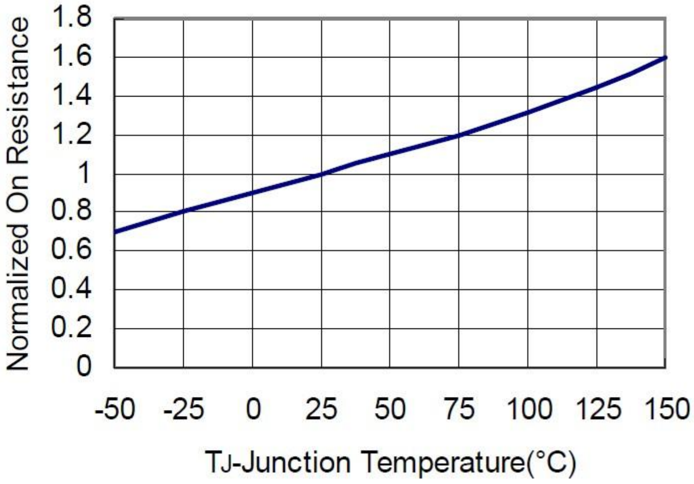
Gate Threshold Voltage



Gate Charge

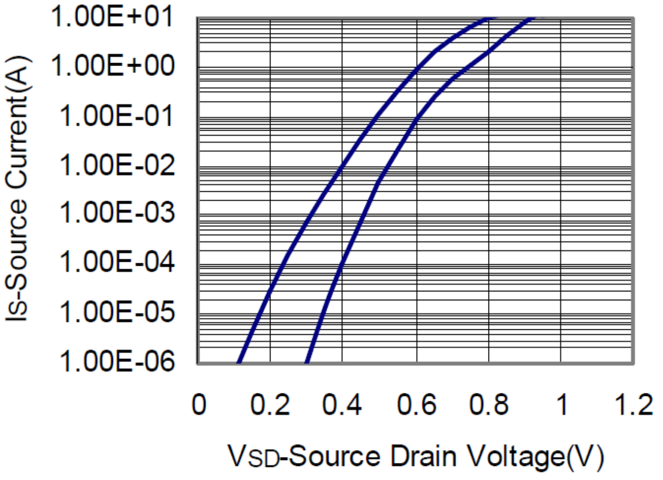


Drain Source On Resistance

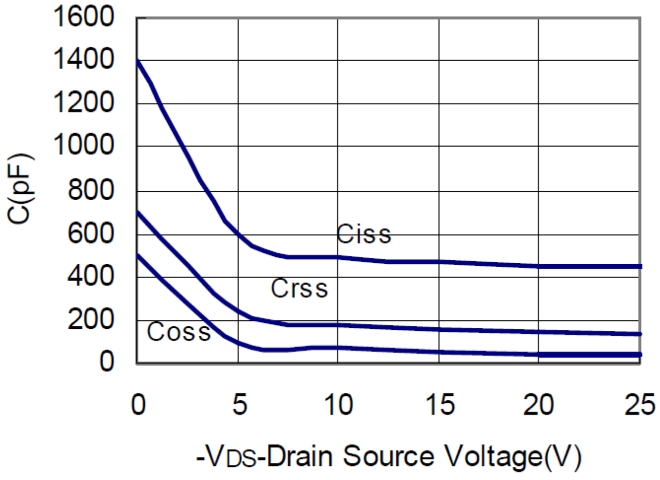


TYPICAL CHARACTERISTICS (continuous)

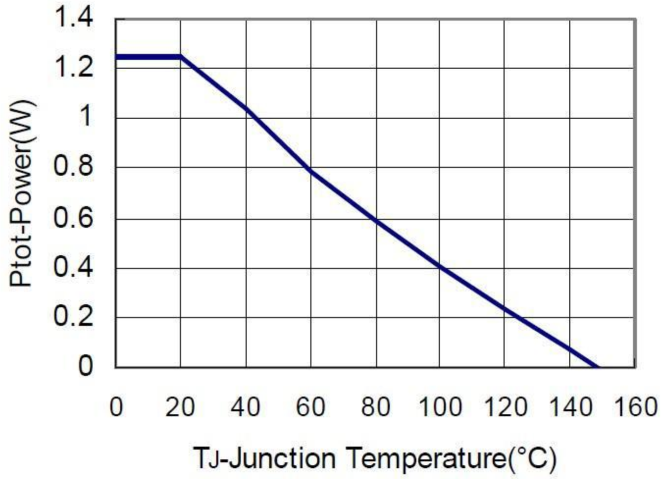
Source Drain Diode Forward



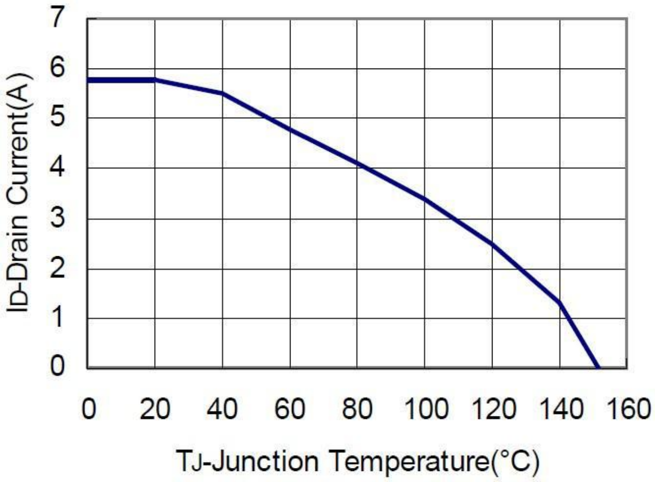
Capacitance



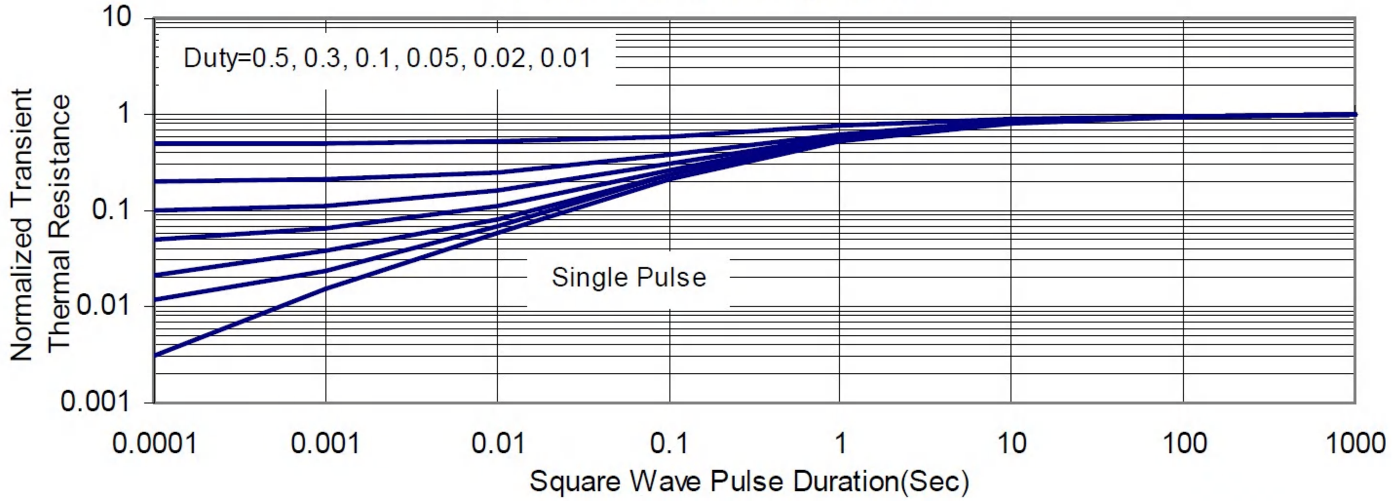
Power Dissipation



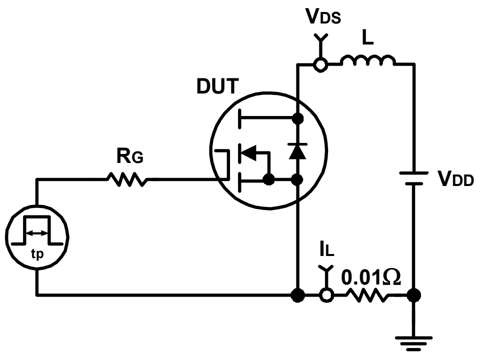
Drain Current

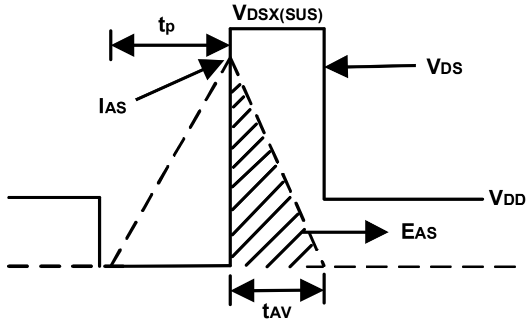


Thermal Transient Impedance

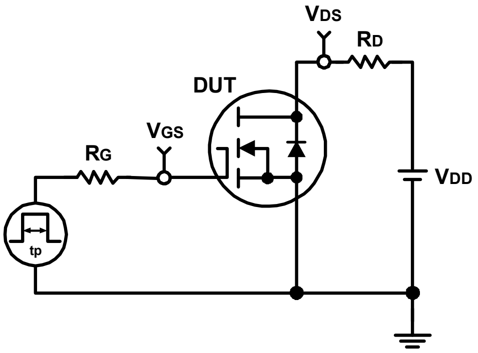


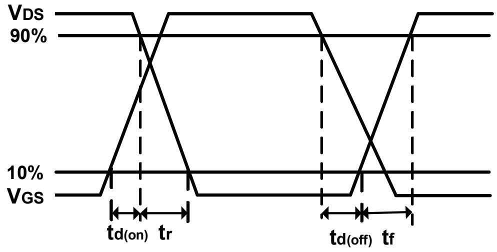
Avalanche Test Circuit and Waveforms





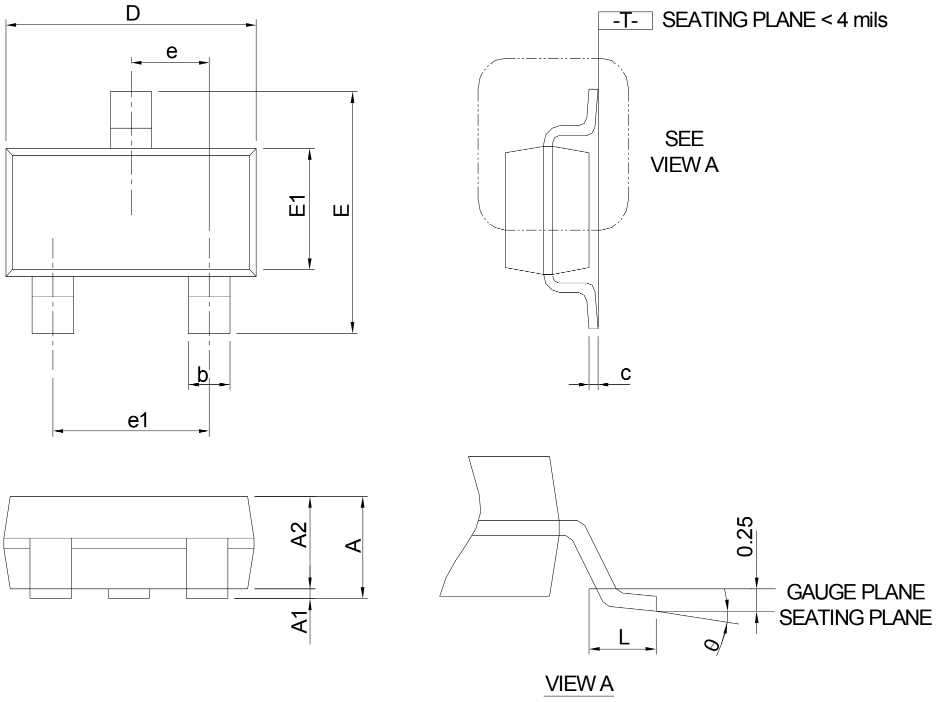
Switching Time Test Circuit and Waveforms





Package Information

SOT23-3L



SYMBOL	SOT 23-3L			
	MILLIMETERS		INCHES	
	MIN.	MAX.	MIN.	MAX.
A		1.20		0.047
A1	0.00	0.08	0.000	0.003
A2	0.90	1.12	0.035	0.044
b	0.30	0.50	0.012	0.020
c	0.08	0.22	0.003	0.009
D	2.70	3.10	0.106	0.122
E	2.60	3.00	0.102	0.118
E1	1.40	1.80	0.055	0.071
e	0.95 BSC		0.037 BSC	
e1	1.90 BSC		0.075 BSC	
L	0.30	0.60	0.012	0.024
θ	0°	8°	0°	8°

Note : Dimension D and E1 do not include mold flash, protrusions or gate burrs. Mold flash, protrusion or gate burrs shall not exceed 10 mil per side.

RECOMMENDED LAND PATTERN