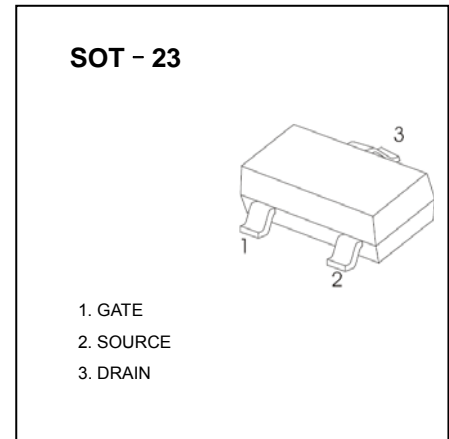


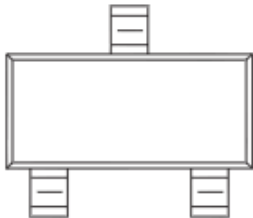
## SOT-23-3L Plastic-Encapsulate MOSFETS

### ■ Features

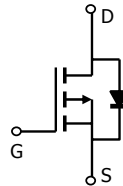
- $V_{DS} (V) = -60V$
- $I_D = -1.25 A (V_{GS} = -10V)$
- $R_{DS(ON)} < 340m\Omega (V_{GS} = -10V)$
- $R_{DS(ON)} < 550m\Omega (V_{GS} = -4.5V)$
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish



### MARKING



### Equivalent Circuit



### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	-60	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	
Continuous Drain Current *1,*2 $T_a = 25^\circ C$ $T_a = 70^\circ C$	$I_D$	-1.25	A
		-0.85	
Pulsed Drain Current	$I_{DM}$	-8	
Avalanche Current $L=0.1mH$	$I_{AS}$	-5	
Power Dissipation *1,*2 $T_a = 25^\circ C$ $T_a = 70^\circ C$	$P_D$	1.25	W
		0.8	
Thermal Resistance.Junction- to-Ambient $t \leq 5 \text{ sec}$ Steady State *1	$R_{thJA}$	100	$^\circ C/W$
		166	
Thermal Resistance.Junction- to-Case *1	$R_{thJC}$	60	
Junction Temperature	$T_J$	150	
Storage Temperature Range	$T_{stg}$	-55 to 150	

\*1 Surface Mounted on FR4 Board.

\*2  $t \leq 5 \text{ sec}$ .

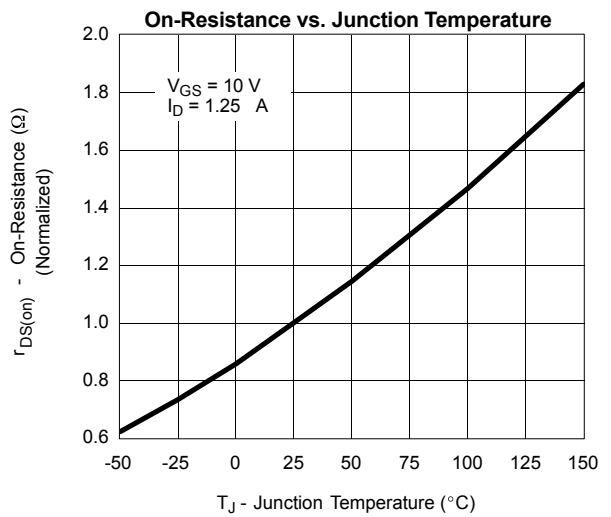
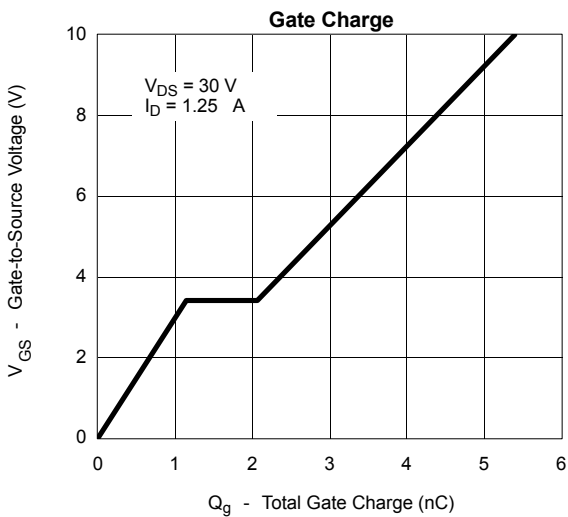
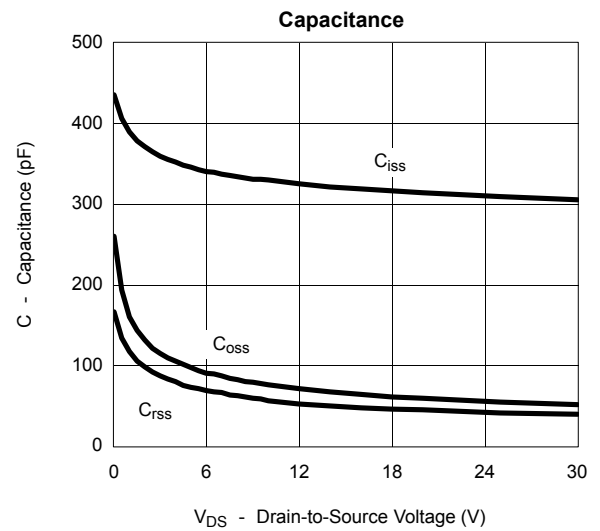
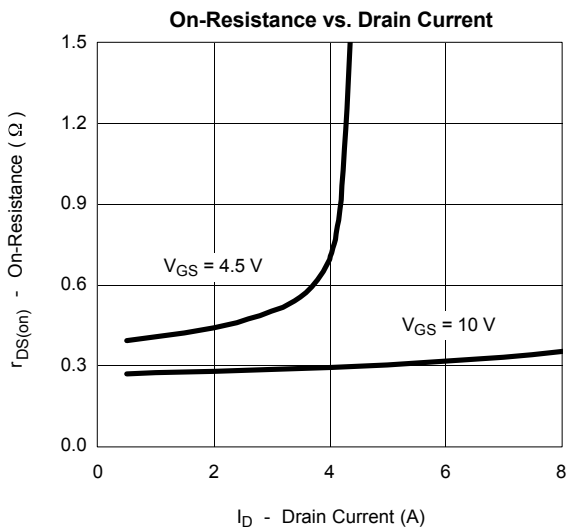
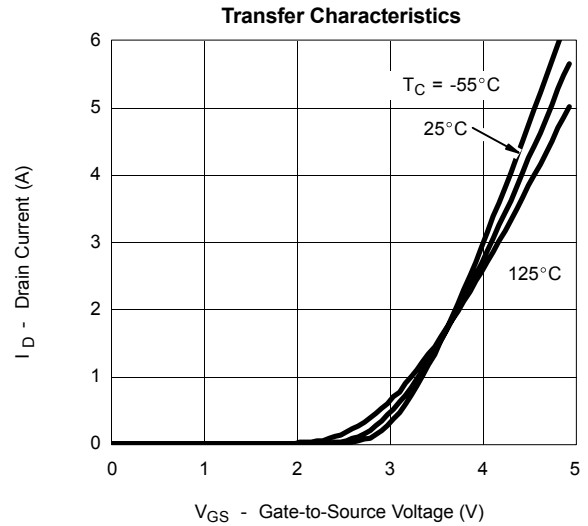
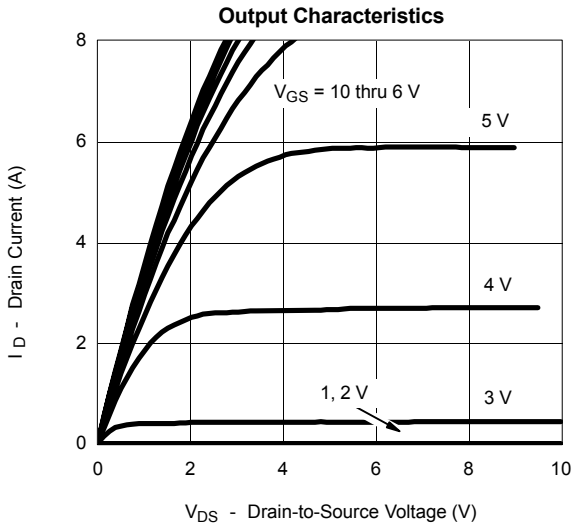
## SOT-23-3L Plastic-Encapsulate MOSFETS

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V <sub>DSS</sub>	I <sub>D</sub> =-250 μ A, V <sub>GS</sub> =0V	-60			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-48V, V <sub>GS</sub> =0V			-1	μ A
		V <sub>DS</sub> =-48V, V <sub>GS</sub> =0V, T <sub>J</sub> =125°C			-50	
Gate-Body leakage current	I <sub>GSS</sub>	V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V			±100	nA
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> I <sub>D</sub> =-250 μ A	-1		-3	V
Static Drain-Source On-Resistance *1	R <sub>DS(on)</sub>	V <sub>GS</sub> =-10V, I <sub>D</sub> =-1.25A			340	mΩ
		V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-1A			550	
On state drain current *1	I <sub>D(ON)</sub>	V <sub>GS</sub> =-4.5V, V <sub>DS</sub> =-10V	-6			A
Forward Transconductance *1	g <sub>FS</sub>	V <sub>DS</sub> =-4.5V, I <sub>D</sub> =-1A		1.9		S
Total Gate Charge	Q <sub>g</sub>	V <sub>GS</sub> =-10V, V <sub>DS</sub> =-30V, I <sub>D</sub> =-1.25A		5.4	12	nC
Gate Source Charge	Q <sub>gs</sub>			1.15		
Gate Drain Charge	Q <sub>gd</sub>			0.92		
Turn-On DelayTime	t <sub>d(on)</sub>	V <sub>GS</sub> =-4.5V, V <sub>DS</sub> =-30V, R <sub>L</sub> =30Ω, R <sub>GEN</sub> =6Ω  I <sub>D</sub> =-1A		10.5	20	ns
Turn-On Rise Time	t <sub>r</sub>			11.5	20	
Turn-Off DelayTime	t <sub>d(off)</sub>			15.5	30	
Turn-Off Fall Time	t <sub>f</sub>			7.5	15	
Body Diode Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> =-1.25A, di/dt=100A/μ s		30	55	
Maximum Body-Diode Continuous Current	I <sub>S</sub>				-1.25	A
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =-1.25A, V <sub>GS</sub> =0V		-0.82	-1.2	V

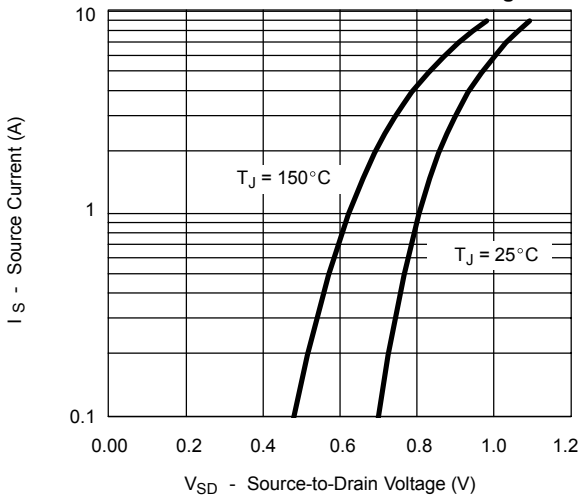
\*1 Pulse test; pulse width ≤ 300us, duty cycle ≤ 2%.

■ Typical Characteristics

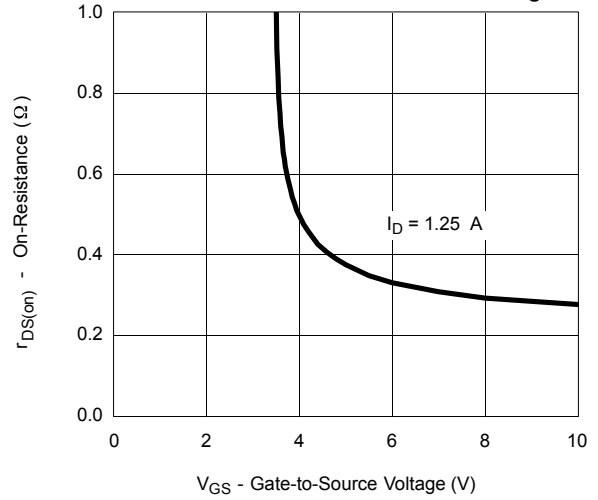


■ Typical Characteristics

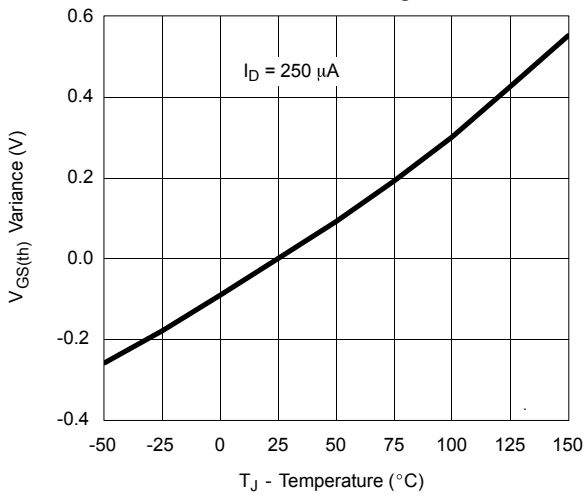
Source-Drain Diode Forward Voltage



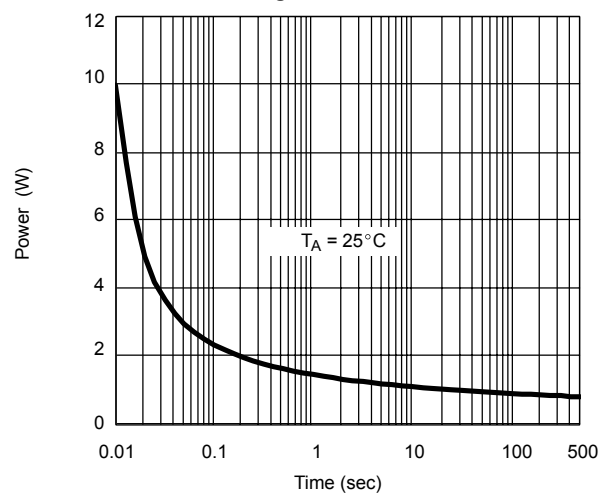
On-Resistance vs. Gate-to-Source Voltage



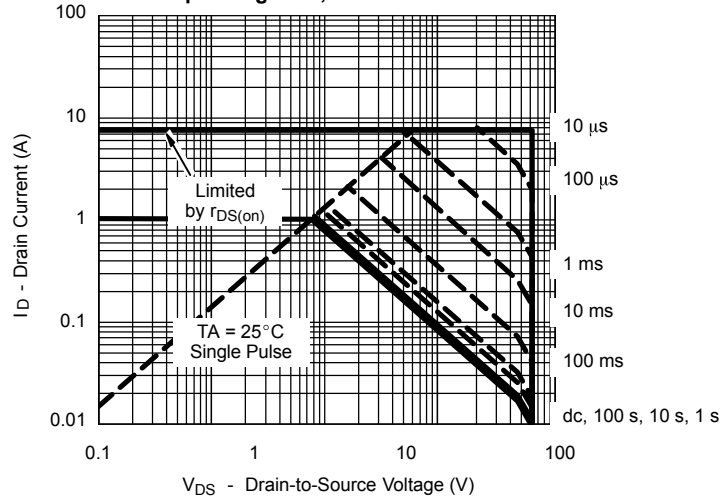
Threshold Voltage



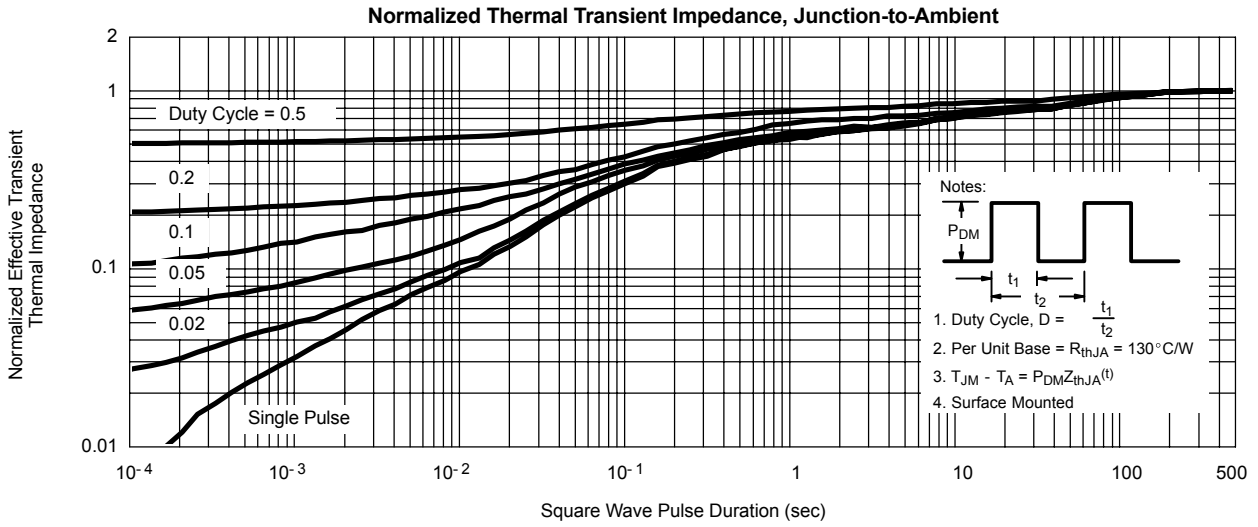
Single Pulse Power



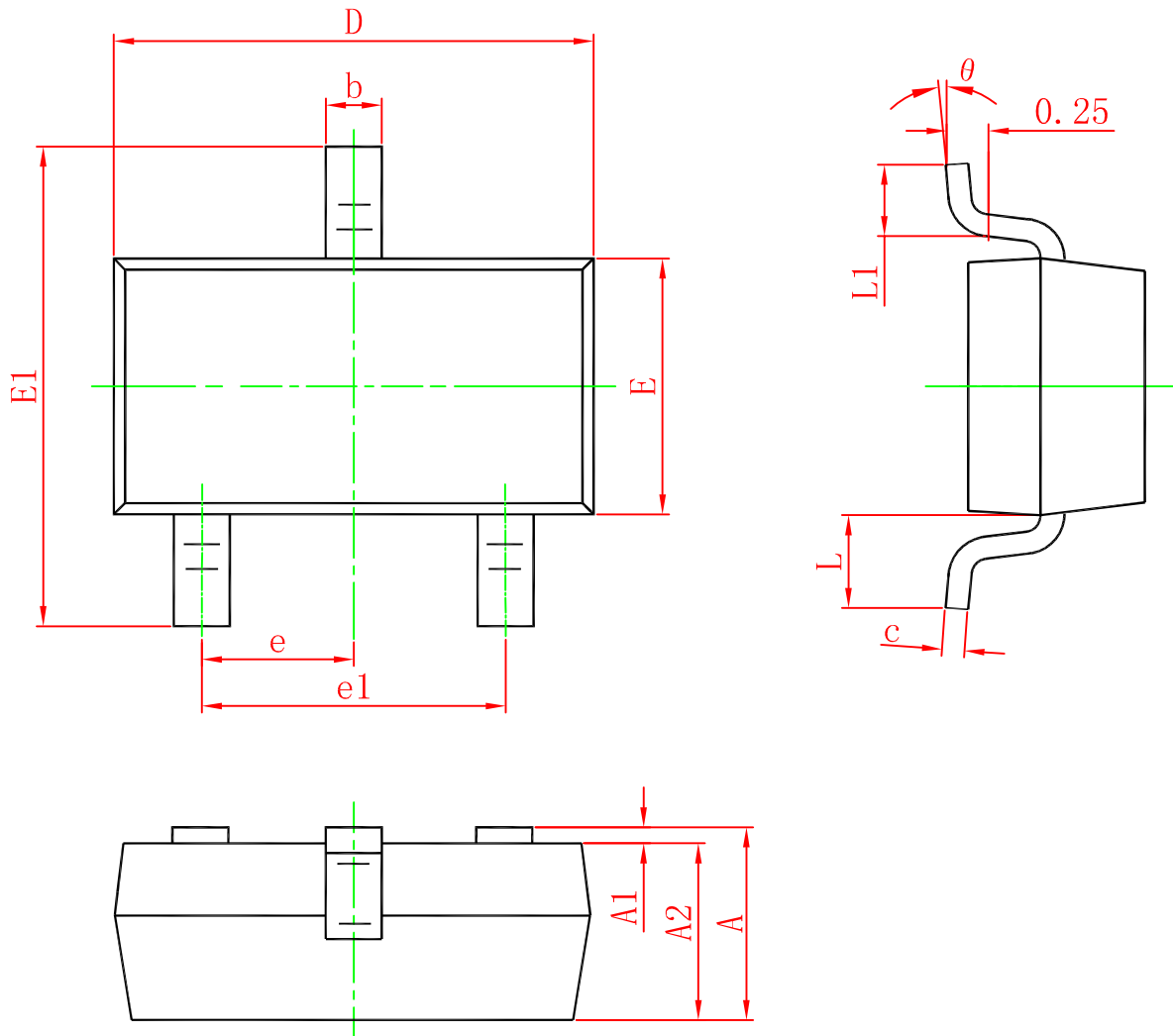
Safe Operating Area, Junction-to-Ambient



■ Typical Characteristics



SOT-23 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
$\theta$	0°	8°	0°	8°