



Dual N-Channel Enhancement Mode Power MOSFET

$V_{DS} = 20V, I_D = 6.8A, R_{DS(ON)} = 14.5m\Omega(\max)$

Features

- Advanced Trench Technology
- Low Thermal Resistance
- Low Gate Charge

Application

- Motor/Body Load Control
- Load Switch
- DC-DC converters

Mechanical Data

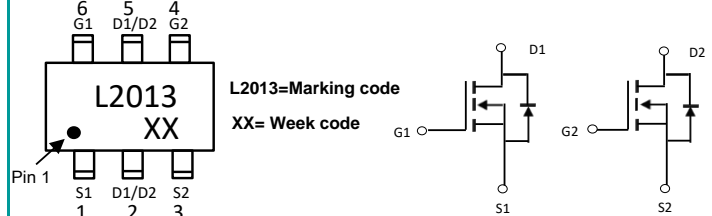
- Case: SOT23-6L Package
- Case Material: "Green" Molding Compound
UL Flammability Classification Rating 94V-0
- Halogen Free

Package Outline



SOT23-6L Top View

Marking Information & Schematic Diagram



Ordering Information

- Reel Size :7 (inches)
- Quantity Per Reel :3,000 pcs
- Quantity Per Box :30,000 pcs
- Quantity One Carton :120,000 pcs

Maximum Ratings (@TA = +25°C, unless otherwise specified.)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	$T_a = 25^\circ C$	6.8
		$T_a = 100^\circ C$	3.1
Pulsed Drain Current (Note1.)	I_{DM}	32	A
Power Dissipation	P_D	0.96	W
Thermal Resistance from Junction to Ambient (Note2.)	$R_{\theta JA}$	130	$^\circ C/W$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ C$

Electrical Characteristics (@TA = +25°C, unless otherwise specified.)

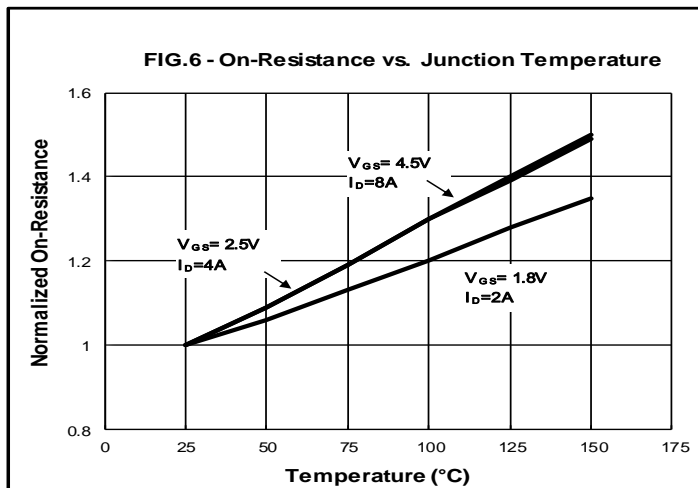
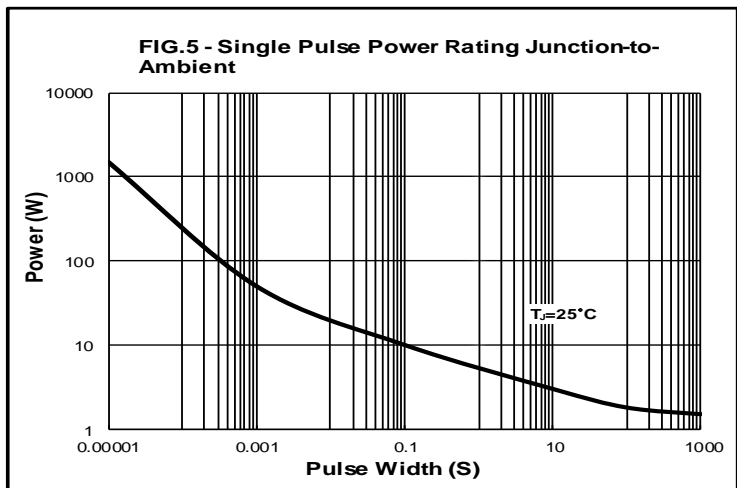
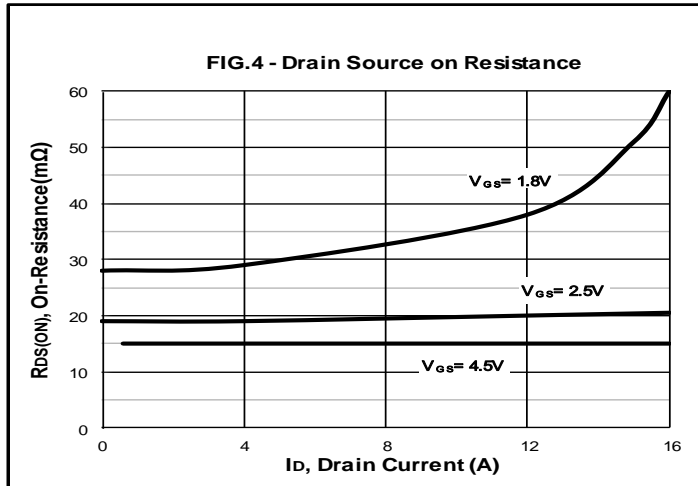
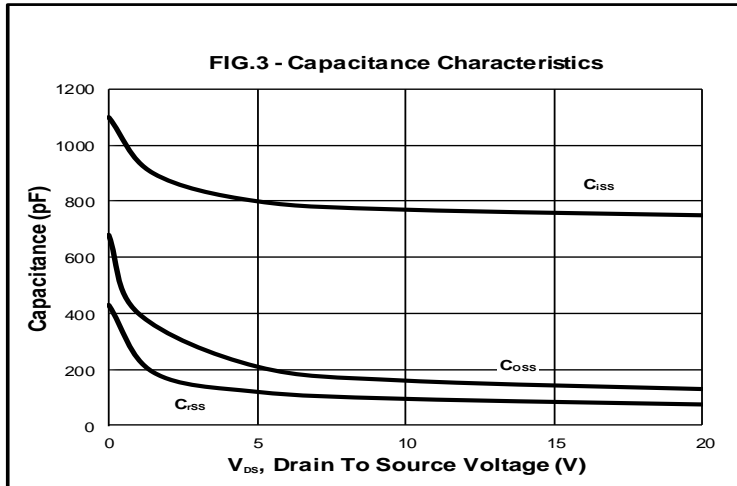
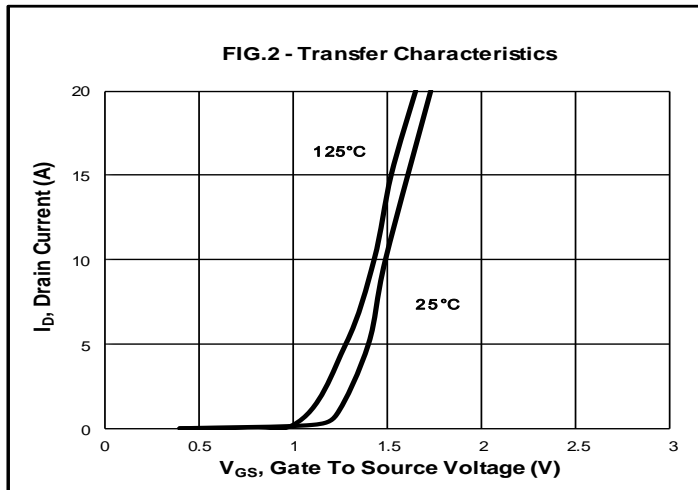
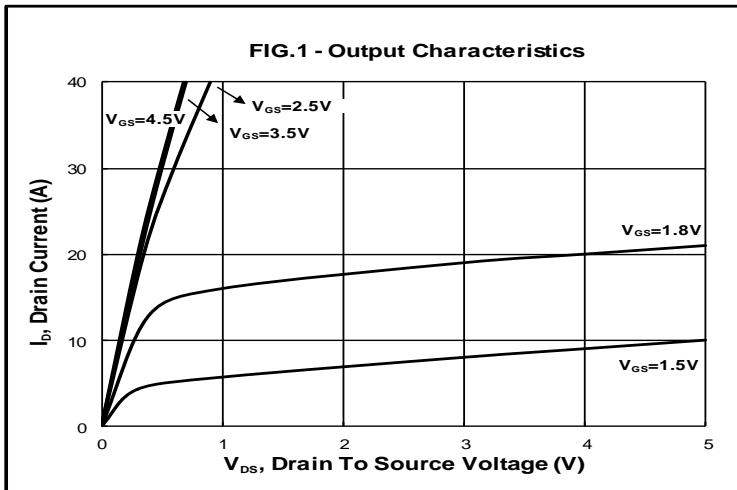
Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	BV_{DSS}	20	-	-	V
Gate-Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{GS(th)}$	0.5	-	1.2	V
Gate Leakage Current	$V_{DS}=0V, V_{GS}=\pm 12V$	I_{GSS}	-	-	± 100	μA
Drain-Source Leakage Current	$V_{DS}=20V, V_{GS}=0V$	I_{DSS}	-	-	1	μA
Drain-Source On-Resistance	$V_{GS}=4.5V, I_D=3A$	$R_{DS(ON)}$	-	13	14.5	m Ω
	$V_{GS}=2.5V, I_D=3A$		-	17	19	
Diode Forward Voltage	at $I_S = 1A, V_{GS} = 0V$	V_{SD}	-	-	1	V
Reverse Recovery Time	$I_S=8A, V_{GS}=0V, di/dt=100A/\mu s$	t_{rr}	-	11	-	ns
Reverse Recovery Charge		Q_{rr}	-	2.7	-	nC
Input Capacitance	$V_{DS}=10V, V_{GS}=0V, F=1MHz$	C_{iss}	-	782	-	pF
Output Capacitance		C_{oss}	-	158	-	
Reverse Transfer Capacitance		C_{rss}	-	98	-	
Total Gate Charge	$V_{DS}=10V, I_D=8A, V_{GS}=4.5V$	Q_g	-	7	-	nC
Gate-Source Charge		Q_{gs}	-	1	-	
Gate-Drain Charge		Q_{gd}	-	2.4	-	
Turn-on Delay Time	$V_{DS}=10V, R_G=3\Omega, V_{GS}=4.5V, R_L=1.25\Omega$	$t_{d(on)}$	-	3	-	ns
Turn-on Rise Time		t_r	-	4.5	-	
Turn-off Delay Time		$t_{d(off)}$	-	28	-	
Turn-off Fall Time		t_f	-	6	-	

Notes:1.Repetitive rating, pulse width limited by junction temperature $T_{J(MAX)}=150^\circ C$. Ratings are based on low frequency and duty cycles to keep initial $T_C = 25^\circ C$.

2.The value of $R_{\theta JA}$ is measured with the device mounted on 1in2 FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ C$.

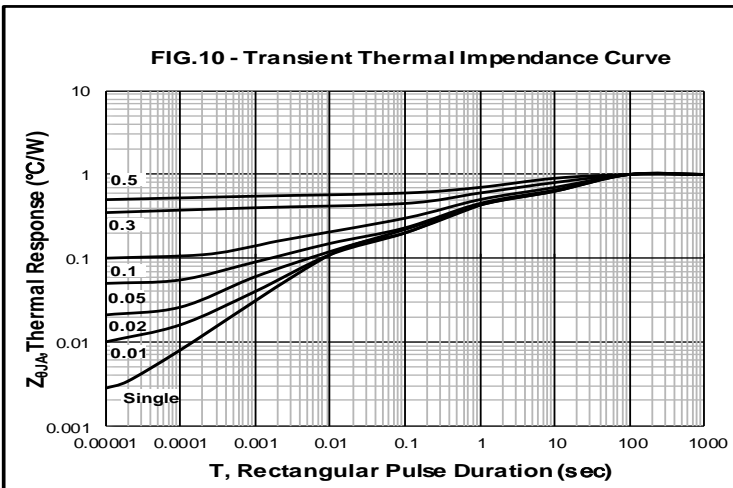
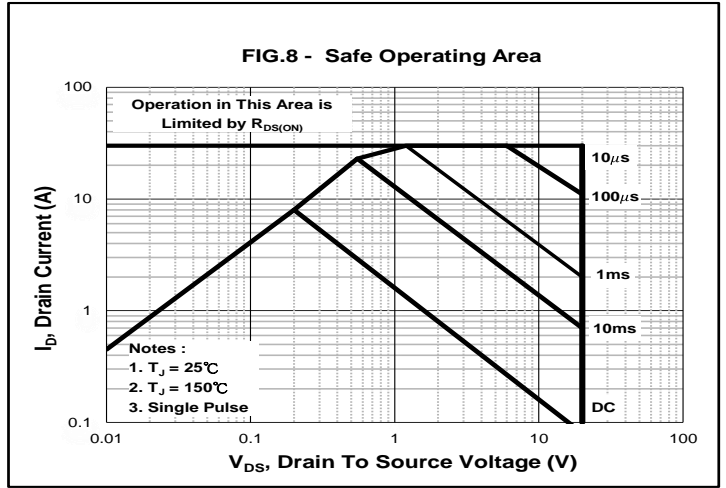
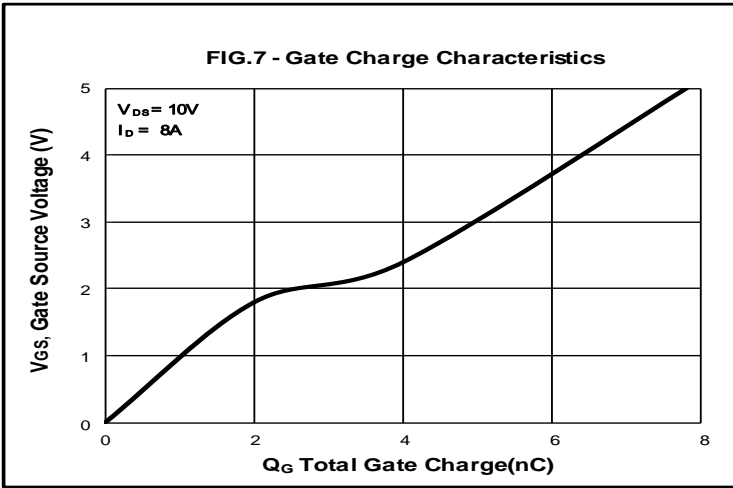


Rating and Characteristic Curves



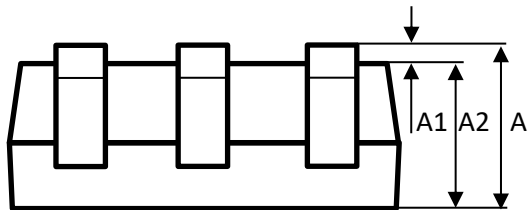
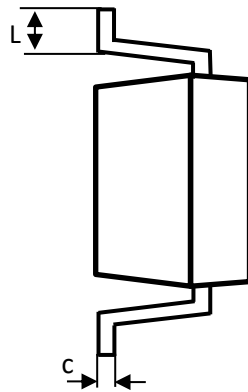
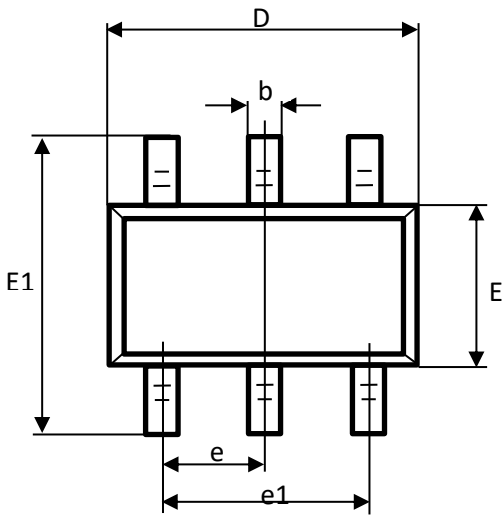


Rating and Characteristic Curves





Package Outline Dimensions



SOT23-6L Package		
Dim	Min	Max
A	1.00	1.30
A1	0.00	0.10
A2	1.00	1.20
b	0.30	0.50
c	0.10	0.20
D	2.80	3.00
E	1.50	1.70
E1	2.70	3.10
e	0.95 typ	
e1	1.80	2.00
L	0.30	0.60
All Dimensions in mm		



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