

Product Summary

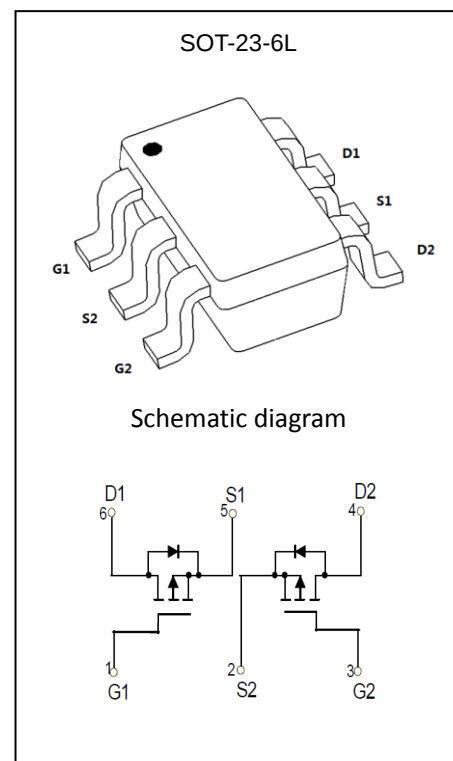
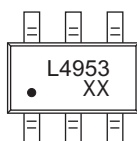
$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-30V	47mΩ@-10V	-5A
	68mΩ@-4.5V	

Feature

- Low on-resistance
- Low drive current
- Low $R_{DS(on)}$ Provides Higher Efficiency and Extends Battery Life
- Fast switching speed
- High performance trench technology

Application

- DC/DC Converter
- Load Switch for Portable
- Devices Battery Switch

MARKING:

ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 20	V
Continuous Drain Current($t \leq 10s$)	$T_A = 25^{\circ}\text{C}$	I_D	-5	A
	$T_A = 85^{\circ}\text{C}$		-3.5	
	$T_A = 125^{\circ}\text{C}$		-2.3	
Power Dissipation($t \leq 10s$)		P_D	0.45	W
Thermal Resistance from Junction to Ambient($t \leq 10s$)		$R_{\theta JA}$	277	$^{\circ}\text{C/W}$
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55~ +150	$^{\circ}\text{C}$

MOSFET ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$ unless otherwise noted)

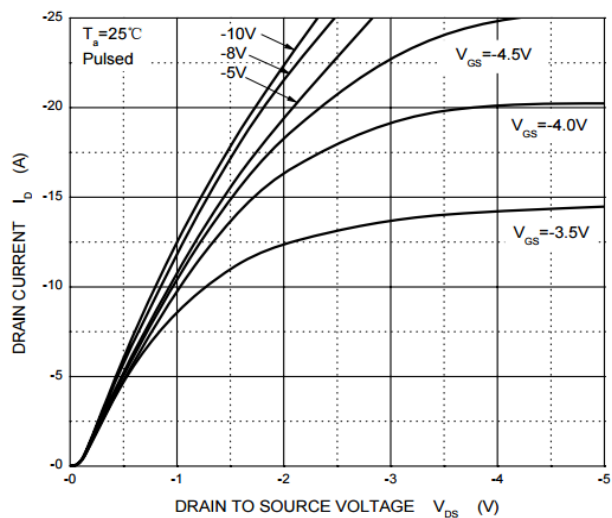
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30V, V_{GS} = 0V$			-1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 0.1	μA
On Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1.0	-1.5	-2	V
Drain-Source On-Resistance ¹	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4.9A$		47	60	m Ω
		$V_{GS} = -4.5V, I_D = -3.7A$		68	90	
Forward Tranconductance ¹	g_{FS}	$V_{DS} = -10V, I_D = -4.9A$	6			S
Dynamic Characteristics ²						
Input Capacitance	C_{iss}	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		538		pF
Output Capacitance	C_{oss}			71		
Reverse Transfer Capacitance	C_{rss}			63		
Gate Resistance	R_g	$V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$		5		Ω
Switching Characteristics						
Total Gate Charge	Q_g	$V_{DS} = -15V, V_{GS} = -10V, I_D = -4.9A$		25		nC
Gate-Source Charge	Q_{gs}			4		
Gate-Drain Charge	Q_{gd}			2		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -15V, R_L = 15\Omega, I_D = -1A,$ $R_G = 6\Omega$		15		ns
Turn-On Rise Time	t_r			20		
Turn-Off Delay Time	$t_{d(off)}$			80		
Turn-Off Fall Time	t_f			40		
Source-Drain Diode Characteristics						
Diode Forward Voltage ¹	V_{SD}	$I_S = -1.7A, V_{GS} = 0V$			-1.2	V

Notes :

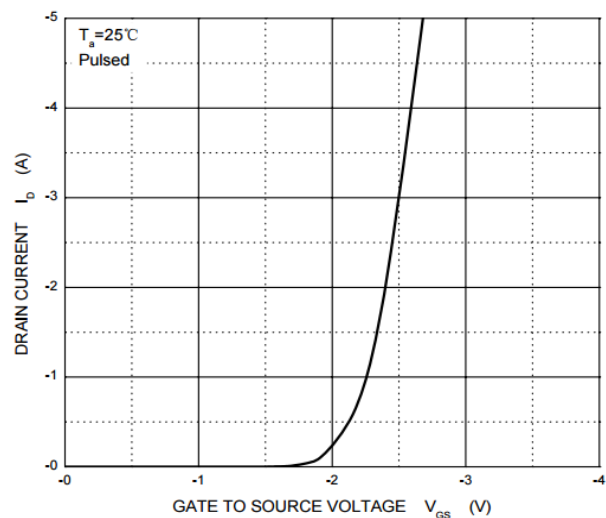
1. Pulse test: $PW \leq 300\mu s$ duty cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristics

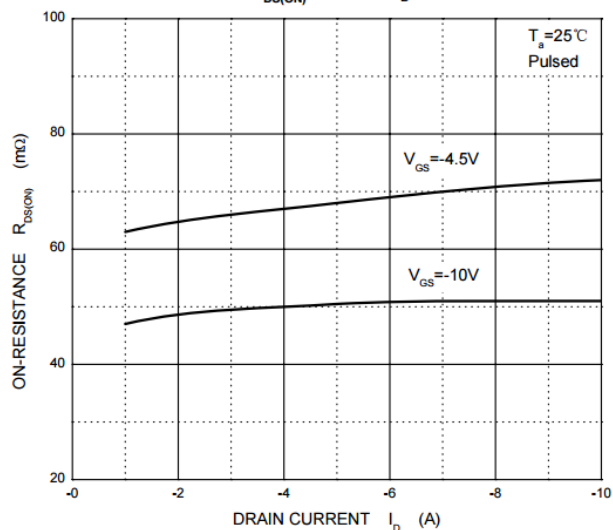
Output Characteristics



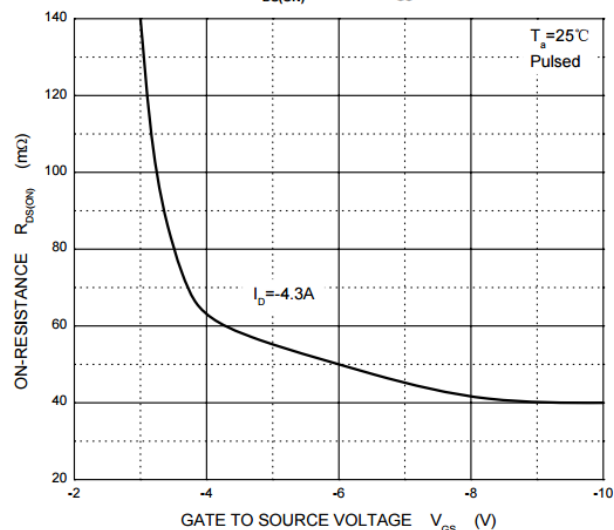
Transfer Characteristics



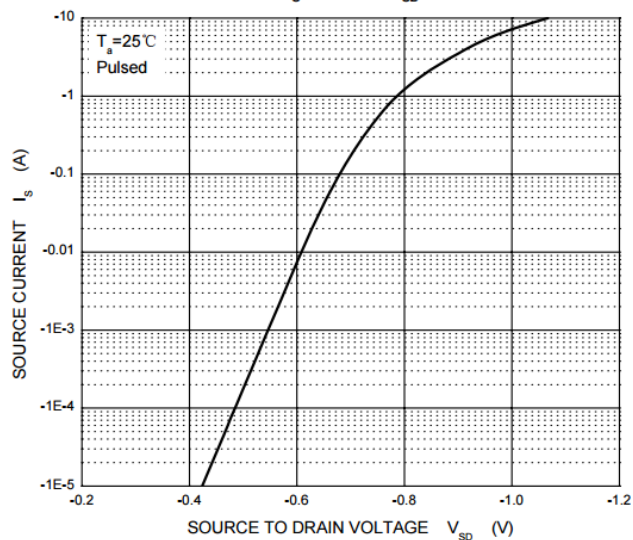
$R_{DS(ON)}$ — I_D

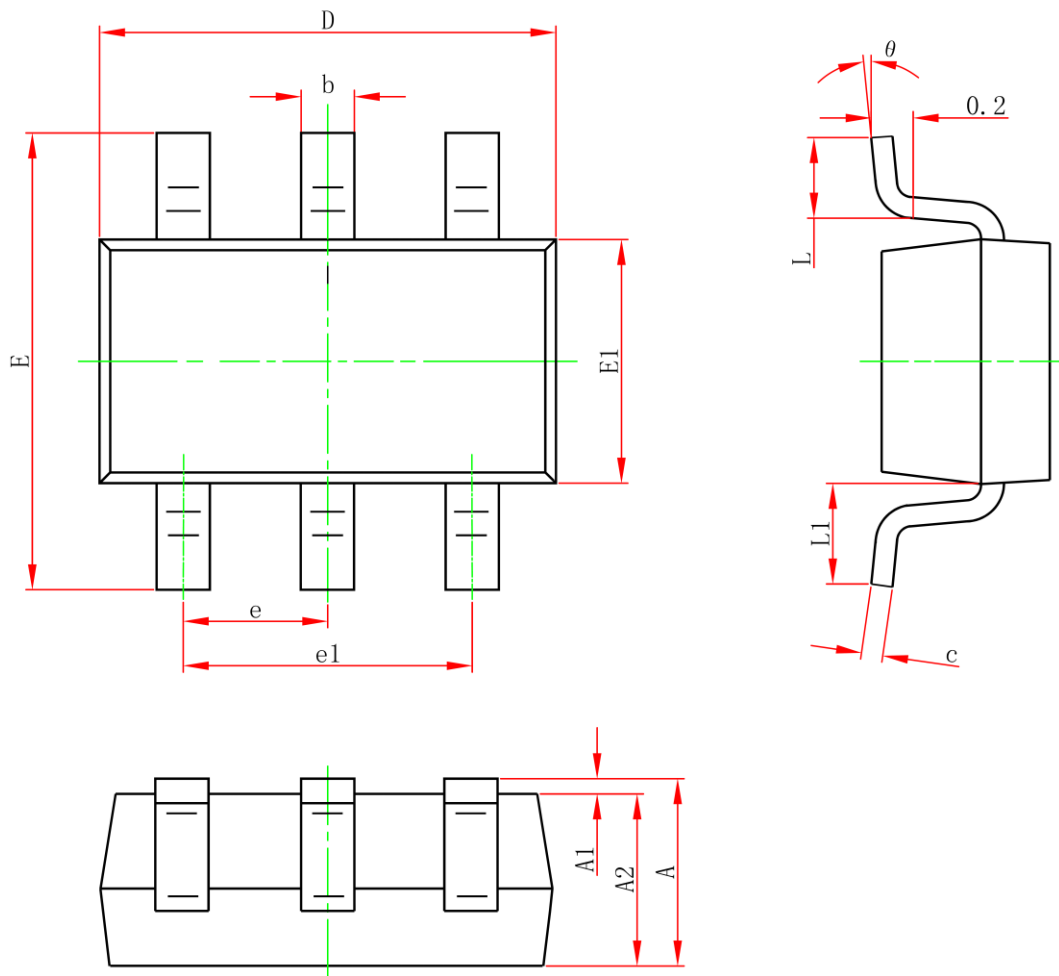


$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}



SOT-23-6L Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0	0.150	0.000	0.006
A2	1.050	1.250	0.041	0.049
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	2.650	2.950	0.104	0.116
E1	1.500	1.700	0.059	0.067
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
L1	0.600REF		0.024REF	
θ	0°	8°	0°	8°

Attention:

- GreenPower Electronics reserves the right to improve product design function and reliability without notice.
- Any and all semiconductor products have certain probability to fail or malfunction, which may result in personal injury, death or property damage. Customer are solely responsible for providing adequate safe measures when design their systems.
- GreenPower Electronics products belong to consumer electronics or other civilian electronic products.