

Product Summary

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

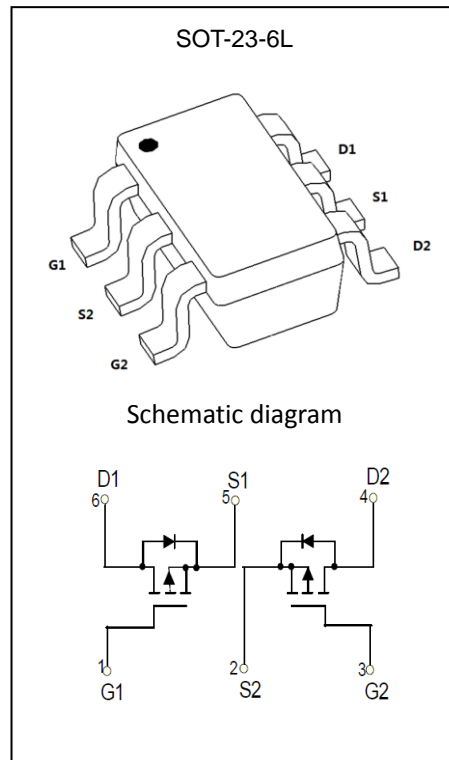
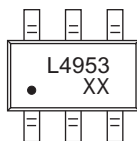
Feature

- 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 ($T_a=25^{\circ}C$ unless otherwise noted)

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

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

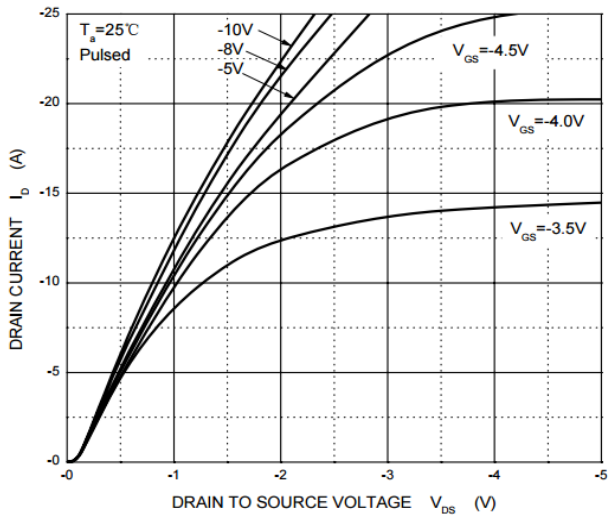
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -30V, V_{GS} = 0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 0.1	μA
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 ^a	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4.9A$		47	60	m Ω
		$V_{GS} = -4.5V, I_D = -3.7A$		68	90	
Forward transconductance ^a	g_{FS}	$V_{DS} = -10V, I_D = 4.9A$	6			S
Diode forward voltage ^a	V_{SD}	$I_S = -1.7A, V_{GS} = 0V$			-1.2	V
Dynamic characteristics^b						
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		
Switching Characteristics						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -15V, R_L = 15\Omega, I_D = -1A,$ $V_{GNE} = -10V, R_G = 6\Omega$			15	ns
Turn-on rise time	t_r				20	
Turn-off delay time	$t_{d(off)}$				80	
Turn-off fall time	t_f				40	

Notes:

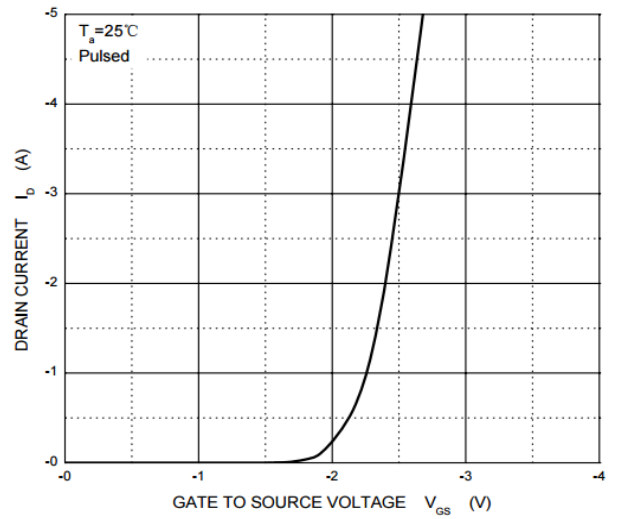
1. Pulse test: $PW \leq 300\mu s$ duty cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production testing.

Typical Electrical and Thermal Characteristics

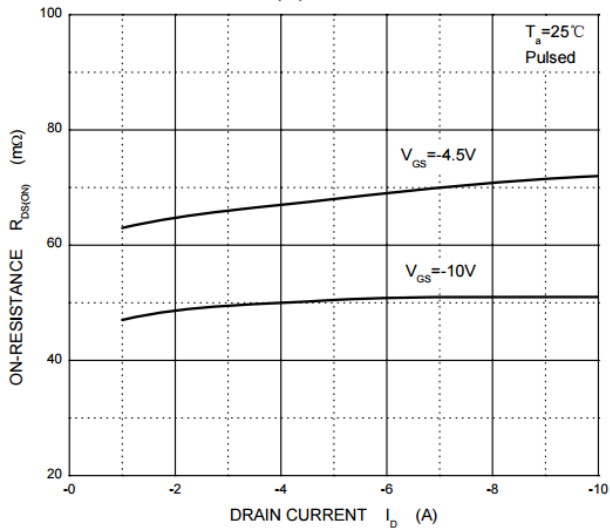
Output Characteristics



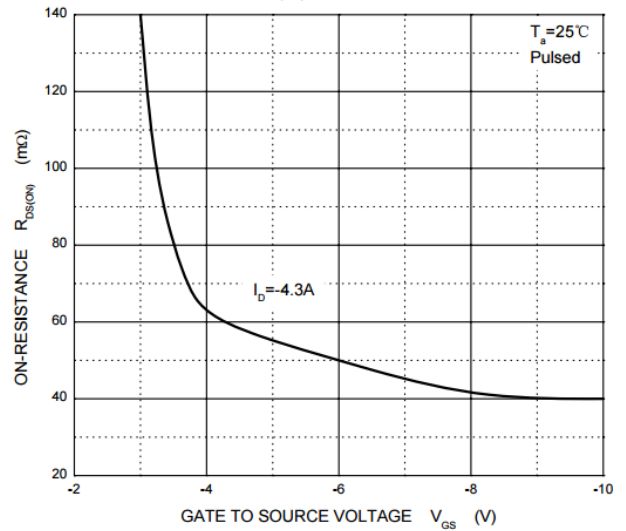
Transfer Characteristics



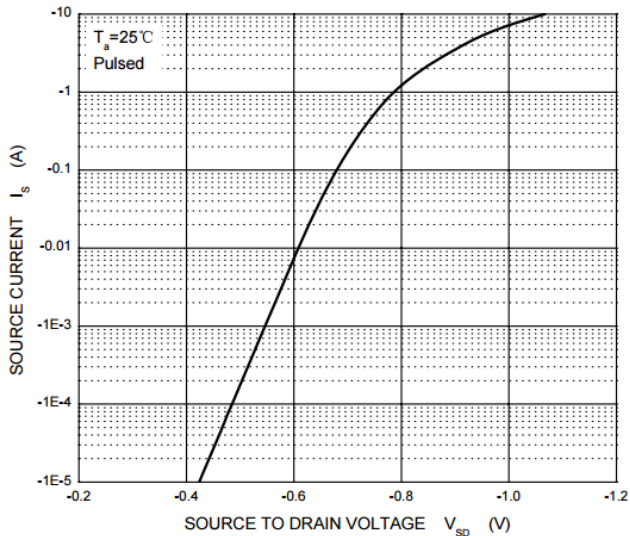
$R_{DS(ON)}$ — I_D



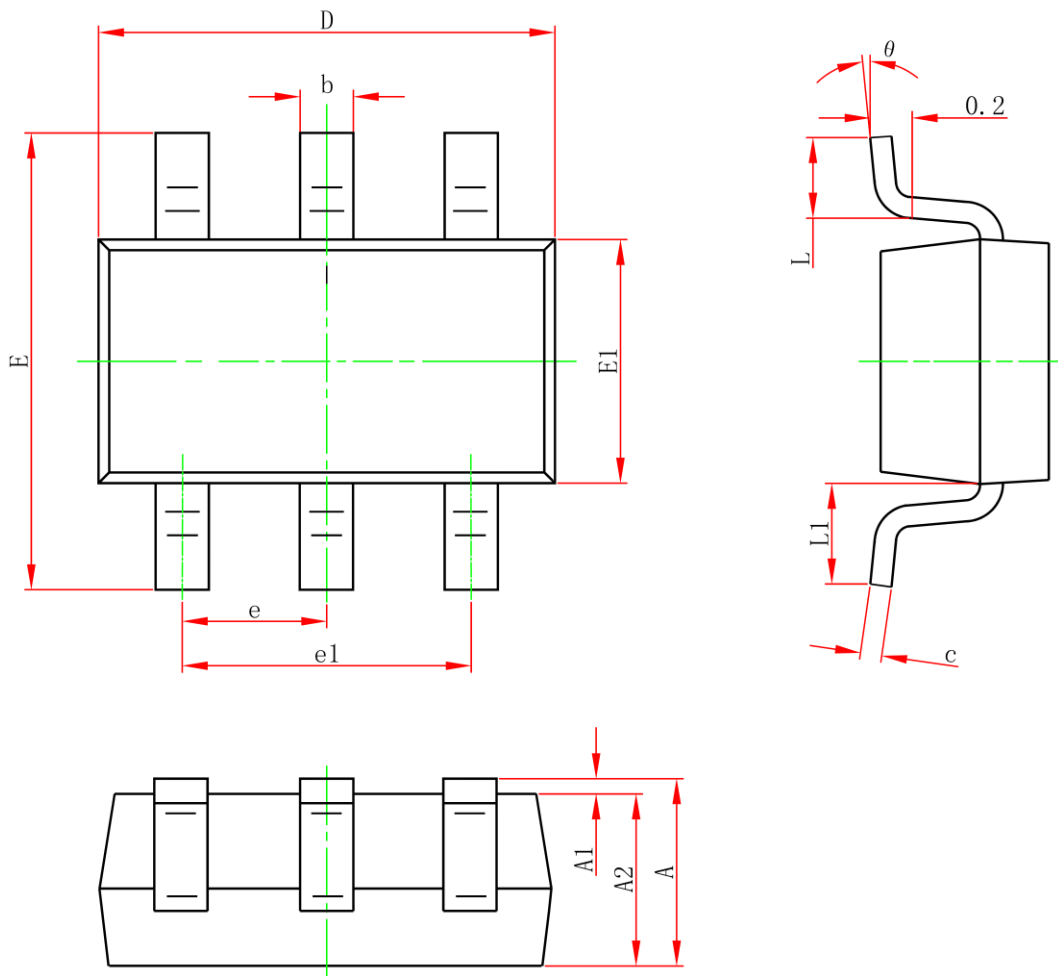
$R_{DS(ON)}$ — V_{GS}



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°