

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
60V	80mΩ@10V	4A
	90mΩ@4.5V	

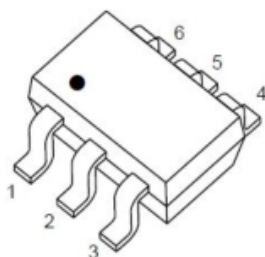
Feature

- High power and current handing capability
- Surface mount package

Applications

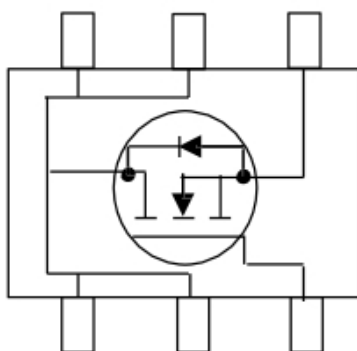
- Battery Switch
- DC/DC Converter

Package



SOT-23-6L

Circuit diagram



Marking



Absolute maximum ratings

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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	4	A
Pulsed Drain Current ¹⁾	I_{DM}	16	A
Maximum Power Dissipation	P_D	1.5	W
Thermal Resistance from Junction to Ambient ²⁾	$R_{\theta JA}$	83.3	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 To 150	$^{\circ}\text{C}$

Electrical characteristics

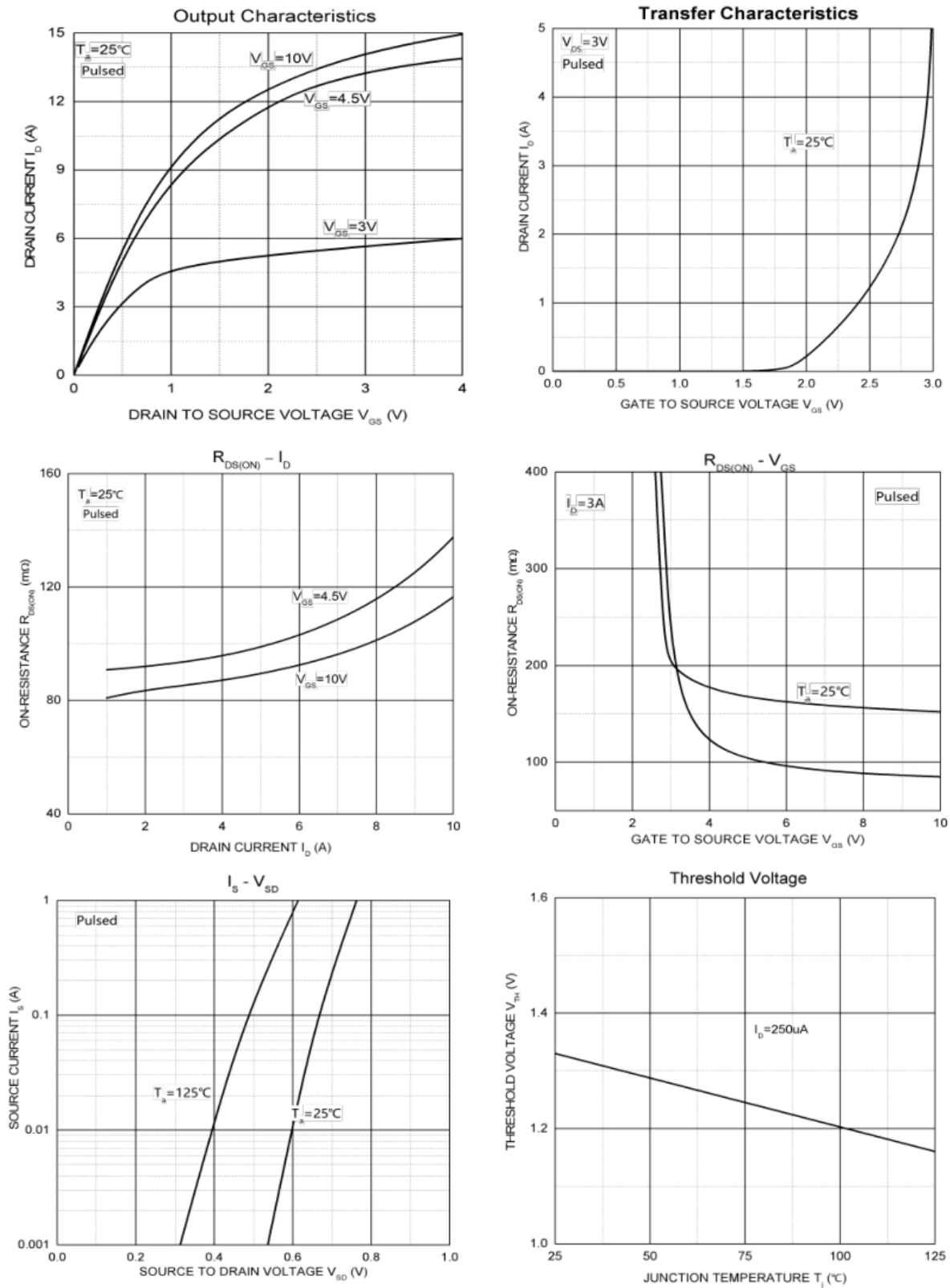
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV (BR)DSS	V _{GS} = 0V, I _D =250μA	60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} = 0V			1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} = 0V			±100	μA
Gate Threshold Voltage ³⁾	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.8	1.2	2	V
Drain-Source On-State Resistance ³⁾	R _{DS(on)}	V _{GS} =10V, I _D =3A		80	100	mΩ
		V _{GS} =4.5V, I _D =2A		90	120	
Dynamic Characteristics ⁽⁴⁾						
Input capacitance	C _{iss}	V _{DS} =30V, V _{GS} =0V, f=1MHz		330		pF
Output capacitance	C _{oss}			90		
Reverse transfer capacitance	C _{rss}			17		
Switching Characteristics ⁽⁴⁾						
Total Gate Charge	Q _g	V _{DS} =30V, V _{GS} =4.5V, I _D =3A		5.1		pF
Gate-Source Charge	Q _{gs}			1.3		
Gate-Drain Charge	Q _{gd}			1.7		
Turn-on Delay Time	T _{d(on)}	V _{GS} =10V, V _{DD} =30V ,I _D =1.5A, R _G =1Ω, R _{Gen} =3Ω		13		nS
Turn-on Rise Time	T _r			51		
Turn-Off Delay Time	T _{d(off)}			19		
Turn-Off Fall Time	t _f			12		
Drain-Source Diode Characteristics ⁽⁴⁾						
Body Diode Voltage	V _{SD}	V _{GS} =0V ,I _S =3A			1.2	V

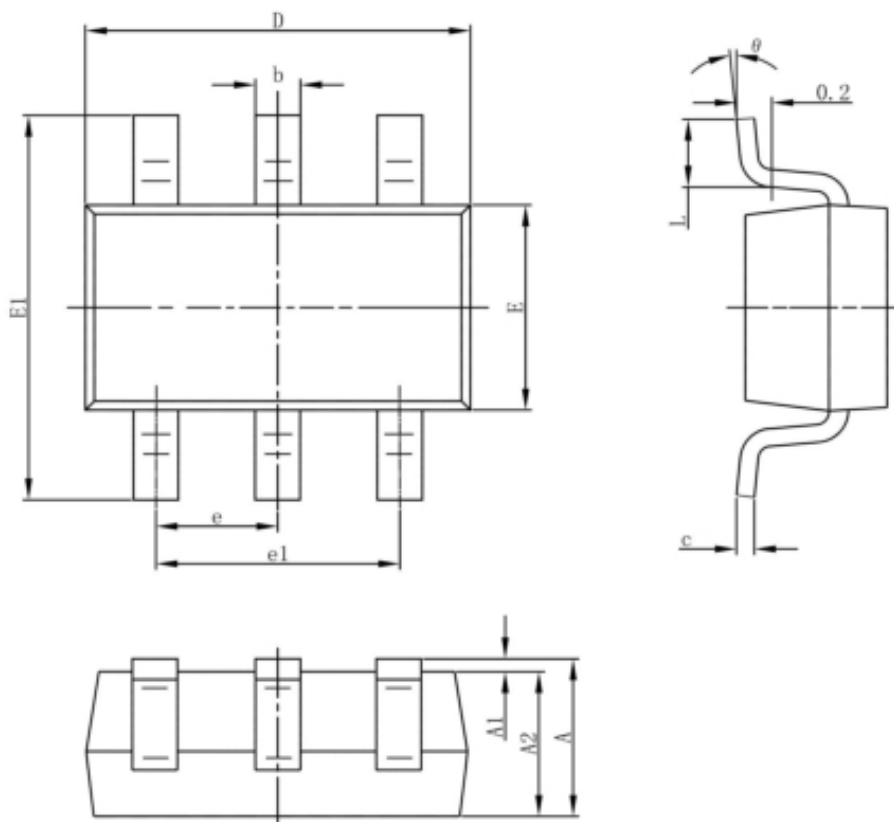
Notes:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, $t \leq 10$ sec.
3. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production

Typical Characteristics



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	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
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	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°