



#### Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	$I_D$
60V	70m $\Omega$ @10V	3A
	82m $\Omega$ @4.5V	

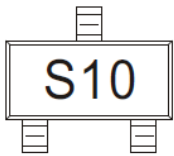
#### Feature

- High power and current handling capability
- Surface mount package

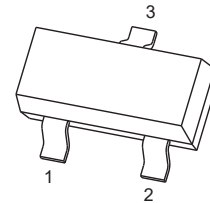
#### Application

- Battery Switch
- DC/DC Converter

#### MARKING:

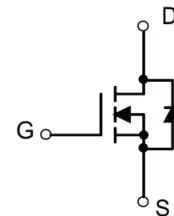


#### SOT-23



1. GATE
2. SOURCE
3. DRAIN

#### Schematic diagram



#### 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	$V_{GS}$	$\pm 20$	
Continuous Drain Current	$I_D$	3	A
Pulsed Drain Current <sup>1</sup>	$I_{DM}$	10	
Maximum Power Dissipation	$P_D$	1.3	W
Thermal Resistance from Junction to Ambient <sup>2</sup>	$R_{\theta JA}$	96	$^{\circ}\text{C}/\text{W}$
Thermal Resistance from Junction to Board	$R_{\theta JB}$	22	$^{\circ}\text{C}/\text{W}$
Thermal Resistance from Junction to Case	$R_{\theta JC}$	8	$^{\circ}\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55~ +150	

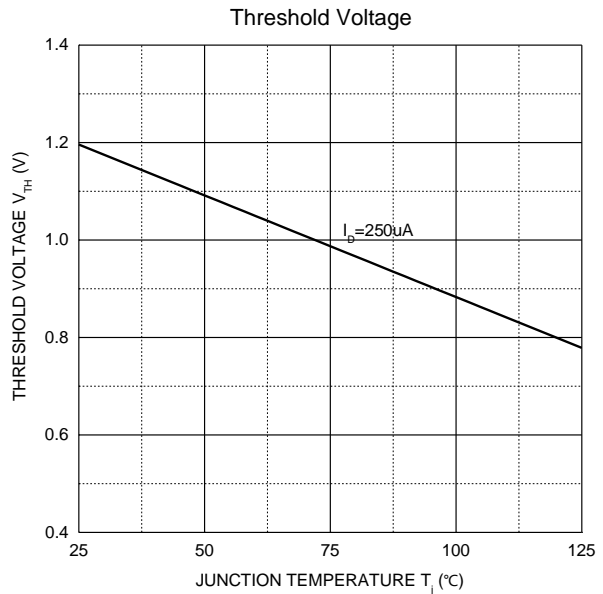
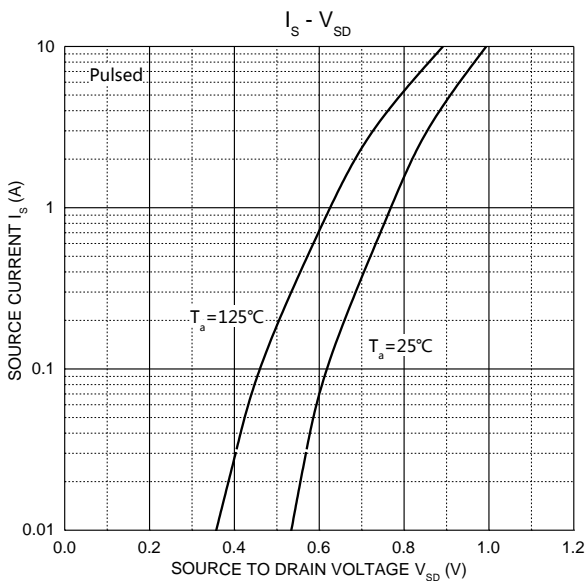
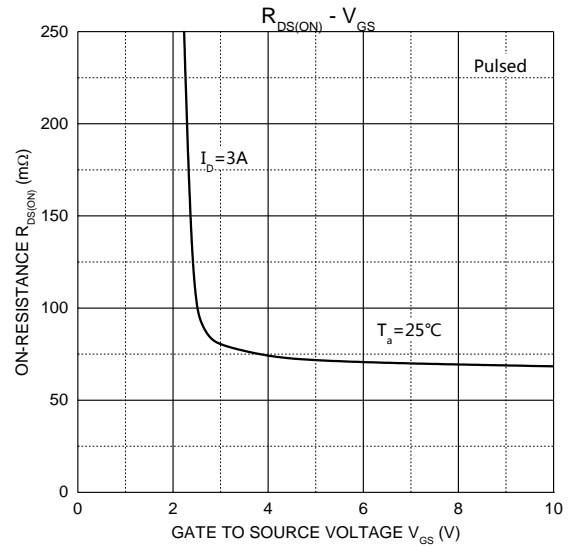
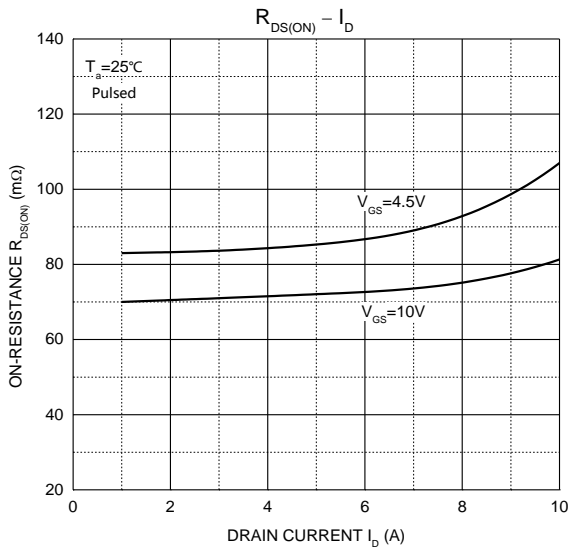
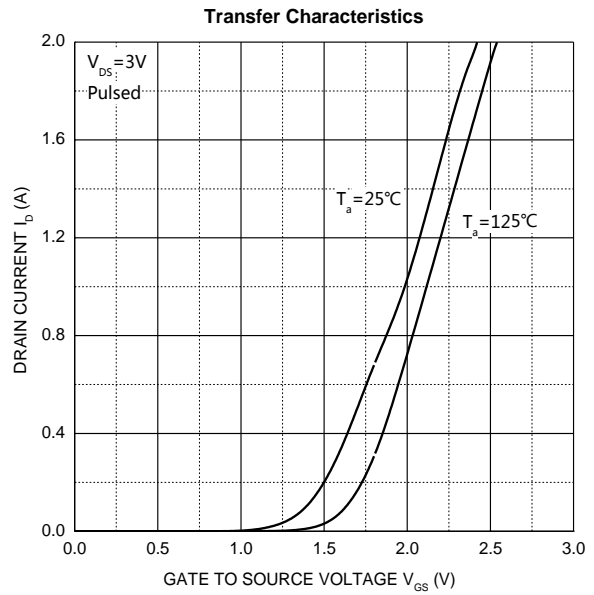
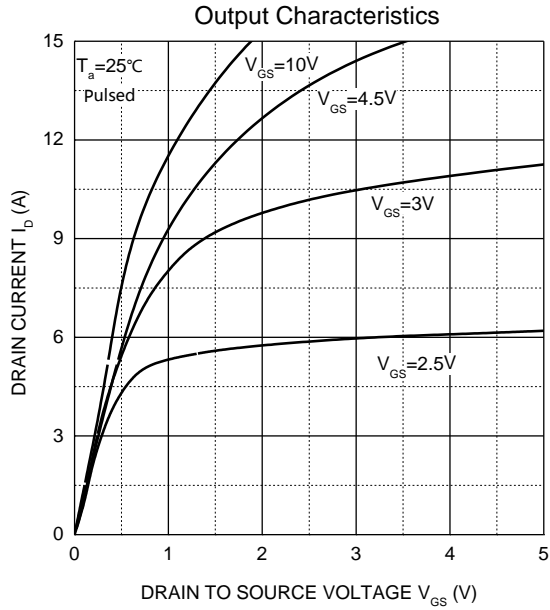
**MOSFET ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise noted)**

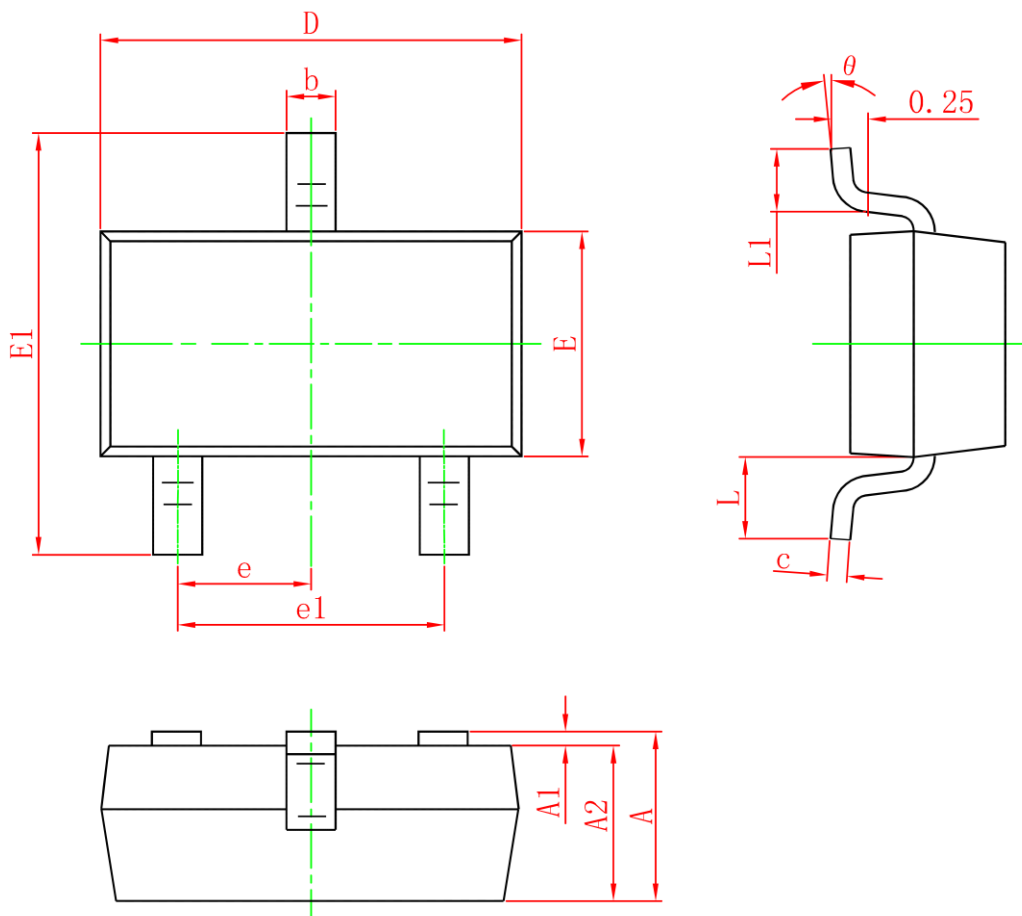
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
<b>STATIC CHARACTERISTICS</b>						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA	60			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 60V, V <sub>GS</sub> = 0V			1	μA
Gate-Body Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±100	nA
Gate Threshold Voltage <sup>3</sup>	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA	0.5	1.2	2	V
Drain-Source On-Resistance <sup>3</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> = 10V, I <sub>D</sub> = 3A		70	90	mΩ
		V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 3A		82	125	
Forward Transconductance <sup>3</sup>	g <sub>FS</sub>	V <sub>DS</sub> = 15V, I <sub>D</sub> = 2A	1.4	2.5		S
<b>DYNAMIC CHARACTERISTICS<sup>4</sup></b>						
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 30V, V <sub>GS</sub> = 0V, f = 1MHz		250		pF
Output Capacitance	C <sub>oss</sub>			26		
Reverse Transfer Capacitance	C <sub>rss</sub>			20		
<b>SWITCHING CHARACTERISTICS<sup>4</sup></b>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = 30V, V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 3A		7		nC
Gate-Source Charge	Q <sub>gs</sub>			1.2		
Gate-Drain Charge	Q <sub>gd</sub>			1.5		
Turn-On Delay Time	t <sub>d(on)</sub>	V <sub>GS</sub> = 10V, V <sub>DD</sub> = 30V, I <sub>D</sub> = 1.5A, R <sub>GEN</sub> = 1Ω		6.5		ns
Turn-On Rise Time	t <sub>r</sub>			15.2		
Turn-Off Delay Time	t <sub>d(off)</sub>			15.2		
Turn-Off Fall Time	t <sub>f</sub>			10.3		
<b>Source-Drain Diode characteristics<sup>4</sup></b>						
Body Diode Voltage	V <sub>SD</sub>	I <sub>S</sub> = 3A, V <sub>GS</sub> = 0V		0.8	1.2	V

**Notes :**

1. Repetitive rating : Pulse width limited by junction temperature.
2. Surface mounted on FR4 board , t<sub>s</sub> ≤ 10s.
3. Pulse Test : Pulse Width ≤ 300μs, Duty Cycle ≤ 0.5%.
4. Guaranteed by design, not subject to producing.

**Typical Characteristics**



**SOT-23 Package Information**


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0	0.100	0	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	1.150	1.500	0.045	0.059
E1	2.250	2.650	0.089	0.104
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
$\theta$	0°	8°	0°	8°