

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
20V	32mΩ@4.5V	3.5A
	43mΩ@2.5V	

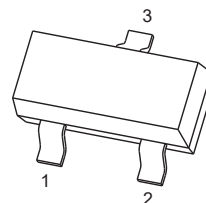
Feature

- TrenchFET Power MOSFET
- Excellent $R_{DS(on)}$ and Low Gate Charge

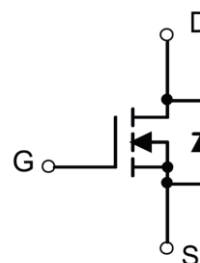
Application

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

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}	20	V
Gate-Source Voltage	V_{GS}	± 10	V
Continuous Drain Current	I_D	3.5	A
Plused Drain Current	I_{DM}	14	A
Continuous Source-Drain Current(Diode Conduction)	I_S	0.6	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	312.5	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}\text{C}$

MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

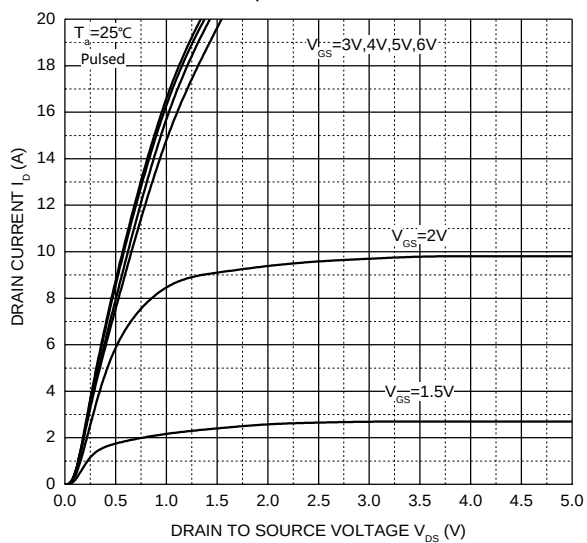
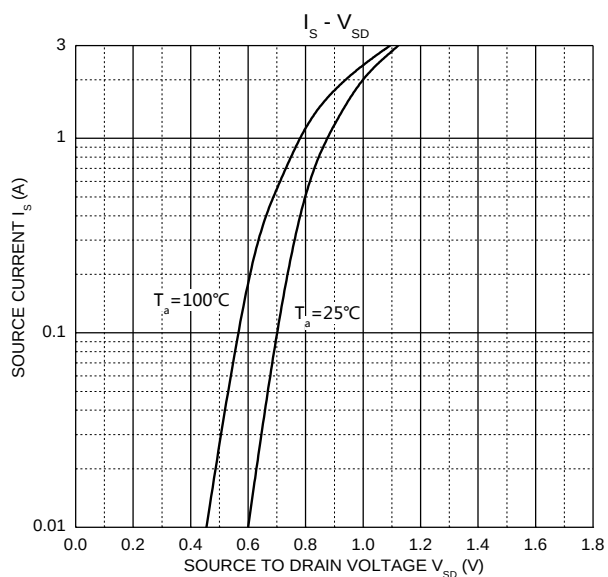
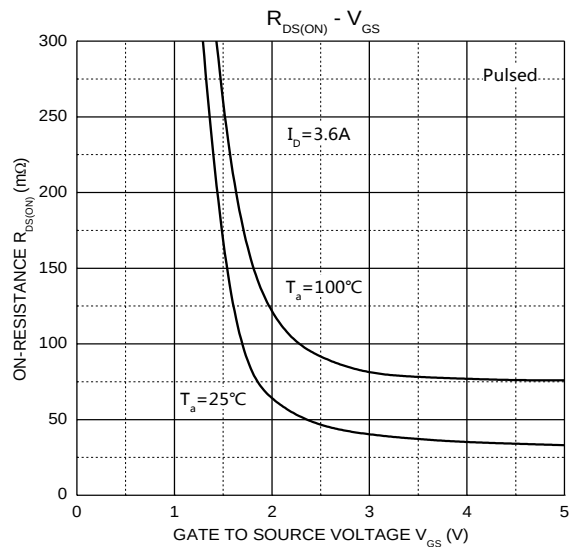
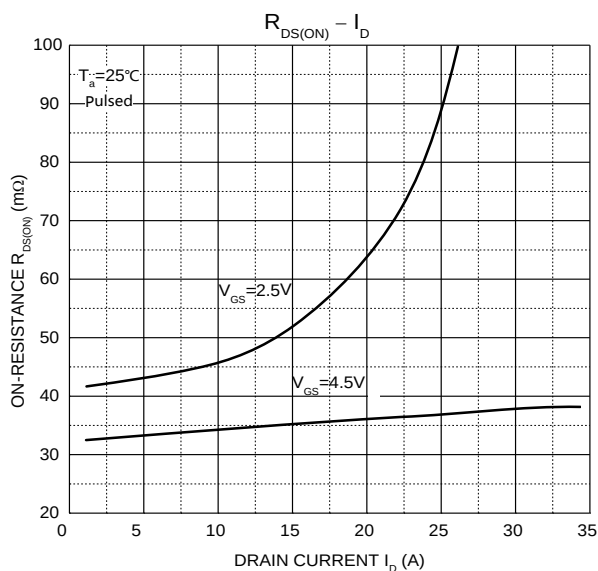
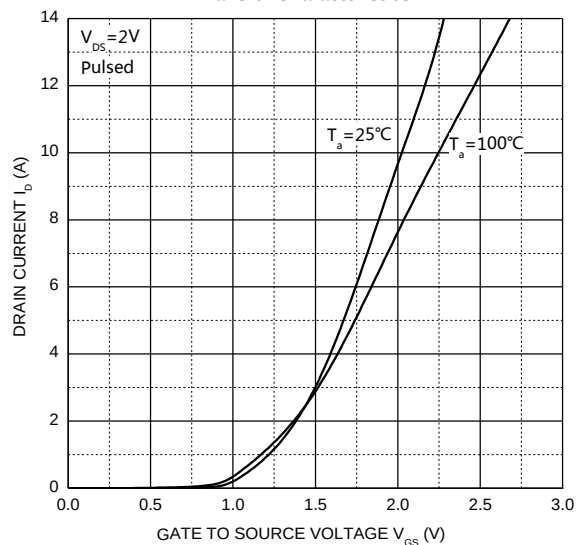
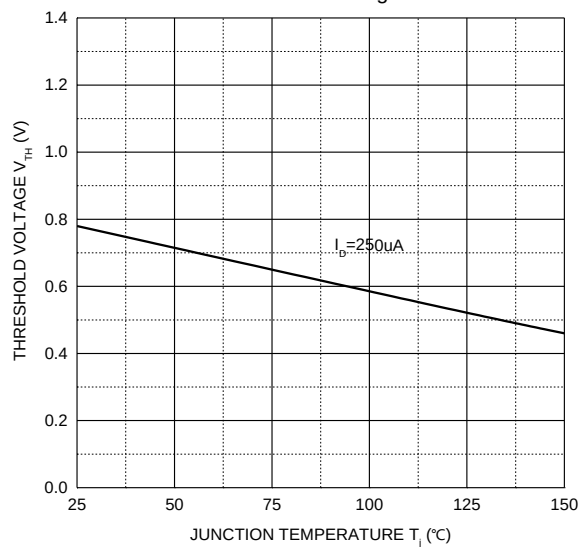
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =20V,V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±10V, V _{DS} = 0V			±0.1	μA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.65	0.95	1.2	V
Drain-source on-resistance ^a	R _{DS(on)}	V _{GS} =4.5V, I _D =3.6A		32	42	mΩ
		V _{GS} =2.5V, I _D =3.1A		43	65	
Forward tranconductance ^a	g _{FS}	V _{DS} =5V, I _D =3.6A	8			S
Dynamic characteristics						
Input Capacitance ^b	C _{iss}	V _{DS} =10V,V _{GS} =0V,f=1MHz		260		pF
Output Capacitance ^b	C _{oss}			48		pF
Reverse Transfer Capacitance ^b	C _{rss}			27		pF
Total gate charge	Q _g	V _{DS} =10V,V _{GS} =4.5V,I _D =3.0A		2.9	5	nC
Gate-source charge	Q _{gs}			0.4		nC
Gate-drain charge	Q _{gd}			0.6		nC
Switching Characteristics ^b						
Turn-on delay time	t _{d(on)}	V _{DD} =10V, R _L =3.3Ω, V _{GEN} =4.5V,R _g =6Ω		2.5		ns
Turn-on rise time	t _r			3.2		ns
Turn-off delay time	t _{d(off)}			21		ns
Turn-off fall time	t _f			3		ns
Source-Drain Diode characteristics						
Diode Forward voltage	V _{DS}	V _{GS} =0V, I _S =0.94A		0.7	1.2	V

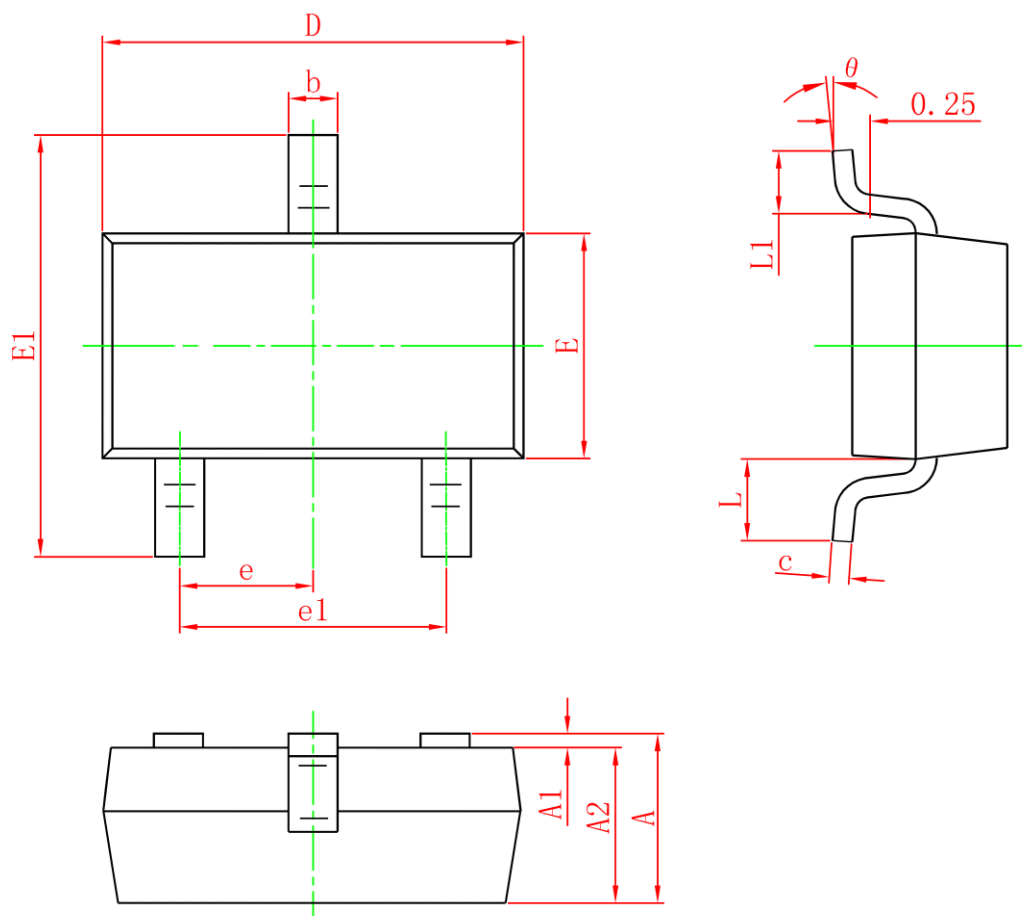
Notes :

a. Pulse Test : Pulse width≤300μs, duty cycle ≤2%.

b. These parameters have no way to verify.

Typical Electrical and Thermal Characteristics

Output Characteristics

Transfer Characteristics

Threshold Voltage


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
θ	0°	8°	0°	8°