

Product Summary

V _{(BR)DSS}	R _{DS(on)TYP}	I _D
30V	77 mΩ@10V	2.0A
	84 mΩ@4.5V	
	108 mΩ@2.5V	

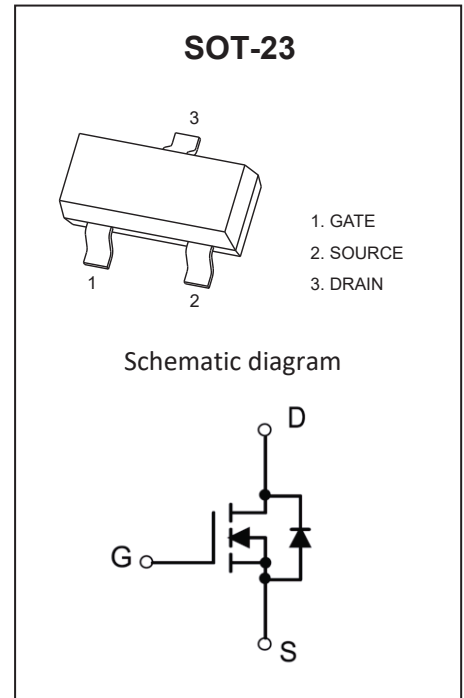
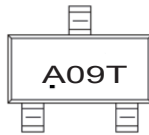
Feature

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

Application

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

MARKING:



ABSOLUTE MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain - Source Voltage	V _{DS}	30	V
Gate - Source Voltage	V _{GS}	±12	V
Continuous Drain Current ^{1,5}	I _D	2.0	A
Pulsed Drain Current ²	I _{DM}	10	A
Power Dissipation ^{4,5}	P _D	1.0	W
Thermal Resistance from Junction to Ambient ⁵	R _{θJA}	100	°C/W
Junction and Storage Temperature Range	T _J , T _{STG}	-55~ +150	°C

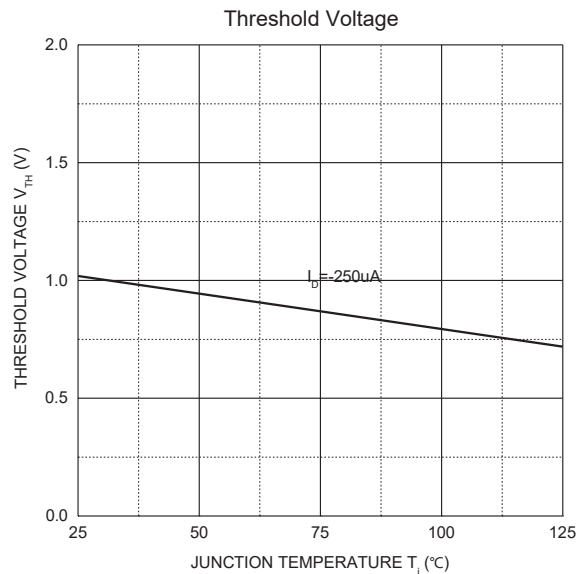
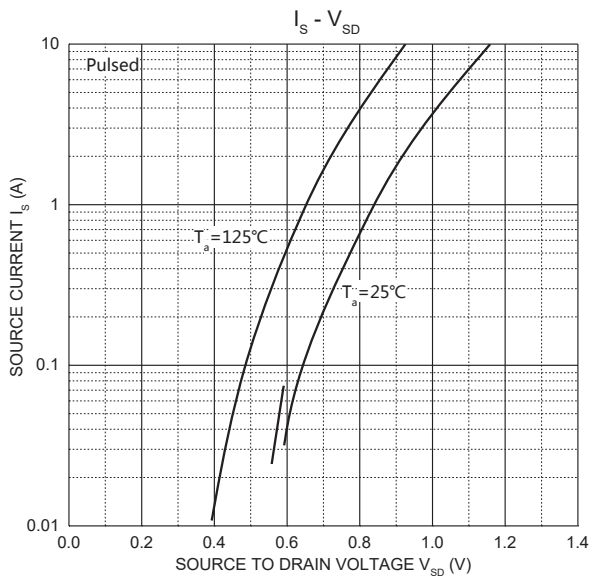
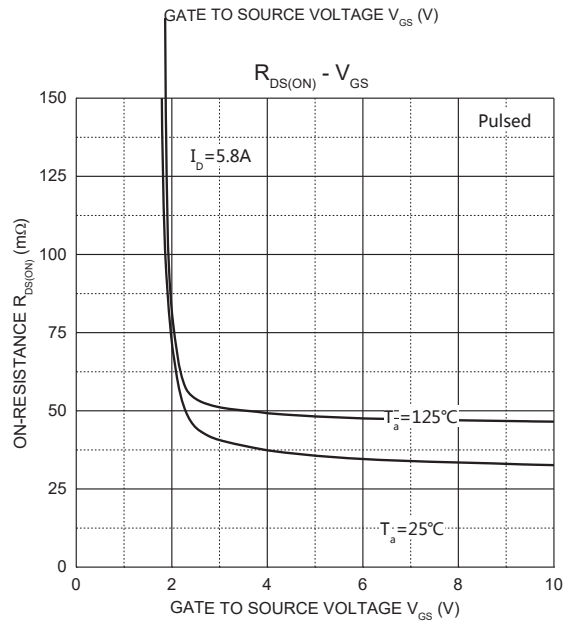
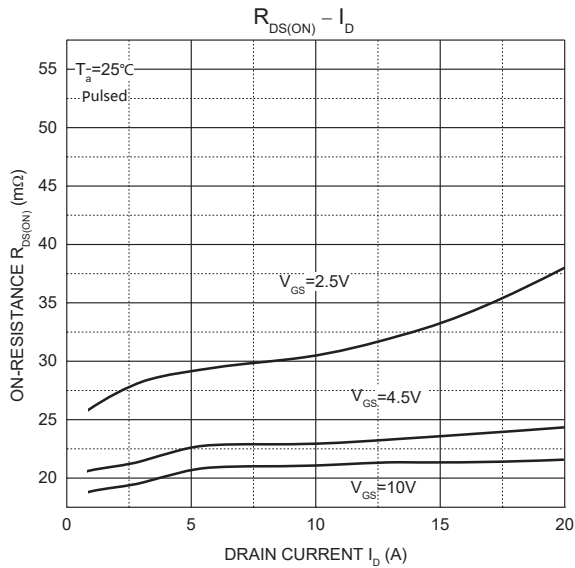
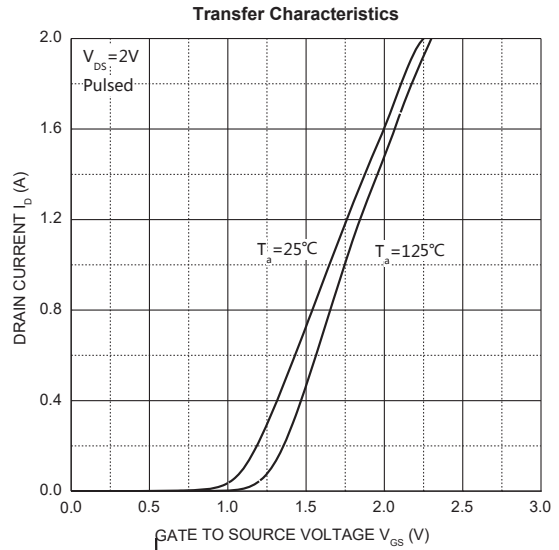
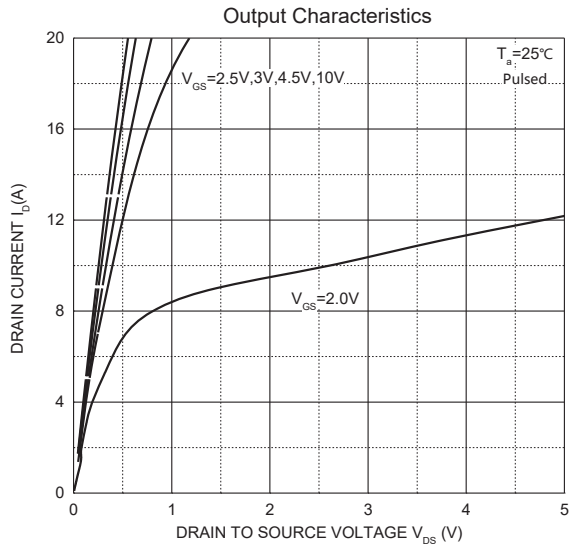
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise noted)

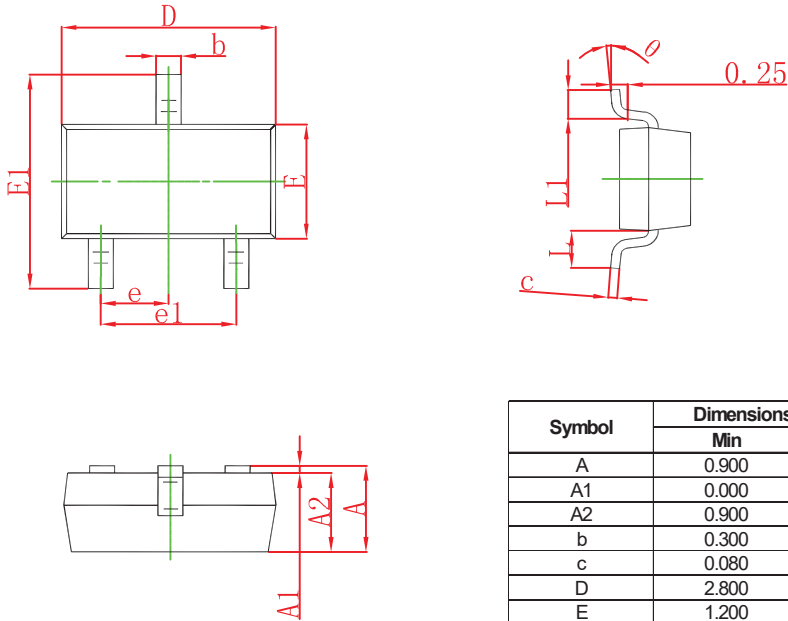
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	30			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =30V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±12V, V _{DS} = 0V			±0.1	μA
Gate threshold voltage ³	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.7	1.0	1.5	V
Drain-source on-resistance ³	R _{DS(on)}	V _{GS} =10V, I _D =3.6A		77	90	mΩ
		V _{GS} =4.5V, I _D =2A		84	95	
		V _{GS} =2.5V, I _D =1A		108	140	
Forward tranconductance ³	g _{FS}	V _{DS} =5V, I _D =2A	8			S
Dynamic characteristics						
Input Capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f =1MHz			1050	pF
Output Capacitance	C _{oss}			99		
Reverse Transfer Capacitance	C _{rss}			77		
Gate resistance	R _g	V _{DS} =0V, V _{GS} =0V, f =1MHz			3.6	Ω
Switching Characteristics						
Turn-on delay time	t _{d(on)}	V _{GS} =10V, V _{DS} =15V, R _L =2.7Ω, R _{GEN} =3Ω			5	ns
Turn-on rise time	t _r				7	
Turn-off delay time	t _{d(off)}				40	
Turn-off fall time	t _f				6	
Source-Drain Diode characteristics						
Diode Forward voltage ³	V _{DS}	V _{GS} =0V, I _S =1A			1	V

Note :

- 1.The maximum current rating is limited by package.
- 2.Pulse Test : Pulse Width ≤ 10μs, duty cycle ≤ 1%.
- 3.Pulse Test : Pulse Width ≤ 300μs, duty cycle ≤ 2%.
- 4.The power dissipation P_D is limited by T_{J(MAX)} = 150°C.
- 5.Device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with T_A =25°C.

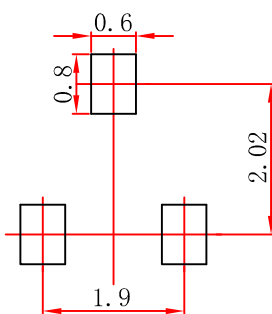
Typical Electrical and Thermal Characteristics





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	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	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.