

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
60V	70mΩ@10V	3A
	83mΩ@4.5V	

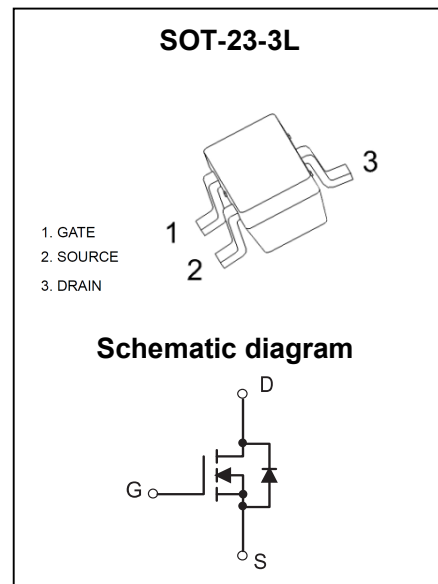
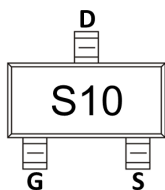
Feature

- Trench Technology Power MOSFET
- Low $R_{DS(ON)}$
- Low Gate Charge

Application

- Load Switch
- DC/DC Converter

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 ^{1,5}	I_D	3	A
Pulsed Drain Current ²	I_{DM}	12	A
Power Dissipation ^{4,5}	P_D	1.3	W
Thermal Resistance from Junction to Ambient ⁵	$R_{\theta JA}$	96	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

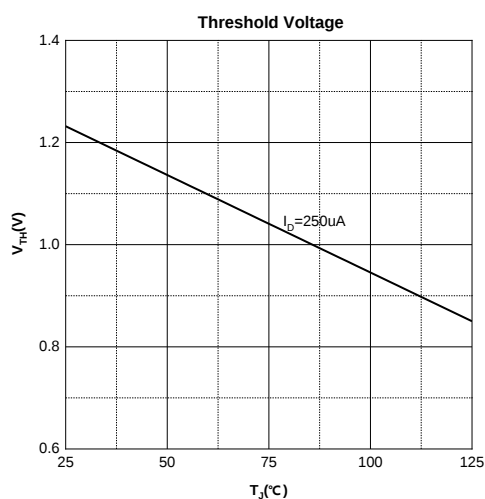
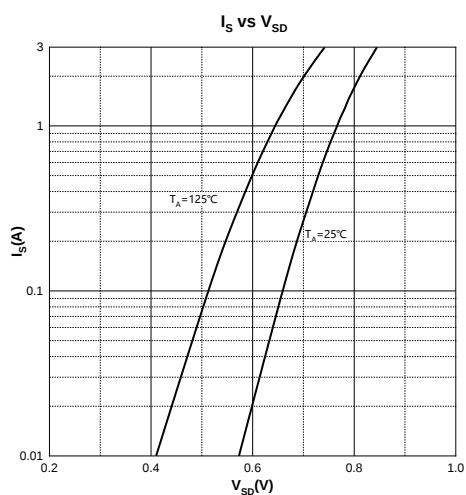
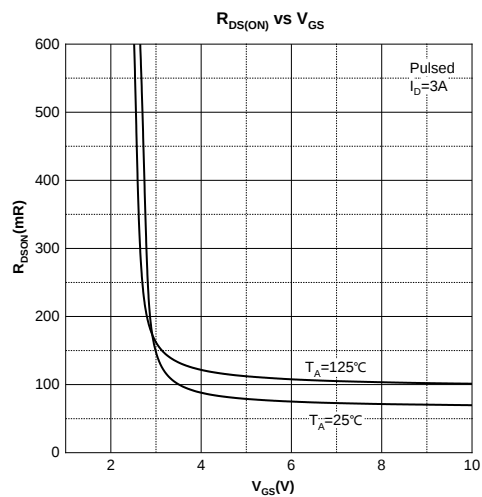
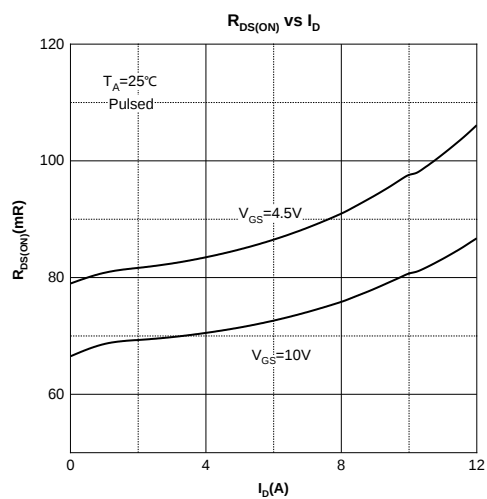
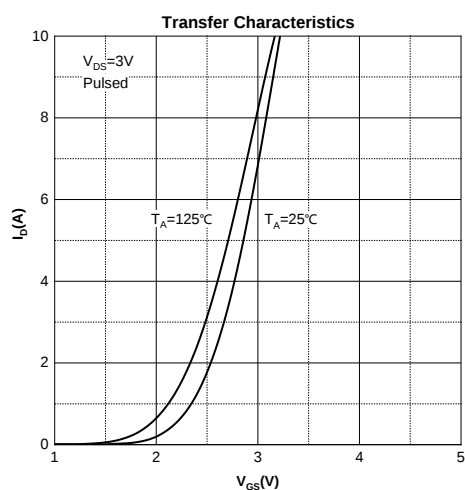
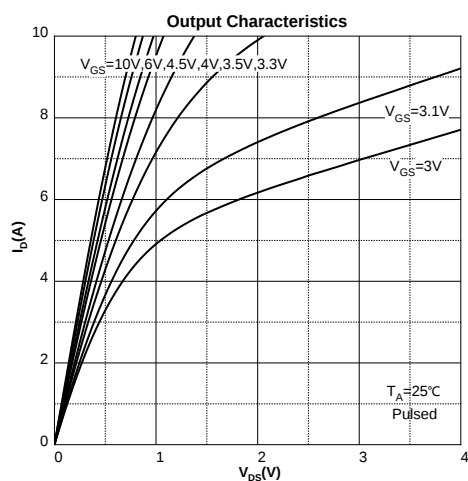
MOSFET ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

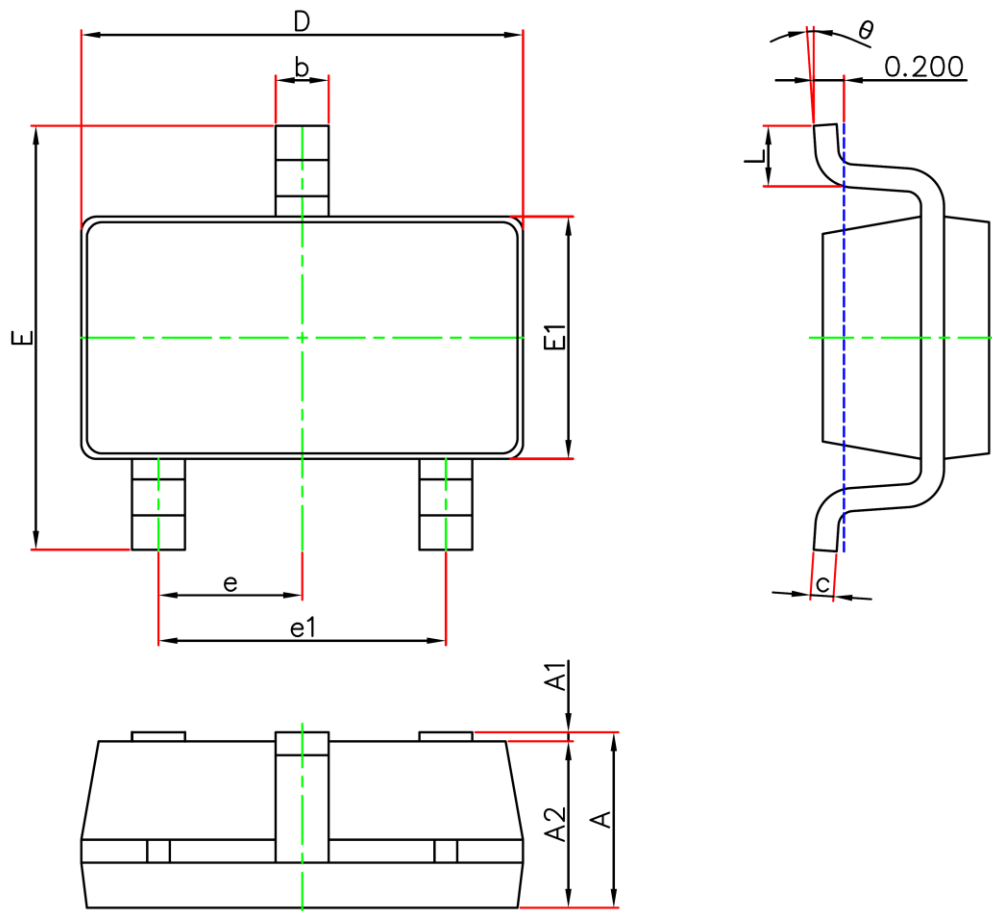
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain - Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V , I _D = 250μA	60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 60V, V _{GS} = 0V			1	μA
Gate - Body Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
On Characteristics ³						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.5	1.3	2	V
Drain-source On-resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 3A		70	90	mΩ
		V _{GS} = 4.5V, I _D = 3A		83	125	
Dynamic Characteristics						
Input Capacitance	C _{iSS}	V _{DS} = 30V, V _{GS} = 0V, f = 1MHz		456		pF
Output Capacitance	C _{oSS}			31		
Reverse Transfer Capacitance	C _{rSS}			24		
Gate Resistance	R _g	V _{DS} = 0V, V _{GS} = 0V, f = 1MHz		4.2		Ω
Switching Characteristics						
Total Gate Charge	Q _g	V _{DS} = 30V, V _{GS} = 4.5V, I _D = 3A		11		nC
Gate-source Charge	Q _{gs}			1.2		
Gate-drain Charge	Q _{gd}			2.6		
Turn-on Delay Time	t _{d(on)}	V _{DD} = 30V, V _{GS} = 10V, I _D = 1.5A, R _G = 3Ω		6.5		ns
Turn-on Rise Time	t _r			15		
Turn-off Delay Time	t _{d(off)}			15		
Turn-off Fall Time	t _f			10		
Source - Drain Diode Characteristics						
Diode Forward Voltage ³	V _{SD}	V _{GS} = 0V, I _S = 3A			1.2	V

Notes :

- 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 Characteristics



SOT-23-3L 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
θ	0°	8°	0°	8°