



Product Summary

V _{(BR)DSS}	R _{DS(on)TYP}	I _D
-20V	22mΩ@-4.5V	-6A
	26mΩ@-2.5V	
	32mΩ@-1.8V	

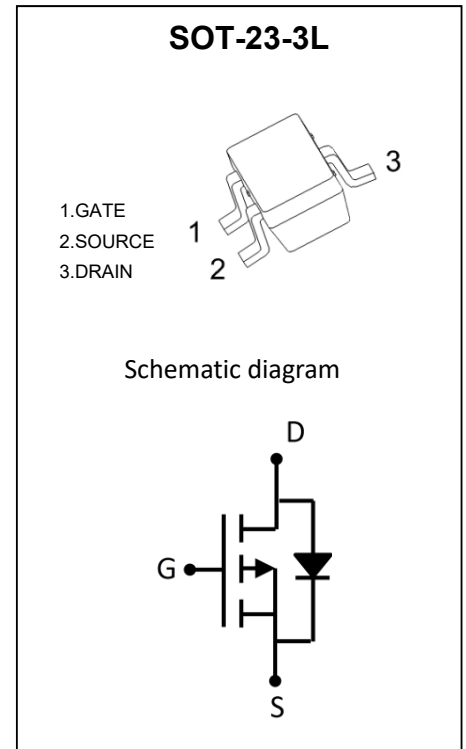
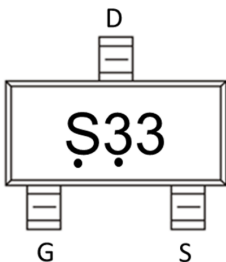
Feature

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

Application

- Load Switch
- DC/DC Converter
- Battery Switch

MARKING



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

Parameter	Symbol	Value	Unit
Drain - Source Voltage	V _{DS}	-20	V
Gate - Source Voltage	V _{GS}	±12	V
Continuous Drain Current ^{1,4}	I _D	-6	A
Pulsed Drain Current ²	I _{DM}	-20	A
Power Dissipation ^{4,5}	P _D	0.4	W
Thermal Resistance from Junction to Ambient ⁵	R _{θJA}	313	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

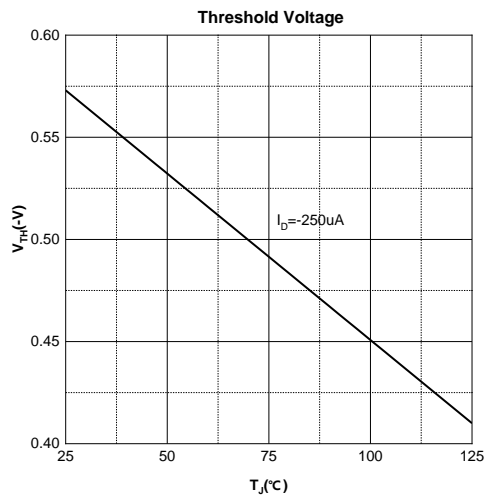
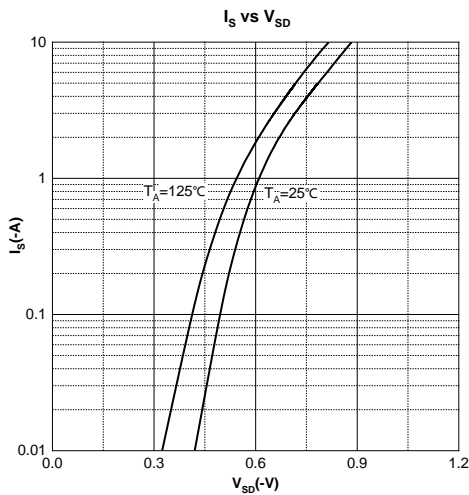
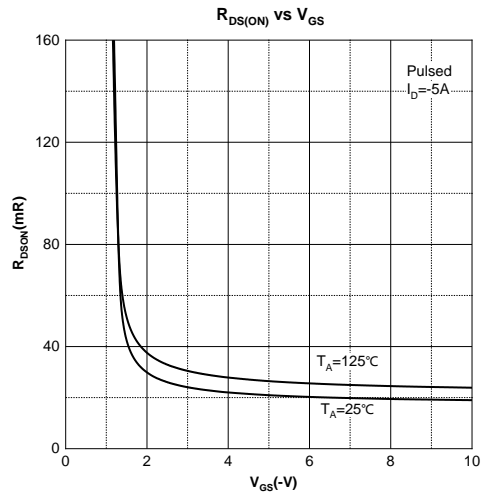
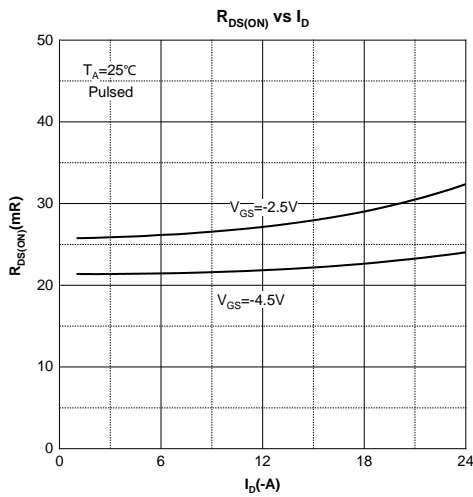
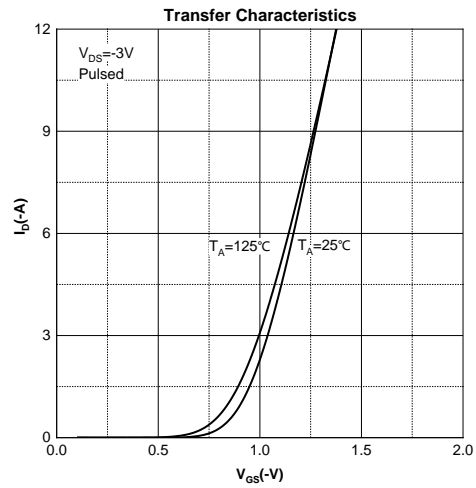
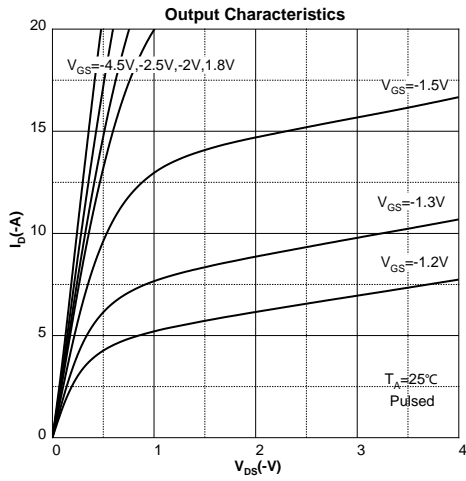
MOSFET ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

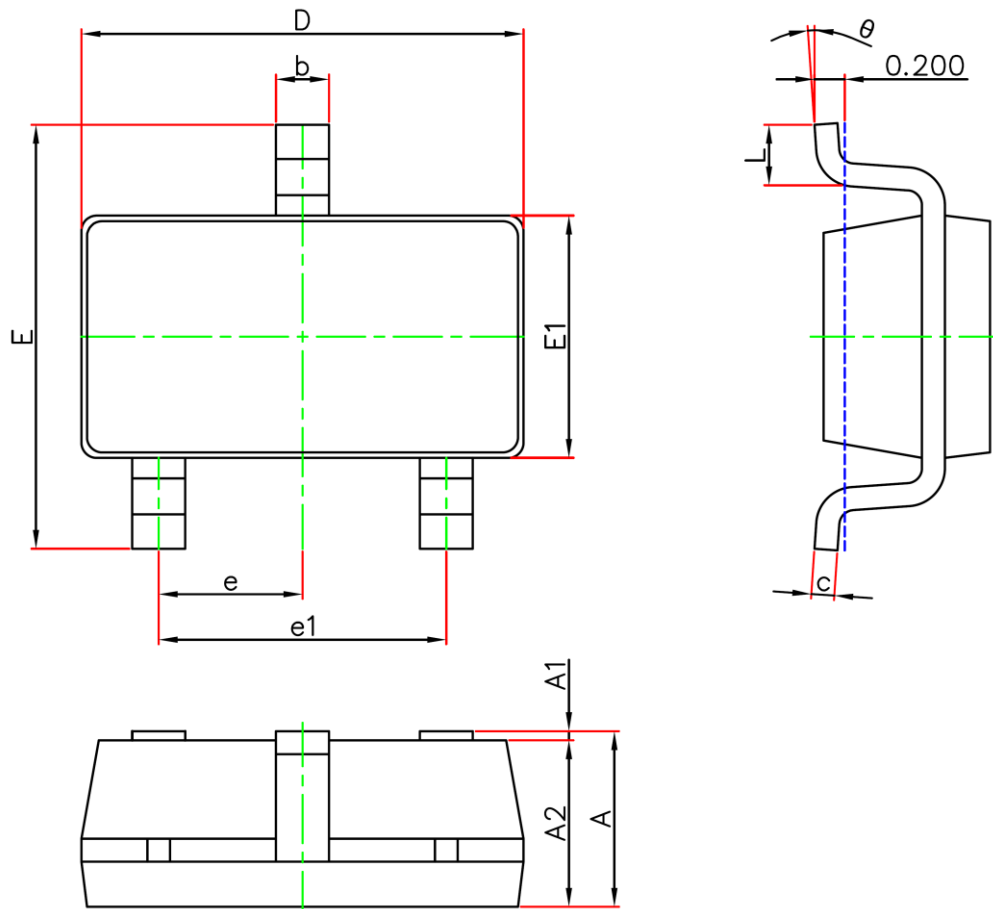
Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain - Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -20V, V _{GS} = 0V			-1	μA
Gate - Body Leakage Current	I _{GSS}	V _{GS} = ±12V, V _{DS} = 0V			±100	nA
On Characteristics³						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.4	-0.6	-1.0	V
Drain-source On-resistance	R _{DS(on)}	V _{GS} = -4.5V, I _D = -5.0A		22	32	mΩ
		V _{GS} = -2.5V, I _D = -4.3A		26	38	
		V _{GS} = -1.8V, I _D = -1.0A		32	63	
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} = -8V, V _{GS} = 0V, f = 1MHz		1077		pF
Output Capacitance	C _{oss}			115		
Reverse Transfer Capacitance	C _{rss}			94		
Gate Resistance	R _g	V _{DS} = 0V, V _{GS} = 0V, f = 1MHz		10		
Switching Characteristics						
Total Gate Charge	Q _g	V _{DS} = -10V, V _{GS} = -4.5V, I _D = -5A		10		nC
Gate-source Charge	Q _{gs}			1.3		
Gate-drain Charge	Q _{gd}			2.1		
Turn-on Delay Time	t _{d(on)}	V _{DD} = -6V, V _{GS} = -4.5V, R _G = 1Ω I _D = -4A		26		ns
Turn-on Rise Time	t _r			24		
Turn-off Delay Time	t _{d(off)}			45		
Turn-off Fall Time	t _f			20		
Source - Drain Diode Characteristics						
Diode Forward Voltage ³	V _{SD}	V _{GS} = 0V, I _S = -4A			-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 ≤ 200μs, 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°