

Features

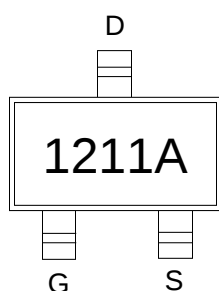
- Trench Power LV MOSFET technology
- High Density Cell Design for Low $R_{DS(ON)}$
- High Speed switching

Product Summary

V_{DS}	$R_{DS(ON)}$ TYP	I_D
-18V	11.5mΩ@-4.5V	-11A
	17mΩ@-2.5V	

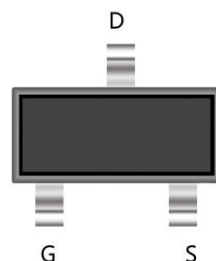
Application

- Battery protection
- Load switch
- Power management

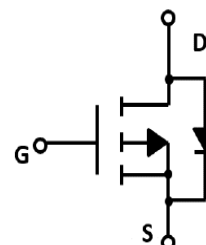


1211A: Device code

Marking and pin assignment



SOT-23-3L top view



Schematic diagram

Absolute Maximum Ratings (TA=25°C unless otherwise noted)				
Symbol	Parameter		Rating	Unit
Common Ratings (TC=25°C Unless Otherwise Noted)				
V _{DS}	Drain-Source Breakdown Voltage		-18	V
V _{GS}	Gate-Source Voltage		±8	V
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-55 to 150	°C
I _S	Diode Continuous Forward Current	Tc=25°C	-11	A
Mounted on Large Heat Sink				
I _{DM}	Pulse Drain Current Tested	Tc=25°C	-46	A
I _D	Continuous Drain Current	Tc=25°C	-11	A
P _D	Maximum Power Dissipation	Tc=25°C	0.5	W
R _{θJA}	Thermal Resistance Junction-to-Ambient		270	°C/W

Electrical Characteristics (T _J =25℃ unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ T _J = 25℃ (unless otherwise stated)						
B _{V(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =-250μA	-12	-18	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-12V, V _{GS} =0V	--	--	-1.0	μA
I _{GSS}	Gate-Body Leakage Current	V _{GS} =±8V, V _{DS} =0V	--	--	±100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =-250μA	-0.4	-0.7	-1.0	V
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} =-4.5V, I _D =-6.0A	--	11.5	17	mΩ
		V _{GS} =-2.5V, I _D =-6.0A	--	17	25	mΩ
Dynamic Electrical Characteristics @ T _J = 25℃ (unless otherwise stated)						
C _{ISS}	Input Capacitance	V _{DS} =-10V, V _{GS} =0V, f=1MHz	--	2700	--	pF
C _{OSS}	Output Capacitance		--	680	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	590	--	pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} =-10V, I _D =-1A, V _{GS} =-10V	--	35	--	nC
Q _{gs}	Gate Source Charge		--	5	--	nC
Q _{gd}	Gate Drain Charge		--	10	--	nC
t _{d(on)}	Turn-on Delay Time	V _{DS} =-6V, I _D =-6A, V _{GS} =-4.5V, R _G =2.5Ω	--	11	--	nS
t _r	Turn-on Rise Time		--	35	--	nS
t _{d(off)}	Turn-Off Delay Time		--	30	--	nS
t _f	Turn-Off Fall Time		--	10	--	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	T _J =25℃, I _S =-2A,	--	-0.8	-1.1	V

Typical Operating Characteristics

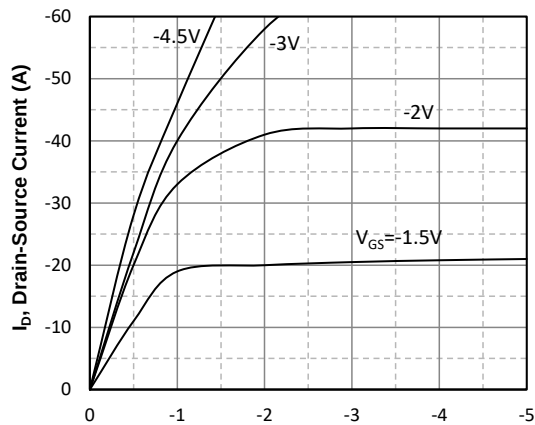


Fig1. Typical Output Characteristics

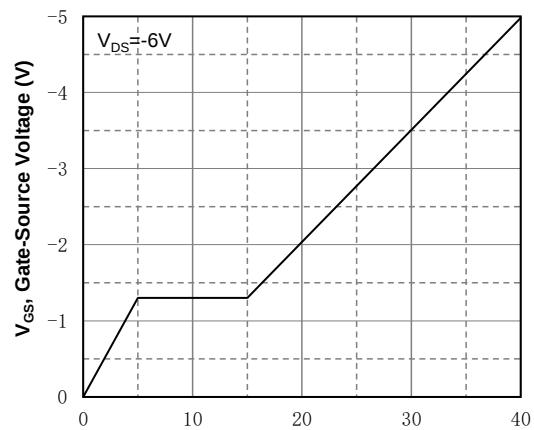


Fig2. Typical Gate Charge Vs. Gate-Source Voltage

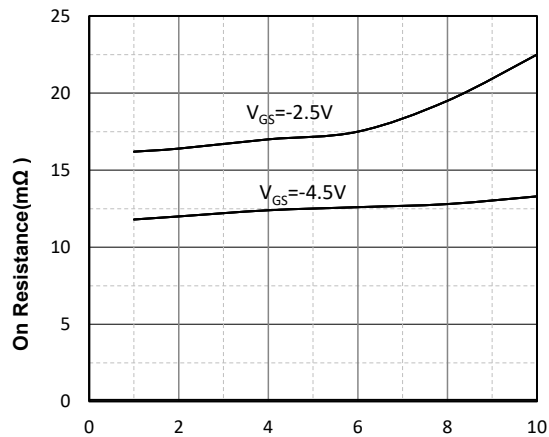


Fig3. Drain-Source on Resistance

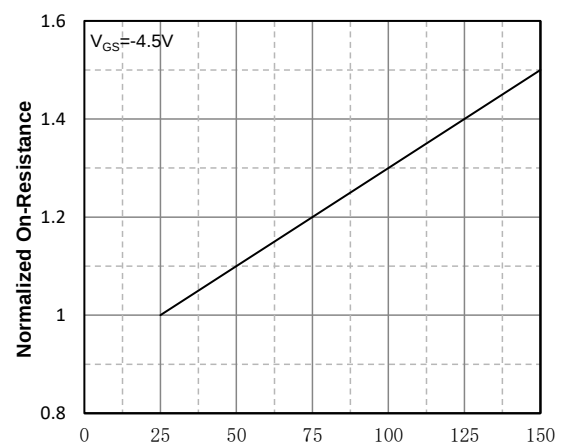


Fig4. Normalized On-Resistance Vs. Temperature

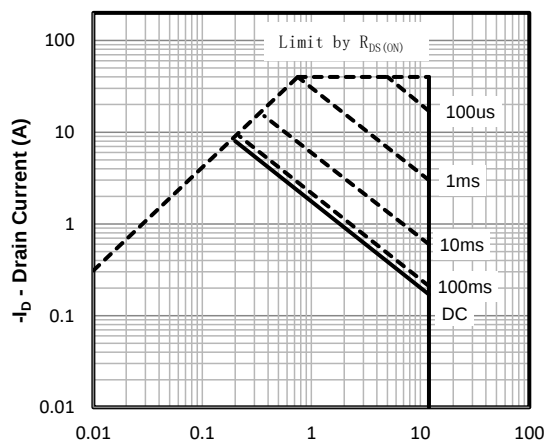


Fig5. Maximum Safe Operating Area

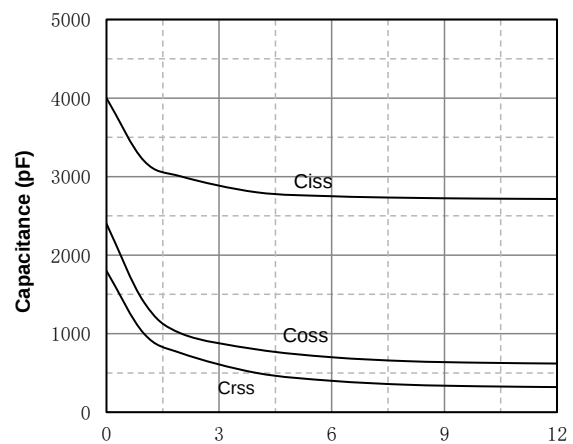
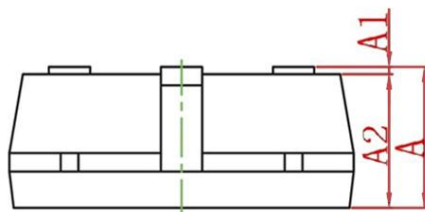
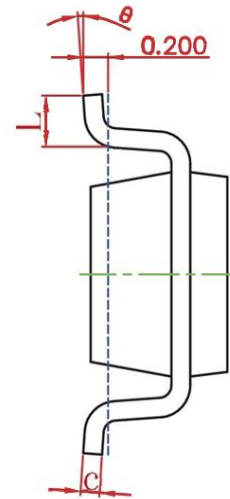
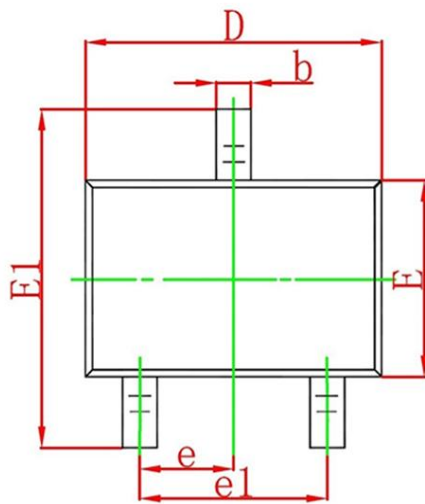


Fig6 Typical Capacitance Vs. Drain-Source Voltage

SOT-23-3L Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.042	0.050
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.042	0.046
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.112	0.120
E	1.500	1.700	0.060	0.068
E1	2.650	2.950	0.106	0.118
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
theta	0°	8°	0°	8°