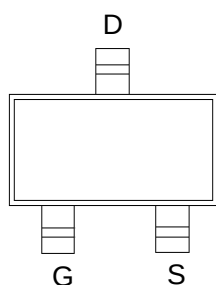


Features

- Integrate fast recovery diode
- Fast switching
- 100% avalanche tested
- Improved dv/dt capability

Application

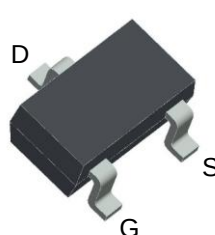
- Switch Mode Power Supply (SMPS)
- Motor Controls
- Power Factor Correction (PFC)



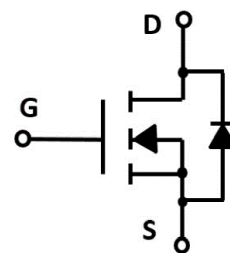
Marking and pin assignment

Product Summary

V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
200V	580mΩ@10V	2A



SOT-23-3L top view



Schematic diagram

Absolute Maximum Ratings (TA=25°C unless otherwise noted)

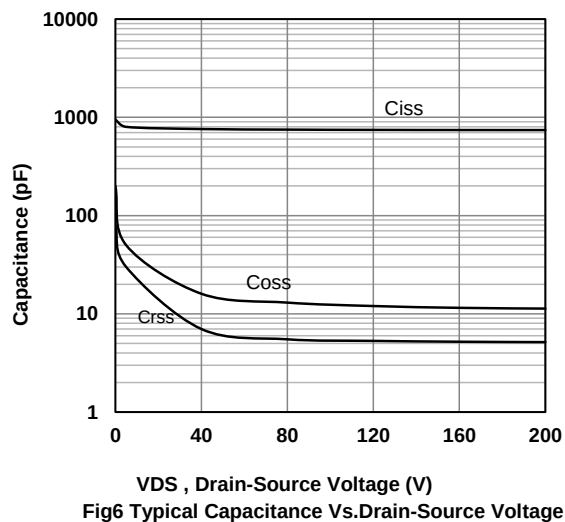
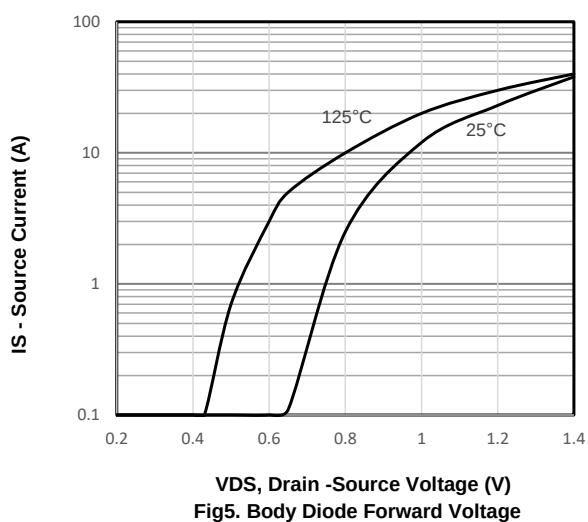
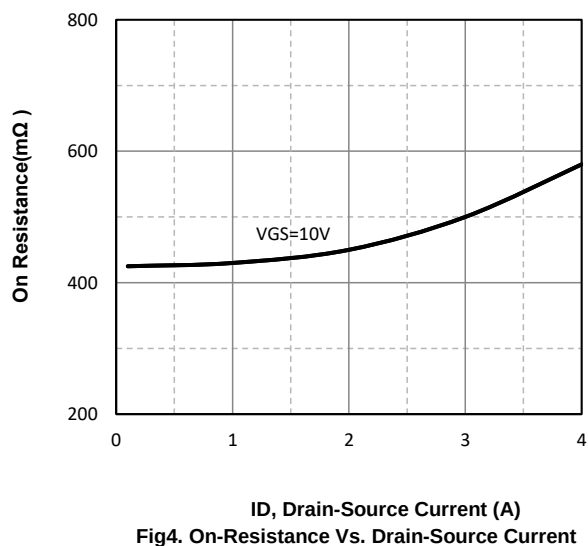
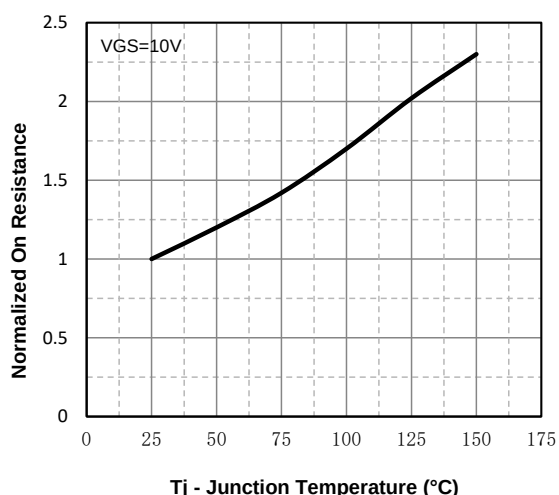
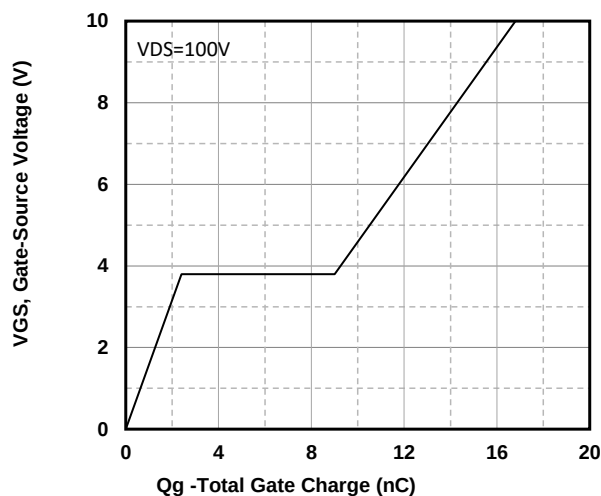
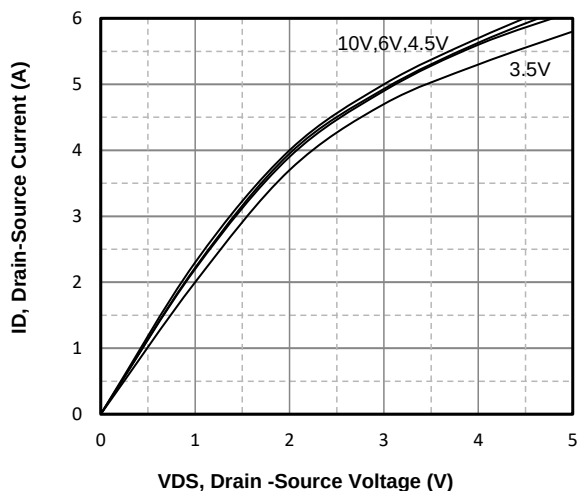
Symbol	Parameter	Rating	Unit
Common Ratings (TC=25°C Unless Otherwise Noted)			
V_{DS}	Drain-Source Breakdown Voltage	200	V
V_{GS}	Gate-Source Voltage	±20	V
T_J	Maximum Junction Temperature	150	°C
T_{STG}	Storage Temperature Range	-50 to 155	°C
I_S	Diode Continuous Forward Current	$T_c=25^\circ\text{C}$ 2	A

Mounted on Large Heat Sink

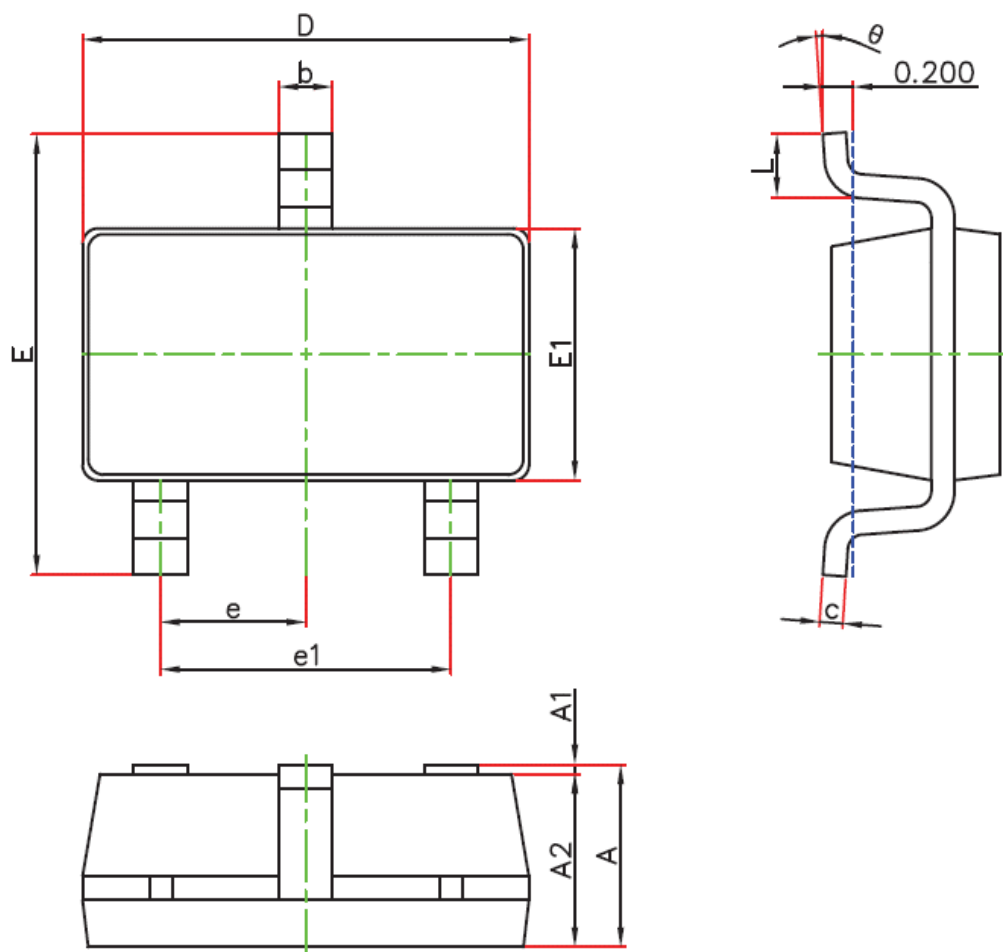
I_{DM}	Pulse Drain Current Tested	$T_c=25^\circ\text{C}$ 9.6	A
I_D	Continuous Drain Current@GS=10V	$T_c=25^\circ\text{C}$ 2	A
P_D	Maximum Power Dissipation	$T_c=25^\circ\text{C}$ 2	W
$R_{\theta JA}$	Thermal Resistance Junction-to-Ambient	52	°C/W

Electrical Characteristics (TJ=25℃ unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ TJ = 25℃ (unless otherwise stated)						
BV _{(BR)DSS}	Drain-Source Breakdown Voltage	VGS=0V, ID=250μA	200	--	--	V
IDSS	Zero Gate Voltage Drain Current	VDS=200V, VGS=0V	--	--	1	uA
IGSS	Gate-Body Leakage Current	VGS=±20V, VDS=0V	--	--	±100	nA
VGS(th)	Gate Threshold Voltage	VDS=VGS, ID=250μA	1.0	1.8	3.0	V
RDS(on)	Drain-Source On-State Resistance	VGS=10V, ID=2.5A	--	480	580	mΩ
Dynamic Electrical Characteristics @ TJ = 25℃ (unless otherwise stated)						
CISS	Input Capacitance	VDS=25V, VGS=0V, f=1MHz	--	740	--	pF
COSS	Output Capacitance		--	15	--	pF
CRSS	Reverse Transfer Capacitance		--	5	--	pF
Switching Characteristics						
Qg	Total Gate Charge	VDS=160V, ID=5A, VGS=10V	--	17	--	nC
Qgs	Gate Source Charge		--	2.5	--	nC
Qgd	Gate Drain Charge		--	7	--	nC
td(on)	Turn-on Delay Time	VDD=100V, ID=5A, RG=25Ω	--	10	--	nS
tr	Turn-on Rise Time		--	13	--	nS
td(off)	Turn-Off Delay Time		--	16	--	nS
tf	Turn-Off Fall Time		--	15	--	nS
Source- Drain Diode Characteristics						
VSD	Forward on voltage	Tj=25℃, Is=2.5A,	--	--	1.4	V

Typical Operating Characteristics



SOT-23-3L Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
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
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
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°