P-Channel 20-V(D-S) MOSFET

V(BR)DSS	RDS(on)MAX	ID
-20 V	90mΩ@-4.5V	-3A
	115mΩ@-2.5V	

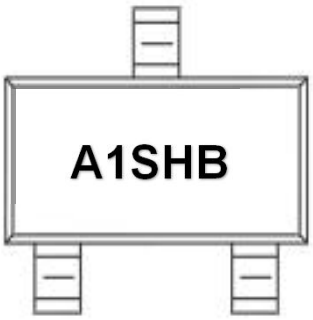
FEATURE

※ TrenchFET Power MOSFET

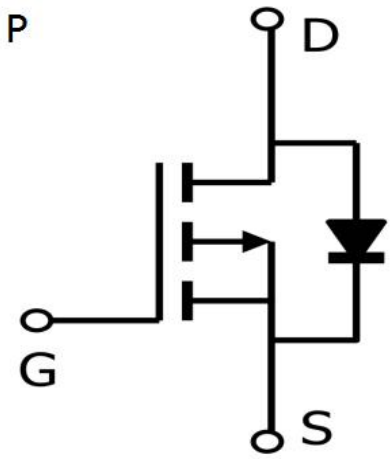
APPLICATION

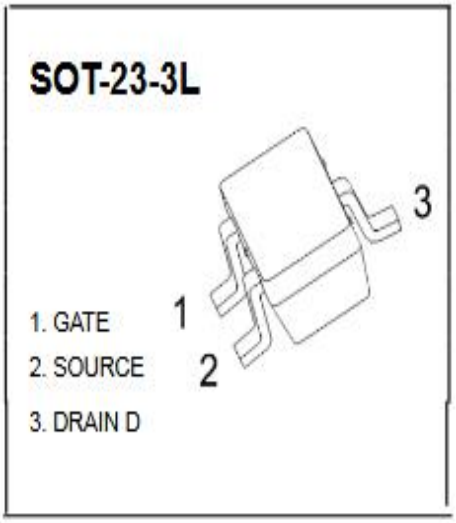
※ Load Switch for Portable Devices
※ DC/DC Converter

MARKING



Equivalent Circuit





Maximum ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	VDS	-20	V
Gate-Source Voltage	VGS	±12	
Continuous Drain Current	ID	-3	A
Pulsed Diode Curren	IDM	-15	
Continuous Source-Drain Current(Diode Conduction)	IS	-0.8	
Power Dissipation	PD	1.25	W
Thermal Resistance from Junction to Ambient (t≤5s)	RθJA	150	℃/W
Operating Junction	TJ	150	℃
Storage Temperature	TSTG	-55~+150	℃

MOSFET ELECTRICAL CHARACTERISTICS

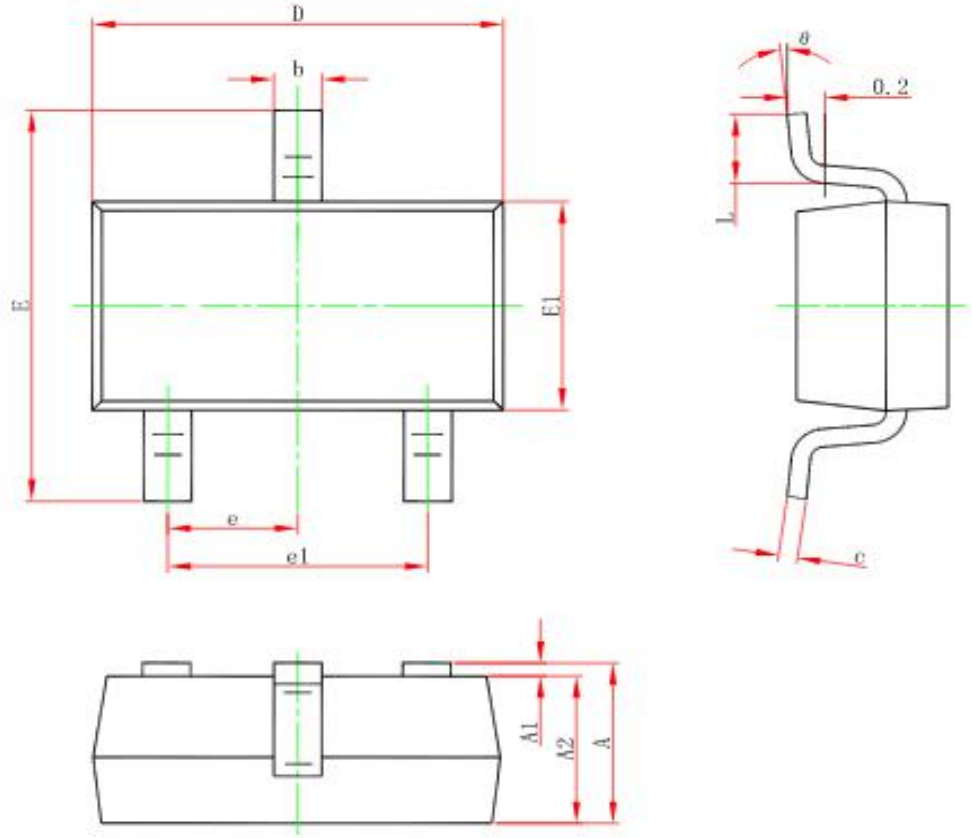
Static Electrical Characteristics (Ta = 25 ℃ Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	V(BR)DSS	VGS = 0V, ID = -250μA	-20			V
Gate-source threshold voltage	VGS(th)	VDS =VGS, ID = -250μA	-0.4		-1.	V
Gate-source leakage	IGSS	VDS =0V, VGS = ±12V			±100	nA
Zero gate voltage drain current	IDSS	VDS = -20V, VGS =0V			-1	μA
Drain-source on-state resistancea	RDS(on)	VGS = -4.5V, ID = -2.8A		66	90	mΩ
		VGS = -2.5V, ID = -2A		83	115	mΩ
Forward transconductancea	gfs	VDS = -4.5V, ID = -3A		4		S
Diode forward voltage	VSD	IS=-1A,VGS=0V		-0.8	-1.3	V
Dynamic						
Input capacitance	Ciss	VDS = -16V,VGS =0V, f=1MHz		589		pF
Output capacitance	Coss			92		pF
Reverse transfer capacitanceb	Crss			68		pF
Total gate charge	Qg	VDS = -16V,VGS = -4.5V, ID =-3A		5.5	10	nC
Gate-source charge	Qgs			0.8		nC
Gate-drain charge	Qgd			1.3		nC
Gate resistance	Rg	f=1MHz		6		Ω
Switchingb						
Turn-on delay time	td(on)	VDD= -10V RL=6Ω, ID ≈ -3A, VGEN= -4.5V,Rg=6Ω		10	20	ns
Rise time	tr			35	60	ns
Turn-off delay time	td(off)			30	50	ns
Fall time	tf			10	20	ns
Drain-source body diode characteristics						
Continuous Source-Drain Diode Current	IS	Tc=25℃			-1.3	A
Pulsed Diode forward Curren	ISM				-20	A

Note :

1. Repetitive Rating : Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t < 5 sec.
3. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production testing.

SOT-23-3L PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		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	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°