FDN340P P-Channel 20-V(D-S) MOSFET

V(BR)DSS	RDS(on)MAX	ID
-20 V	70mΩ@ -4.5V	-2A
	110mΩ@ -2.5V	
	210mΩ@ -1.8V	

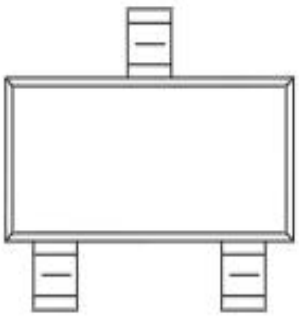
FEATURE

- TrenchFET Power MOSFET
- Supper high density cell design

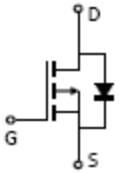
APPLICATION

※ Battery protection
※ Load switch
※ Battery management

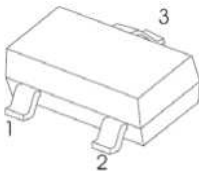
MARKING



Equivalent Circuit



SOT－23



1. GATE
2. SOURCE
3. DRAIN

Maximum ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	VDS	-20	V
Gate-Source Voltage	VGS	±8	
Continuous Drain Current	ID	-2	A
Pulsed Diode Curren	IDM	-10	
Power Dissipation	PD	1.1	W
Thermal Resistance from Junction to Ambient (t≤10s)	RθJA	250	℃/W
Operating Junction	TJ	150	℃
Storage Temperature	TSTG	-55~+150	℃

MOSFET ELECTRICAL CHARACTERISTICS

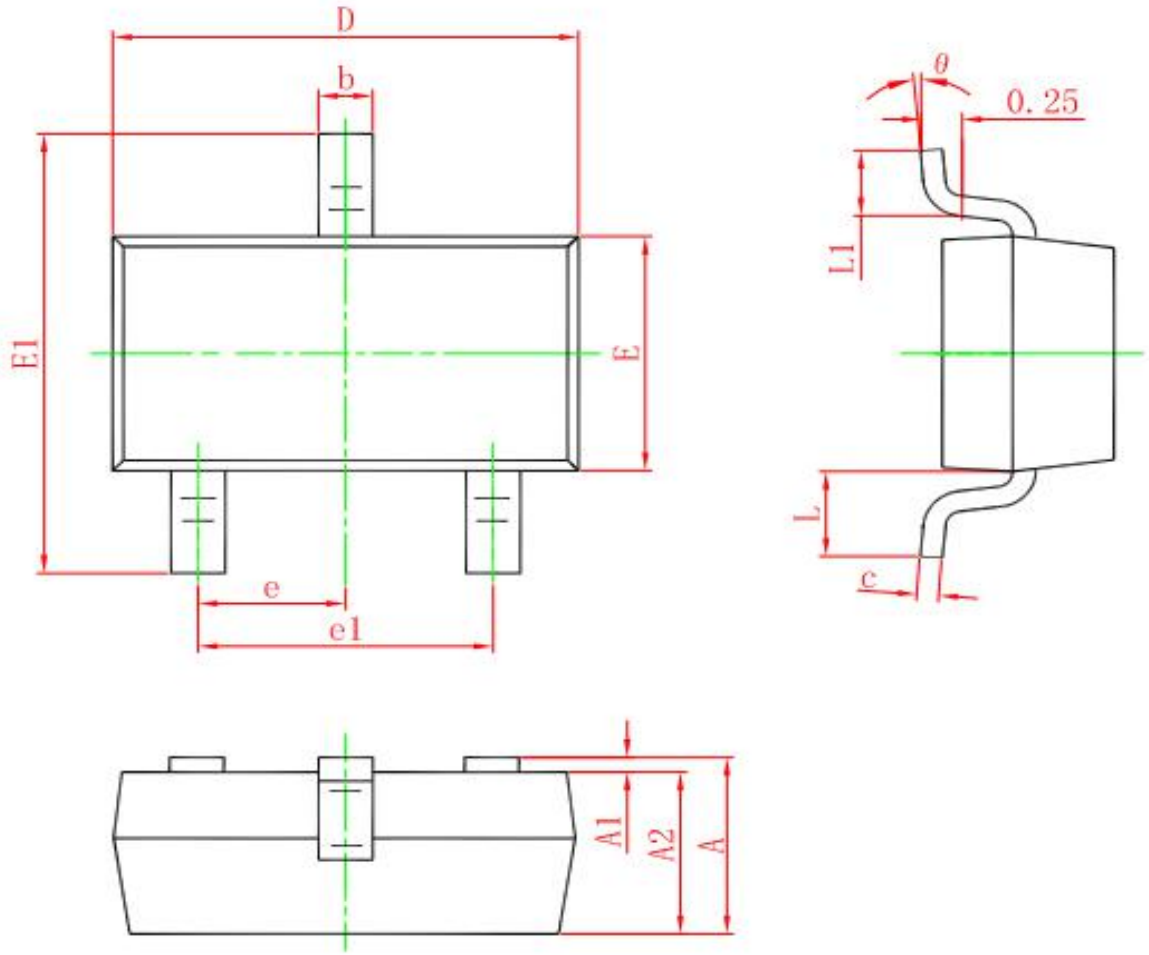
Static Electrical Characteristics (Ta = 25 ℃ Unless Otherwise Noted)

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		-1.5	V
Gate-source leakage	IGSS	VDS =0V, VGS = ±8V			±100	nA
Zero gate voltage drain current	IDSS	VDS = -16V, VGS =0V			-1	μA
Drain-source on-state resistancea	RDS(on)	VGS = -4.5V, ID = -2A		52	70	mΩ
		VGS = -2.5V, ID = -1.7A		78	110	mΩ
		VGS = -1.8V, ID = -1.2A			210	mΩ
Forward transconductancea	gfs	VDS = -4.5V, ID = -2A		8		S
Diode forward voltage	VSD	IS= -1A,VGS=0V		-0.8	-1.2	V
Dynamic						
Input capacitance	Ciss	VDS = -10V,VGS =0V, f=1MHz		600		pF
Output capacitance	Coss			175		pF
Reverse transfer capacitanceb	Crss			80		pF
Total gate charge	Qg	VDS = -10V,VGS = -4.5V, ID = -2A		8		nC
Gate-source charge	Qgs			1.3		nC
Gate-drain charge	Qgd			2.2		nC
Gate resistance	Rg	f=1MHz	0.5		3.2	Ω
Switchingbtr						
Turn-on delay time	td(on)	VDS= -10V RL=3.5Ω, ID ≈ -1A, VGEN= -4.5V,Rg=3Ω		6		ns
Rise time	tr			9		ns
Turn-off delay time	td(off)			31		ns
Fall time	tf			26		ns
Drain-source body diode characteristicstr						
Continuous Source-Drain Diode Current	IS	Tc=25℃			-1.2	A
Pulsed Diode forward Curren	ISM				-10	A

Note :

1. Repetitive Rating : Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t < 10 sec.
3. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤ 2%.
4. Guaranteed by design, not subject to production testing.

SOT-23 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°