

N-Channel Enhancement-Mode MOSFETs

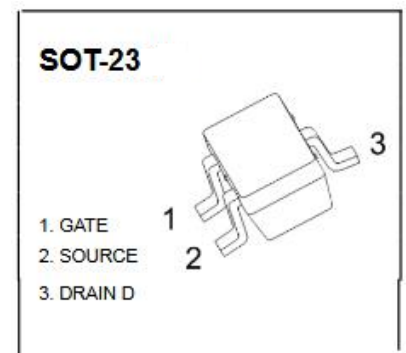
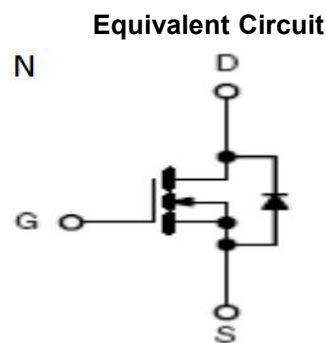
V(BR)DSS	RDS(on)MAX	ID
60 V	105m Ω @10V	3A
	125m Ω @4.5V	

FEATURE

- ※ TrenchFET Power MOSFET

APPLICATION

- ※ Load Switch for Portable Devices
- ※ DC/DC Converter


Maximum ratings (Ta=25°C unless otherwise noted)

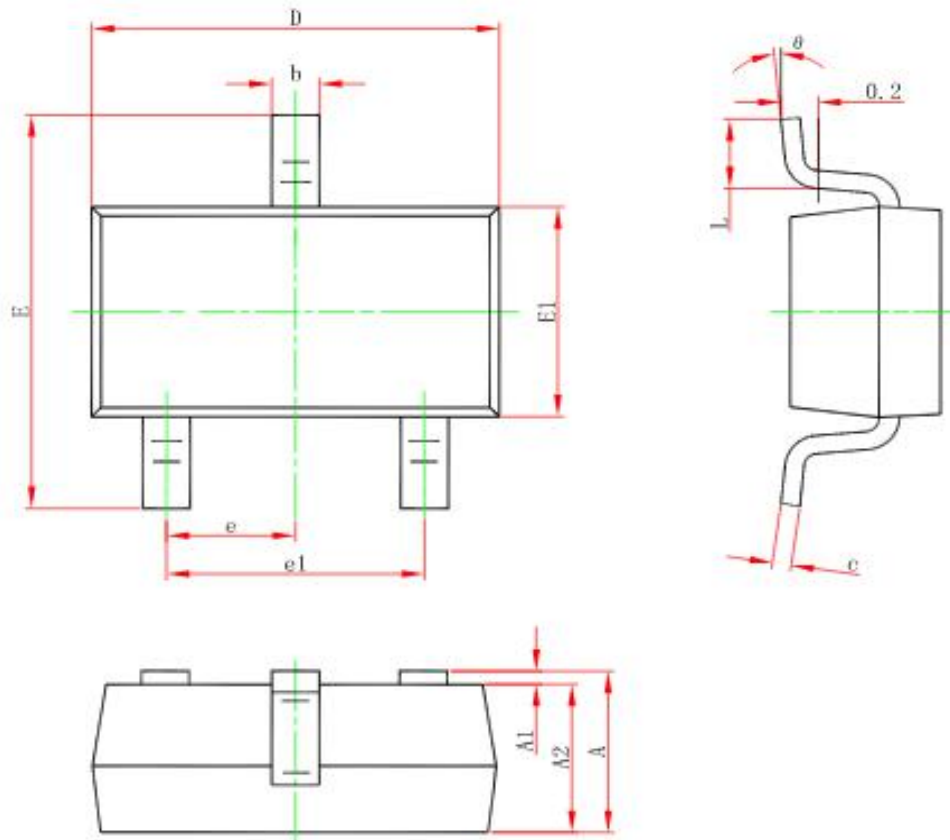
Parameter	Symbol	Value	Unit
Drain-Source Voltage	VDS	60	V
Gate-Source Voltage	VGS	±20	
Continuous Drain Current	ID	3	A
Pulsed Diode Curren	IDM	10	
Continuous Source-Drain Current(Diode Conduction)	IS	0.76	
Power Dissipation	PD	1.25	W
Thermal Resistance from Junction to Ambient (t≤5s)	R θ JA	150	°C/W
Operating Junction	TJ	150	°C
Storage Temperature	TSTG	-55~+150	°C

MOSFET ELECTRICAL CHARACTERISTICS
Static Electrical Characteristics (Ta = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	V(BR)DSS	VGS = 0V, ID = 250μA	60			V
Gate-source threshold voltage	VGS(th)	VDS = VGS, ID = 250μA	0.9		3	V
Gate-source leakage	IGSS	VDS = 0V, VGS = ±20V			±100	nA
Zero gate voltage drain current	IDSS	VDS = 60V, VGS = 0V			1	μA
Drain-source on-state resistancea	RDS(on)	VGS = 10V, ID = 3.A		78	105	mΩ
		VGS = 4.5V, ID = 3A		90	125	mΩ
Forward transconductancea	gfs	VDS = 4.5V, ID = 4.2A		11		S
Diode forward voltage	VSD	IS=1.6A, VGS=0V		0.7	1.3	V
Dynamic						
Input capacitance	Ciss	VDS = 25V, VGS = 0V, f=1MHz		214	300	pF
Output capacitance	Coss			31		pF
Reverse transfer capacitanceb	Crss			12.6		pF
Total gate charge	Qg	VDS = 27.5V, VGS = 4.5V, ID = 2.1A		2.6	3.3	nC
Gate-source charge	Qgs			0.6		nC
Gate-drain charge	Qgd			0.8		nC
Gate resistance	Rg	f=1MHz		1.3	3	Ω
Switchingb						
Turn-on delay time	td(on)	VDD= 10V RL=12Ω, ID ≈ 1A, VGEN= 4.5V, Rg=3Ω		2.3		ns
Rise time	tr			2.4		ns
Turn-off delay time	td(off)			16.5		ns
Fall time	tf			2		ns
Drain-source body diode characteristics						
Continuous Source-Drain Diode Current	IS	Tc=25°C			2	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 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°