



SOT-23 Plastic-Encapsulate MOSFETS

MK1001P

P-Channel 100-V(D-S) MOSFET

V(BR)DSS	RDS(on)MAX	ID
-100V	650mΩ@ 10V	-1A
	700mΩ@ 4.5V	

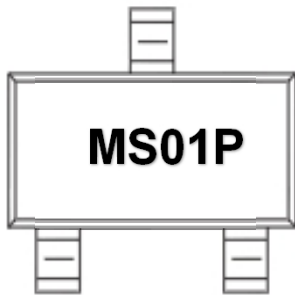
FEATURE

※ TrenchFET Power MOSFET

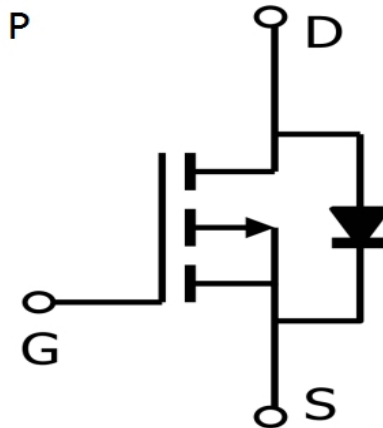
APPLICATION

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

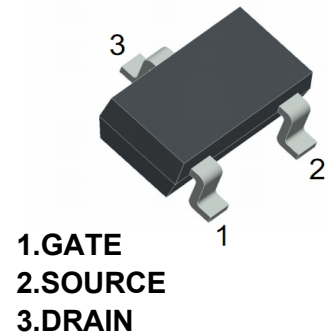
MARKING



Equivalent Circuit



SOT-23



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	VDS	-100	V
Gate-Source Voltage	VGS	±20	V
Continuous Drain Current	ID	-1	A
Pulsed Drain Current	IDM	-3	A
Avalanche Current	IAS	-5.6	A
Power Dissipation	PD	2.5	W
Thermal Resistance from Junction to Ambient	RθJA	120	°C/W
Operating Junction and Storage Temperature Range	TJ,TSTG	-55~+150	°C

Note :

※Surface Mounted on FR4 Board, t < 5 sec.



MOSFET ELECTRICAL CHARACTERISTICS

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

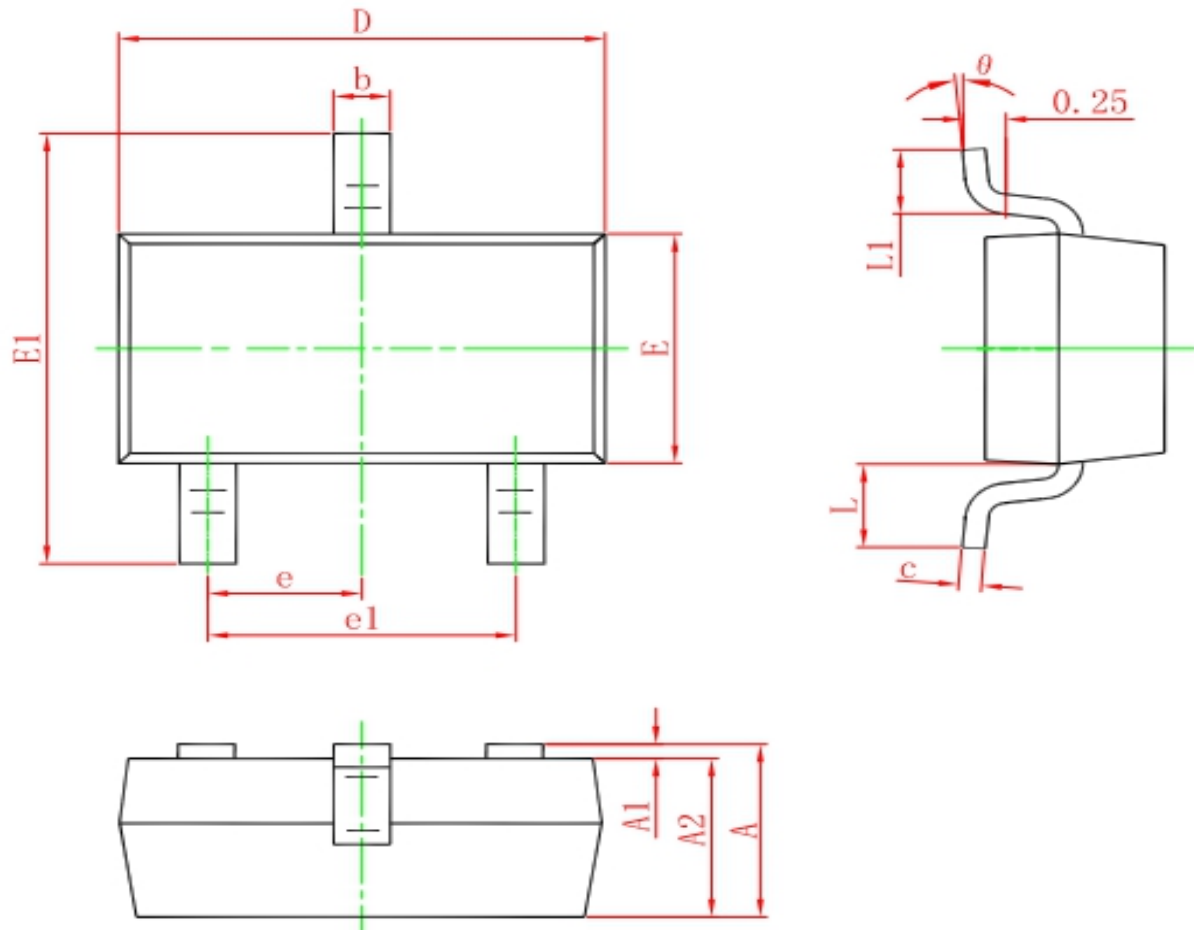
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Drain-source breakdown voltage	V(BR)DSS	VGS = 0V, ID = -250μA	-100			V
Gate threshold voltage	VGS(th)	VDS = VGS, ID = -250μA	-1	-1.8	-2.5	V
Gate-source leakage current	IGSS	VDS = 0V, VGS = ±20 V			±100	nA
Zero gate voltage drain current	IDSS	VDS = -80V, VGS = 0V			-1	μA
On-state Drain Current	ID(ON)	VGS = -10V, VDS ≥ -4.5V	-6			A
Drain-source on-resistance	RDS(on)	VGS = -10V, ID = -1A		520	650	mΩ
		VGS = -4.5V, ID = -0.5A		550	700	mΩ
Forward tranconductance	gFS	VDS = -4.5V, ID = -1A		1.9		S
Diode forward voltage	VSD	Is = -1A, VGS = 0V		-0.82	-1.28	V
Input capacitance	Ciss	VDS = -25V, VGS = 0V, f = 1MHz		390		pF
Output capacitance	Coss			170		pF
Reverse transfer capacitance	Crss			45		pF
Total Gate Charge	Qg	VDS = -25V, VGS = -10V, ID = -1 A		6	18	nC
Gate-Source Charge	Qgs			1.15		nC
Gate-Drain Charge	Qgd			3		nC
Turn-on Delay time	td(on)	VDD = -25V, RL = 6Ω, ID = -1A VGEN = -10V, RG = 6Ω		9.6		nS
Rise time	tr			29		nS
Turn-off Delay time	td(off)			21		nS
Fall time	tr			25		nS
Continuous Current	IS				-1.3	A
Pulsed Current	ISM				-10	A
Source-Drain Reverse Recovery Time	trr	IF = -1A Di/Dt = 100A/μs		10	20	ns

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	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°