

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

V(BR)DSS	RDS(on)MAX	ID
-20 V	110mΩ@ -4.5V	-2.4A
	150mΩ@ -2.5V	

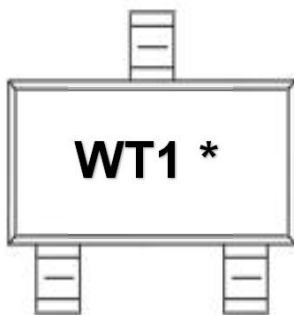
### FEATURE

- TrenchFET Power MOSFET
- Supper high density cell design
- Extremely Low Threshold Voltage
- Excellent ON resistance for higher DC current

### APPLICATION

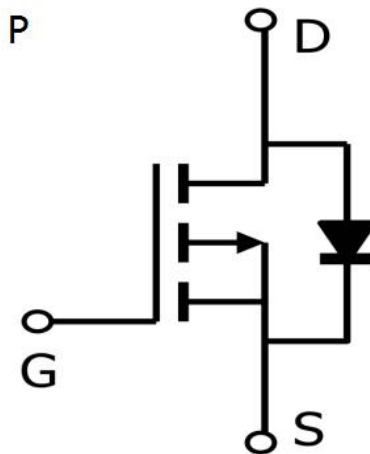
- ※ Load Switch for Portable Devices
- ※ DC/DC Converter
- ※ Power Switch

### MARKING

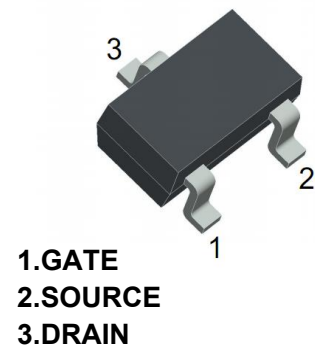


WT1 = Device Code  
\* = Month (A~Z)

### Equivalent Circuit



### SOT-23



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	VDS	-20	V
Gate-Source Voltage	VGS	±8	
Continuous Drain Current	ID	-2.4	A
Pulsed Diode Current	IDM	-10	
Power Dissipation	PD	1.1	W
Thermal Resistance from Junction to Ambient (t≤10s)	RθJA	125	°C/W
Operating Junction	TJ	150	°C
Storage Temperature	TSTG	-55~+150	°C

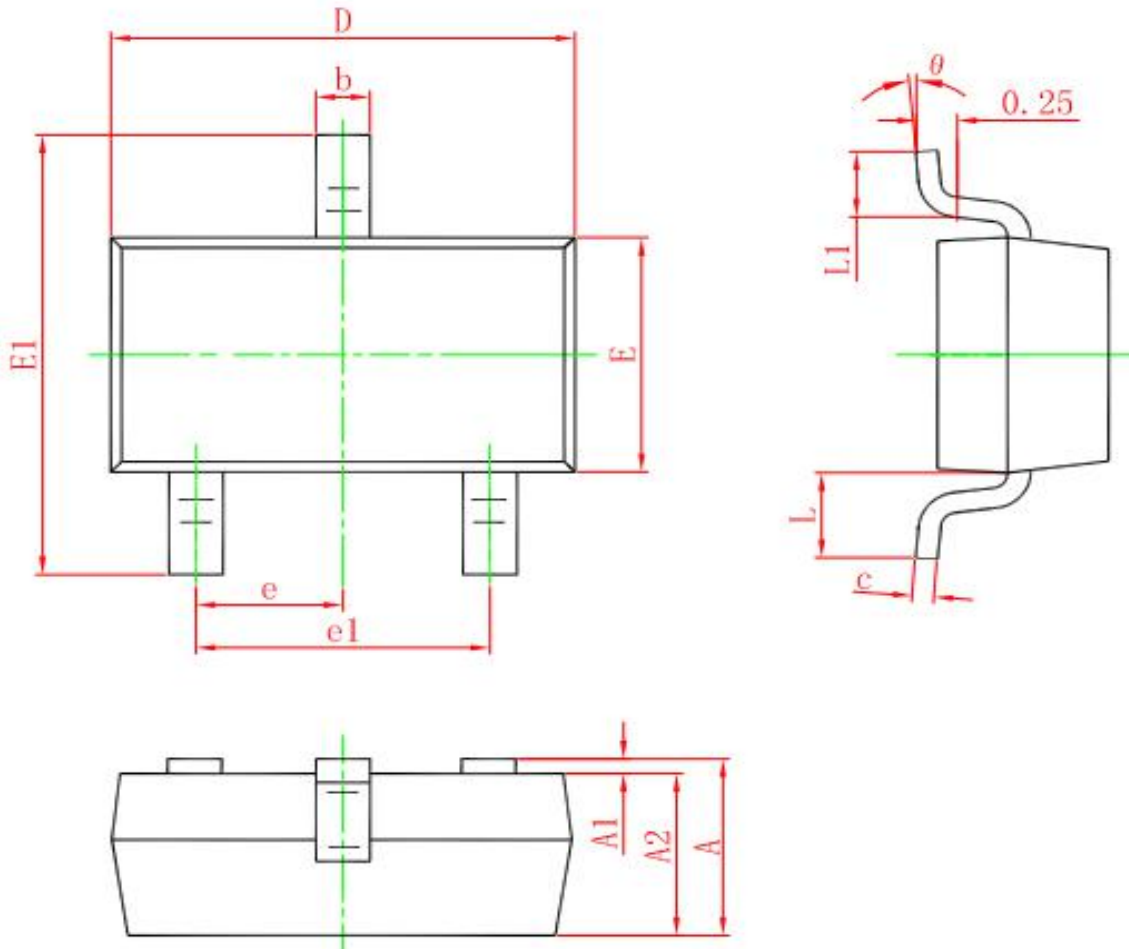
**MOSFET ELECTRICAL CHARACTERISTICS**
**Static Electrical Characteristics (Ta = 25 °C Unless Otherwise Noted)**

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
<b>Static</b>						
Drain-source breakdown voltage	V(BR)DSS	VGS = 0V, ID = -250 $\mu$ A	-20			V
Gate-source threshold voltage	VGS(th)	VDS =VGS, ID = -250 $\mu$ A	-0.4		-1	V
Gate-source leakage	IGSS	VDS =0V, VGS = $\pm$ 8V			$\pm$ 100	nA
Zero gate voltage drain current	IDSS	VDS = -16V, VGS =0V			-1	$\mu$ A
Drain-source on-state resistancea	RDS(on)	VGS = -4.5V, ID = -2.7A		81	110	m $\Omega$
		VGS = -2.5V, ID = -2A		103	150	m $\Omega$
Forward transconductancea	gfs	VDS = -4.5V, ID = -2.4A		10		S
Diode forward voltage	VSD	IS= -1A,VGS=0V		-0.8	-1.5	V
<b>Dynamic</b>						
Input capacitance	Ciss	VDS = -10V,VGS =0V, f=1MHz		534		pF
Output capacitance	Coss			62		pF
Reverse transfer capacitanceb	Crss			54		pF
Total gate charge	Qg	VDS = -10V,VGS = -4.5V, ID = -2.4A		7.3		nC
Gate-source charge	Qgs			1.25		nC
Gate-drain charge	Qgd			1.2		nC
Gate resistance	Rg	f=1MHz	0.5		3.2	$\Omega$
<b>Switchingbtr</b>						
Turn-on delay time	td(on)	VDS= -10V RL=3.5 $\Omega$ , ID $\approx$ -1A, VGEN= -4.5V,Rg=3 $\Omega$		8.0		ns
Rise time	tr			6.4		ns
Turn-off delay time	td(off)			41		ns
Fall time	tf			7		ns
<b>Drain-source body diode characteristicstr</b>						
Continuous Source-Drain Diode Current	IS	Tc=25 $^{\circ}$ C			-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 $\leq$ 300 $\mu$ s, Duty Cycle  $\leq$  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
$\theta$	0°	8°	0°	8°