

## P-Channel 30-V(D-S) MOSFET

| V(BR)DSS | RDS(on)MAX  | ID    |
|----------|-------------|-------|
| -30 V    | 190mΩ@-10V  | -1.7A |
|          | 330mΩ@-4.5V |       |

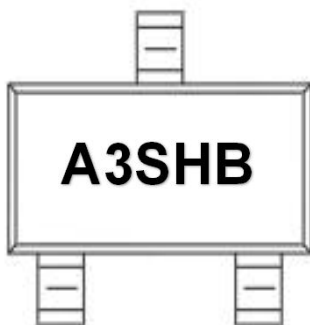
### FEATURE

※ TrenchFET Power MOSFET

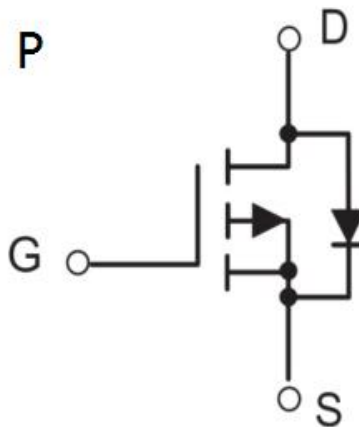
### APPLICATION

※ Load Switch for Portable Devices  
 ※ DC/DC Converter

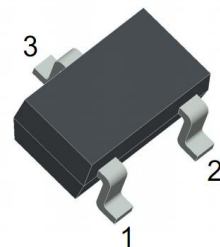
### MARKING



### Equivalent Circuit



### SOT-23



1.GATE  
 2.SOURCE  
 3.DRAIN

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

| Parameter                                          | Symbol | Value    | Unit |
|----------------------------------------------------|--------|----------|------|
| Drain-Source Voltage                               | VDS    | -30      | V    |
| Gate-Source Voltage                                | VGS    | ±20      |      |
| Continuous Drain Current                           | ID     | -1.7     | A    |
| Pulsed Diode Curren                                | IDM    | -10      |      |
| Continuous Source-Drain Current(Diode Conduction)  | IS     | -1       |      |
| Power Dissipation                                  | PD     | 0.9      | W    |
| Thermal Resistance from Junction to Ambient (t≤5s) | RθJA   | 357      | °C/W |
| Operating Junction                                 | TJ     | 150      | °C   |
| Storage Temperature                                | TSTG   | -55~+150 | °C   |

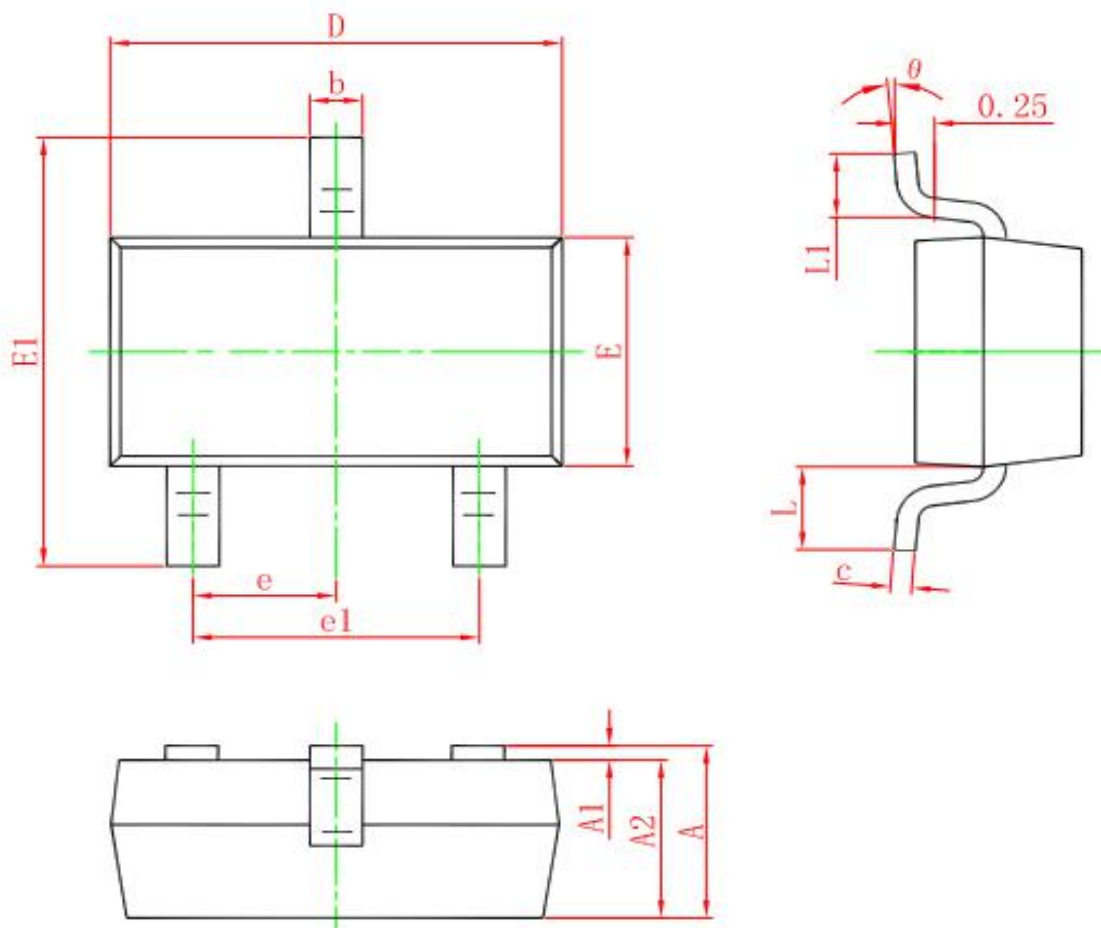
### MOSFET ELECTRICAL CHARACTERISTICS

#### 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                              | -30 |      |       | V    |
| Gate-source threshold voltage           | VGS(th)  | VDS =VGS, ID = -250μA                              | -1  |      | -3    | V    |
| Gate-source leakage                     | IGSS     | VDS =0V, VGS = ±20V                                |     |      | ±100  | nA   |
| Zero gate voltage drain current         | IDSS     | VDS = -30V, VGS =0V                                |     |      | -1    | μA   |
| Drain-source on-state resistancea       | RDS(on)  | VGS = -10V, ID = -1.7A                             |     | 120  | 190   | mΩ   |
|                                         |          | VGS = -4.5V, ID = -1.3A                            |     | 150  | 330   | mΩ   |
| Forward transconductancea               | gfs      | VDS = -10V, ID = -1.7A                             | 5.5 |      |       | S    |
| Diode forward voltage                   | VSD      | IS=-1A,VGS=0V                                      |     | -0.8 | -1.2  | V    |
| Dynamic                                 |          |                                                    |     |      |       |      |
| Input capacitance                       | Ciss     | VDS = -15V, VGS =0V, f=1MHz                        |     | 155  |       | pF   |
| Output capacitance                      | Coss     |                                                    |     | 35   |       | pF   |
| Reverse transfer capacitanceb           | Crss     |                                                    |     | 25   |       | pF   |
| Total gate charge                       | Qg       | VDS = -15V, VGS = -4.5V, ID =-1.7A                 |     | 2    | 4     | nC   |
| Gate-source charge                      | Qgs      |                                                    |     | 0.6  |       | nC   |
| Gate-drain charge                       | Qgd      |                                                    |     | 1    |       | nC   |
| Gate resistance                         | Rg       | f=1MHz                                             |     | 8.5  | 17    | Ω    |
| Switchingb                              |          |                                                    |     |      |       |      |
| Turn-on delay time                      | td(on)   | VDD= -15V<br>RL=10Ω, ID ≈ -1.5A, VGEN=- 4.5V,Rg=5Ω |     | 36   | 44    | ns   |
| Rise time                               | tr       |                                                    |     | 37   | 45    | ns   |
| Turn-off delay time                     | td(off)  |                                                    |     | 12   | 18    | ns   |
| Fall time                               | tf       |                                                    |     | 9    | 14    | ns   |
| Drain-source body diode characteristics |          |                                                    |     |      |       |      |
| Continuous Source-Drain Diode Current   | IS       | Tc=25℃                                             |     |      | -1.75 | 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 < 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 |
| theta  | 0°                        | 8°    | 0°                   | 8°    |