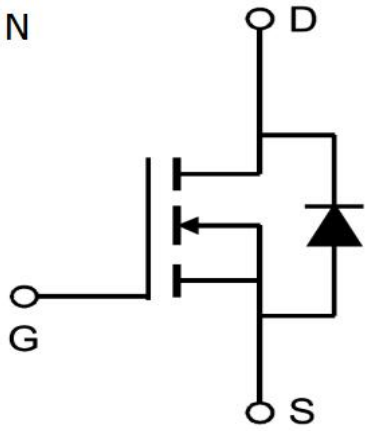
## *N-Channel MOSFET*

| V(BR)DSS | RDS(on)MAX | ID |
|---|---|---|
| 30 V | 60mΩ@10V | 3.3A |
| | 75mΩ@4.5V | |

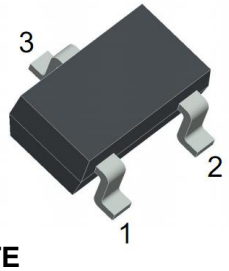
### FEATURE
※ TrenchFET Power MOSFET

### APPLICATION
※ Load Switch for Portable Devices
※ DC/DC Converter

**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 | 30 | V |
| Gate-Source Voltage | VGS | ±20 | |
| Continuous Drain Current | ID | 3.3 | A |
| Pulsed Diode Curren | IDM | 15 | |
| Continuous Source-Drain Current(Diode Conduction) | IS | 0.9 | |
| Power Dissipation | PD | 0.35 | W |
| Thermal Resistance from Junction to Ambient (t≤5s) | RθJA | 357 | ℃/W |
| Operating Junction | TJ | 150 | ℃ |
| Storage Temperature | TSTG | -55~+150 | ℃ |

## MOSFET ELECTRICAL CHARACTERISTICS

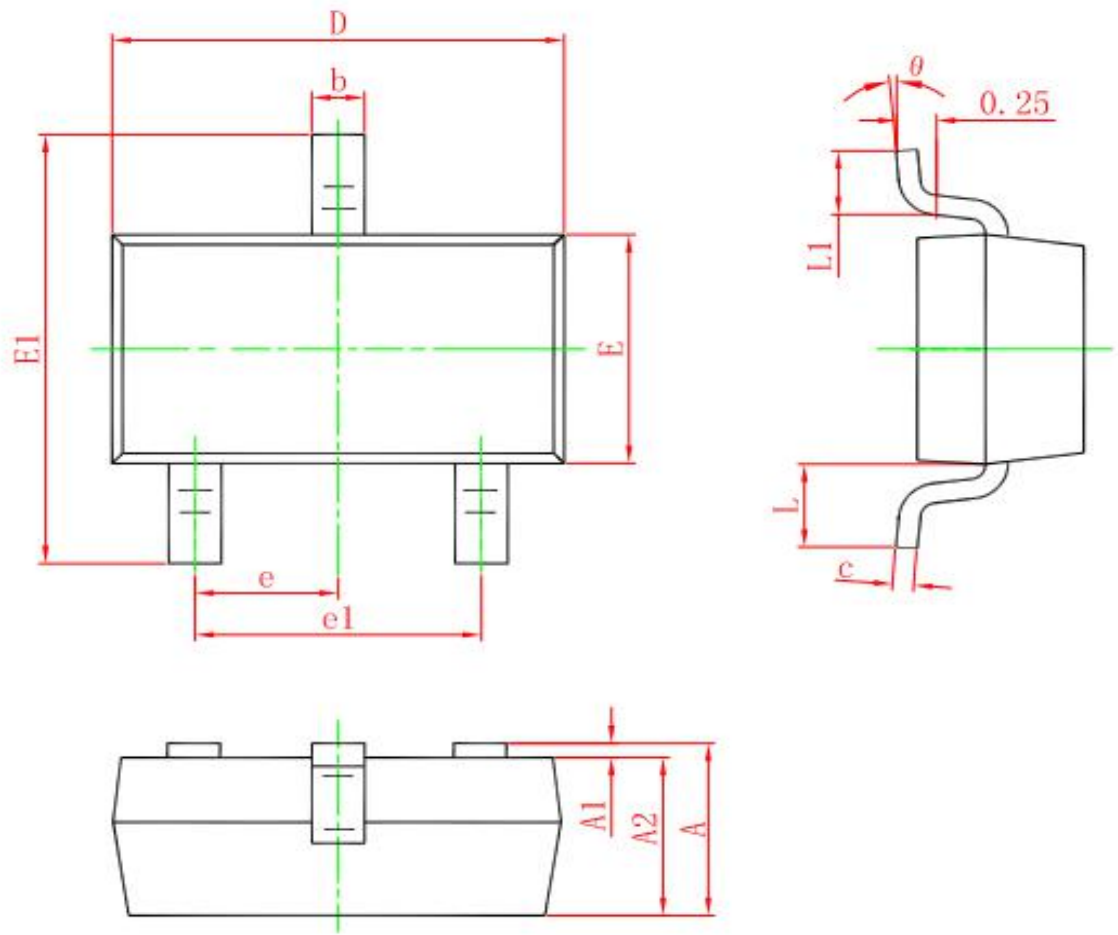
### Static Electrical Characteristics (Ta = 25 ℃ Unless Otherwise Noted)

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Static** | | | | | | |
| Drain-source breakdown voltage | V(BR)DSS | VGS = 0V, ID = 250μA | 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 = 3.2A | | 37 | 60 | mΩ |
| | | VGS = 4.5V, ID = 2.8A | | 57 | 75 | mΩ |
| Forward transconductancea | gfs | VDS = 4.5V, ID = 2.5A | 2.5 | | | S |
| Diode forward voltage | VSD | IS=1.25A,VGS=0V | | 0.8 | 1.2 | V |
| **Dynamic** | | | | | | |
| Input capacitance | Ciss | VDS = 15V, VGS =0V, f=1MHz | | 235 | | pF |
| Output capacitance | Coss | | | 45 | | pF |
| Reverse transfer capacitanceb | Crss | | | 17 | | pF |
| Total gate charge | Qg | VDS = 15V, VGS = 4.5V, ID =3.3A | | 2.1 | 3.2 | nC |
| Gate-source charge | Qgs | | | 0.85 | | nC |
| Gate-drain charge | Qgd | | | 0.65 | | nC |
| Gate resistance | Rg | f=1MHz | | 4.4 | 8.8 | Ω |
| **Switchingb** | | | | | | |
| Turn-on delay time | td(on) | VDD= 15V RL=5.6Ω, ID ≈ 2.7A, VGEN= 4.5V,Rg=1Ω | | 12 | 20 | ns |
| Rise time | tr | | | 50 | 75 | ns |
| Turn-off delay time | td(off) | | | 12 | 20 | ns |
| Fall time | tf | | | 22 | 35 | ns |
| **Drain-source body diode characteristics** | | | | | | |
| Continuous Source-Drain Diode Current | IS | Tc=25℃ | | | 1.4 | A |
| Pulsed Diode forward Curren | ISM | | | | 15 | 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 |
| θ | 0° | 8° | 0° | 8° |

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