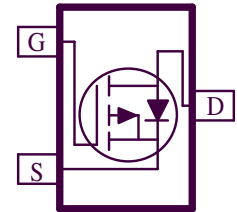
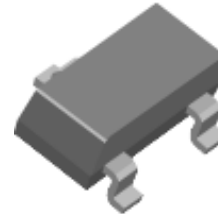


P-Channel 80-V (D-S) MOSFET

These miniature surface mount MOSFETs utilize a high cell density trench process to provide low $r_{DS(on)}$ and to ensure minimal power loss and heat dissipation. Typical applications are DC-DC converters and power management in portable and battery-powered products such as computers, printers, PCMCIA cards, cellular and cordless telephones.

| PRODUCT SUMMARY | | |
|-----------------|---------------------------|-----------|
| V_{DS} (V) | $r_{DS(on)}$ (Ω) | I_D (A) |
| -80 | 0.5 @ $V_{GS} = -10V$ | 1.4 |
| | 0.6 @ $V_{GS} = -4.5V$ | 1.3 |

- Low $r_{DS(on)}$ provides higher efficiency and extends battery life
- Low thermal impedance copper leadframe SOT-23 saves board space
- Fast switching speed
- High performance trench technology



| ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ UNLESS OTHERWISE NOTED) | | | |
|---|----------------|------------------|------------|
| Parameter | Symbol | Maximum | Units |
| Drain-Source Voltage | V_{DS} | -80 | V |
| Gate-Source Voltage | V_{GS} | ± 20 | |
| Continuous Drain Current ^a | I_D | $T_A=25^\circ C$ | A |
| | | $T_A=70^\circ C$ | |
| Pulsed Drain Current ^b | I_{DM} | ± 1.6 | |
| Continuous Source Current (Diode Conduction) ^a | I_S | -1 | A |
| Power Dissipation ^a | P_D | $T_A=25^\circ C$ | W |
| | | $T_A=70^\circ C$ | |
| Operating Junction and Storage Temperature Range | T_J, T_{stg} | -55 to 150 | $^\circ C$ |

| THERMAL RESISTANCE RATINGS | | | |
|--|------------|----------------|--------------|
| Parameter | Symbol | Maximum | Units |
| Maximum Junction-to-Ambient ^a | R_{THJA} | t \leq 5 sec | $^\circ C/W$ |
| | | Steady-State | |

Notes

- a. Surface Mounted on 1" x 1" FR4 Board.
- b. Pulse width limited by maximum junction temperature

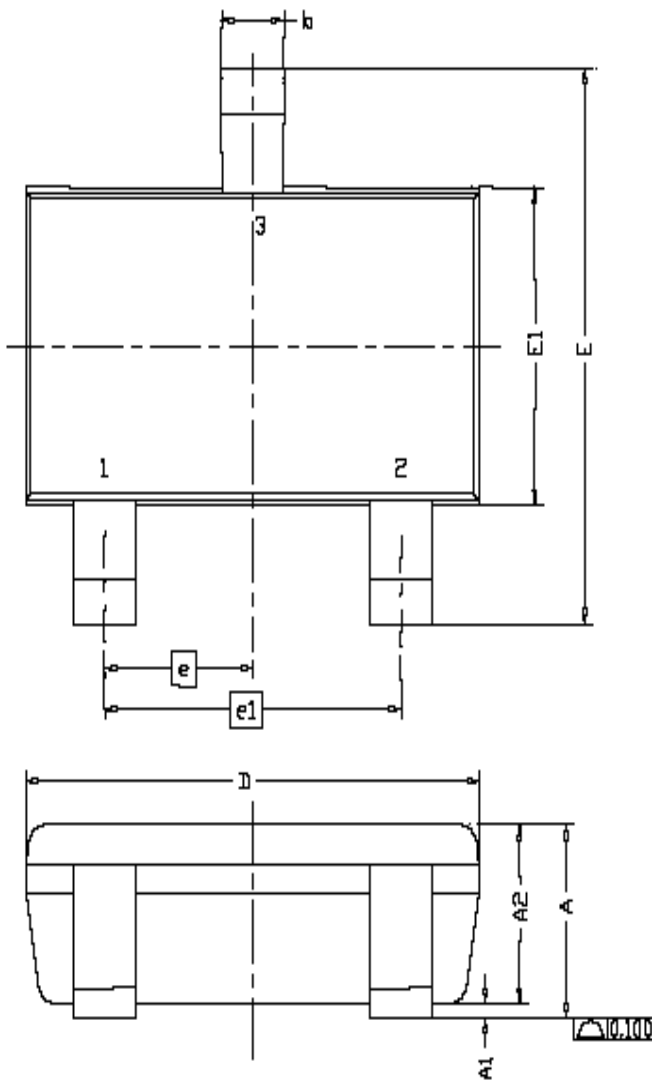
| SPECIFICATIONS (T _A = 25°C UNLESS OTHERWISE NOTED) | | | | | | |
|---|---------------------|---|--------|-----|------|------|
| Parameter | Symbol | Test Conditions | Limits | | | Unit |
| | | | Min | Typ | Max | |
| Static | | | | | | |
| Gate-Threshold Voltage | V _{GS(th)} | V _{DS} = V _{GS} , I _D = -250 uA | -1.2 | | | V |
| Gate-Body Leakage | I _{GSS} | V _{DS} = 0 V, V _{GS} = ±20 V | | | ±100 | nA |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} = -64 V, V _{GS} = 0 V | | | -1 | uA |
| | | V _{DS} = -64 V, V _{GS} = 0 V, T _J = 55°C | | | -10 | |
| On-State Drain Current ^A | I _{D(on)} | V _{DS} = -5 V, V _{GS} = -10 V | -1 | | | A |
| Drain-Source On-Resistance ^A | r _{DS(on)} | V _{GS} = -10 V, I _D = -0.5 A | | | 0.5 | Ω |
| | | V _{GS} = -4.5 V, I _D = -0.5 A | | | 0.6 | |
| Forward Transconductance ^A | g _{fs} | V _{DS} = -15 V, I _D = -0.5 A | | 2.2 | | S |
| Diode Forward Voltage | V _{SD} | I _S = -1 A, V _{GS} = 0 V | | 0.8 | | V |
| Dynamic^b | | | | | | |
| Total Gate Charge | Q _g | V _{DS} = -30 V, V _{GS} = -10 V, I _D = -1.6 A | | 7 | | nC |
| Gate-Source Charge | Q _{gs} | | | 1 | | |
| Gate-Drain Charge | Q _{gd} | | | 2 | | |
| Turn-On Delay Time | t _{d(on)} | V _{DD} = -30 V, R _L = 30 Ω, I _D = -1 A, V _{GEN} = -10 V, R _G = 6Ω | | 7 | | nS |
| Rise Time | t _r | | | 11 | | |
| Turn-Off Delay Time | t _{d(off)} | | | 17 | | |
| Fall-Time | t _f | | | 11 | | |

Notes

- Pulse test: PW ≤ 300us duty cycle ≤ 2%.
- Guaranteed by design, not subject to production testing.

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Package Information



| DIM. | MILLIMETERS | | |
|------|-------------|------|-------|
| | MIN | NOM | MAX |
| A | 0.935 | 0.95 | 1.10 |
| A1 | 0.01 | --- | 0.10 |
| A2 | 0.85 | 0.90 | 0.925 |
| b | 0.30 | 0.40 | 0.50 |
| c | 0.10 | 0.15 | 0.25 |
| D | 2.70 | 2.90 | 3.10 |
| E | 2.60 | 2.80 | 3.00 |
| E1 | 1.40 | 1.60 | 1.80 |
| e | 0.95 BSC | | |
| e1 | 1.90 BSC | | |
| L | 0.30 | 0.40 | 0.60 |
| L1 | 0.60REF | | |
| L2 | 0.25BSC | | |
| R | 0.10 | --- | --- |
| θ | 0° | 4° | 8° |
| θ1 | 7°NOM | | |

