

SOT-89-3L Plastic-Encapsulate MOSFETS

FEATURE

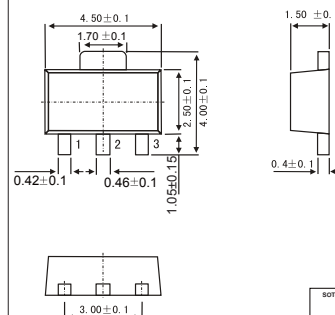
- P-Channel 20-V(D-S) MOSFET

MECHANICAL DATA

- Case style:SOT-89 molded plastic
- Mounting position:any

SOT-89-3L

Unit:mm



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

| $V_{(BR)DSS}$ | $R_{DS(on)MAX}$ | I_D |
|---------------|-----------------|-------|
| -20V | 135mΩ@-4.5V | -2.3A |
| | 240mΩ@-2.5V | |

| Parameter | Symbol | Value | Unit |
|---|-----------|-----------|------|
| Drain-Source Voltage | V_{DS} | -20 | V |
| Continuous Gate-Source Voltage | V_{GS} | ±12 | |
| Continuous Drain Current | I_D | -2.3 | A |
| Power Dissipation | P_D | 0.5 | W |
| Thermal Resistance from Junction to Ambient | $R_{θJA}$ | 250 | °C/W |
| Operating Temperature | T_j | 150 | °C |
| Storage Temperature | T_{stg} | -55 ~+150 | |

MOSFET ELECTRICAL CHARACTERISTICS $T_a = 25^\circ\text{C}$ unless otherwise specified

| Parameter | Symbol | Test Condition | Min | Typ | Max | Unit |
|--|---------------|---|-------|-------|-------|------|
| Off characteristics | | | | | | |
| Drain-source breakdown voltage | $V_{(BR)DSS}$ | $V_{GS} = 0V, I_D = 10\mu A$ | -20 | | | V |
| Gate-body leakage | I_{GSS} | $V_{DS} = 0V, V_{GS} = \pm 12V$ | | | ±100 | nA |
| Zero gate voltage drain current | I_{DSS} | $V_{DS} = -20V, V_{GS} = 0V$ | | | -1.0 | μA |
| On characteristics | | | | | | |
| Gate-threshold voltage | $V_{GS(th)}$ | $V_{DS} = V_{GS}, I_D = -0.25mA$ | -0.50 | -0.7 | -1.50 | V |
| Static drain-source on-resistance (note 1) | $R_{DS(on)}$ | $V_{GS} = -4.5V, I_D = -2.3A$ | | 0.058 | 0.135 | Ω |
| | | $V_{GS} = -2.5V, I_D = -1.0A$ | | 0.075 | 0.240 | |
| Forward transconductance (note 1) | g_{fs} | $V_{DS} = -5V, I_D = -2.3A$ | 2.3 | | | S |
| Dynamic characteristics (note 2) | | | | | | |
| Input capacitance | C_{iss} | $V_{DS} = -20V, V_{GS} = 0V, f = 1MHz$ | | | 430 | pF |
| Output capacitance | C_{oss} | | | 100 | | |
| Reverse transfer capacitance | C_{rss} | | | 35 | | |
| Switching characteristics | | | | | | |
| Turn-on delay time (note 1,2) | $t_{d(on)}$ | $V_{GS} = -5V, V_{DS} = -10V, I_D = -1A, R_G = 3.3\Omega, R_D = 10\Omega$ | | 9 | | ns |
| Rise time (note 2) | t_r | | | 25 | | |
| Turn-off delay time (note 2) | $t_{d(off)}$ | | | 20 | | |
| Fall time (note 2) | t_f | | | 10 | | |
| Drain-source body diode characteristics | | | | | | |
| Body diode forward voltage (note 1) | V_{SD} | $I_S = -1A, V_{GS} = 0V$ | | | -1.6 | V |

No tes:

1. Pulse Test ; Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
2. These parameters have no way to verify.

Typical Characteristics

