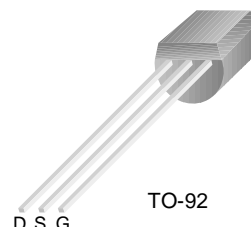


**P-Channel Switch**

- This device is designed for low level analog switching sample and hold circuits and chopper stabilized amplifiers.
- Sourced from process 88.



**Absolute Maximum Ratings**  $T_C=25^\circ\text{C}$  unless otherwise noted

| Symbol         | Parameter  | Value      | Units            |
|----------------|--|------------|------------------|
| $V_{DG}$       | Drain-Gate Voltage                               | - 30       | V                |
| $V_{GS}$       | Gate-Source Voltage                              | 30         | V                |
| $I_{GF}$       | Forward Gate Current                             | 50         | mA               |
| $T_J, T_{STG}$ | Operating and Storage Junction Temperature Range | -55 ~ +150 | $^\circ\text{C}$ |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

**NOTES:**

1. These ratings are based on a maximum junction temperature of 150 degrees C.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

**Electrical Characteristics**  $T_C=25^\circ\text{C}$  unless otherwise noted

| Symbol        | Parameter                       | Test Condition                        | Min. | Typ. | Max. | Units    |
|---------------|---------------------------------|---------------------------------------|------|------|------|----------|
| $BV_{GSS}$    | Gate-Source Breakdown Voltage   | $V_{DS} = 0V, I_G = 1\mu A$           | 30   |      |      | V        |
| $I_{GSS}$     | Gate Reverse Current            | $V_{GS} = 15V$                        |      |      | 2    | nA       |
| $I_{D(off)}$  | Drain Cutoff Leakage Current    | $V_{DS} = 15V$<br>$V_{GS} = 7V$       |      |      | 10   | nA       |
|               |                                 | $T = +85^\circ\text{C}$               |      |      | 0.5  | $\mu A$  |
| $I_{DGO}$     | Drain-Gate Leakage Current      | $V_{DG} = 15V$<br>$I_S = 0$           |      |      | 2    | nA       |
|               |                                 | $T = +85^\circ\text{C}$               |      |      | 0.1  | $\mu A$  |
| $I_{DSS}$     | Zero-Gate Voltage Drain Current | $V_{DS} = 20V, V_{GS} = 0V$           | 5    |      |      | mA       |
| $V_{GS(off)}$ | Gate-Source Cutoff Voltage      | $V_{DS} = 15V, I_D = 1\mu A$          |      |      | 5    | V        |
| $V_{DS(on)}$  | Drain-Source On Voltage         | $V_{GS} = 0V, I_D = 3mA$              |      |      | 0.5  | V        |
| $r_{DS(on)}$  | Drain-Source On Resistance      | $V_{GS} = 0V, I_D = 1mA$              |      |      | 150  | $\Omega$ |
| $r_{ds(on)}$  | Drain-Source On Resistance      | $V_{GS} = 0V, I_D = 0, f = 1kHz$      |      |      | 150  | $\Omega$ |
| $C_{iss}$     | Input Capacitance               | $V_{DS} = 15V, V_{GS} = 0V, f = 1MHz$ |      |      | 45   | pF       |
| $C_{rss}$     | Reverse Transfer Capacitance    | $V_{DS} = 0V, V_{GS} = 7V, f = 1MHz$  |      |      | 10   | pF       |
| $t_d(on)$     | Trun On Time                    | $V_{DD} = -6V$                        |      |      | 15   | ns       |
| $t_r$         | Rise Time                       | $V_{GS(off)} = +7V$                   |      |      | 75   | ns       |
| $t_d(off)$    | Trun Off Time                   | $R_L = 1.8k\Omega$                    |      |      | 25   | ns       |
| $t_f$         | Fall Time                       | $I_D(on) = -3mA$                      |      |      | 100  | ns       |

**Thermal Characteristics**  $T_A=25^\circ\text{C}$  unless otherwise noted

| Symbol          | Parameter   | Max.       | Units                      |
|-----------------|---|------------|----------------------------|
| $P_D$           | Total Device Dissipation<br>Derate above $25^\circ\text{C}$ | 350<br>2.8 | mW<br>mW/ $^\circ\text{C}$ |
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case                        | 125        | $^\circ\text{C/W}$         |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient                     | 357        | $^\circ\text{C/W}$         |

# Package Dimensions

## TO-92



Dimensions in Millimeters

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