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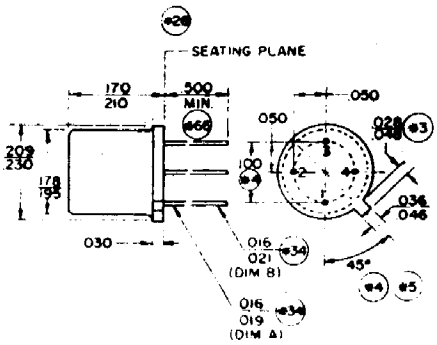
# 2N5265 thru 2N5270

## MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| Drain-Source Voltage | $V_{DS}$ | 60 | Vdc |
| Drain-Gate Voltage | $V_{DG}$ | 60 | Vdc |
| Reverse Gate-Source Voltage | $V_{GS(r)}$ | 60 | Vdc |
| Drain Current | $I_D$ | 20 | mAdc |
| Gate Current-forward | $I_{G(f)}$ | 10 | mAdc |
| Total Device Dissipation @ $T_A$ = 25°C<br>Derate above 25°C | $P_D$ | 300<br>2.0 | mW<br>mW/°C |
| Storage Temperature Range | $T_{stg}$ | -65 to +200 | °C |
| Operating Junction Temperature Range | $T_J$ | -65 to +175 | °C |

**TO-72**




## ELECTRICAL CHARACTERISTICS ($T_A$ = 25°C unless otherwise noted)

| Characteristic | | Symbol | Min | Max | Unit |
|---|---|---|---|---|---|
| **OFF CHARACTERISTICS** | | | | | |
| Gate-Source Breakdown Voltage ($I_G$ = 10 μAdc, $V_{DS}$ = 0) | | $V_{(BR)GSS}$ | 60 | - | Vdc |
| Gate-Source Cutoff Voltage ($V_{DS}$ = 15 Vdc, $I_D$ = 1.0 μAdc) | 2N5265, 2N5266<br>2N5267, 2N5268<br>2N5269, 2N5270 | $V_{GS(off)}$ | -<br>-<br>- | 3.0<br>6.0<br>8.0 | Vdc |
| Gate Reverse Current ($V_{GS}$ = 30 Vdc, $V_{DS}$ = 0)<br>($V_{GS}$ = 30 Vdc, $V_{DS}$ = 0, $T_A$ = 150°C) | | $I_{GSS}$ | -<br>- | 2.0<br>2.0 | nAdc<br>μAdc |
| **ON CHARACTERISTICS** | | | | | |
| Zero-Gate Voltage Drain Current ($V_{DS}$ = 15 Vdc, $V_{GS}$ = 0) | 2N5265<br>2N5266<br>2N5267<br>2N5268<br>2N5269<br>2N5270 | $I_{DSS}$ | 0.5<br>0.8<br>1.5<br>2.5<br>4.0<br>7.0 | 1.0<br>1.8<br>3.0<br>5.0<br>8.0<br>14 | mAdc |
| Gate-Source Voltage<br>($V_{DS}$ = 15 Vdc, $I_D$ = 0.05 mAdc)<br>($V_{DS}$ = 15 Vdc, $I_D$ = 0.08 mAdc)<br>($V_{DS}$ = 15 Vdc, $I_D$ = 0.15 mAdc)<br>($V_{DS}$ = 15 Vdc, $I_D$ = 0.25 mAdc)<br>($V_{DS}$ = 15 Vdc, $I_D$ = 0.4 mAdc)<br>($V_{DS}$ = 15 Vdc, $I_D$ = 0.7 mAdc) | 2N5265<br>2N5266<br>2N5267<br>2N5268<br>2N5269<br>2N5270 | $V_{GS}$ | 0.3<br>0.4<br>1.0<br>1.0<br>2.0<br>2.0 | 1.5<br>2.0<br>4.0<br>4.0<br>6.0<br>6.0 | Vdc |
| **SMALL-SIGNAL CHARACTERISTICS** | | | | | |
| Forward Transadmittance ($V_{DS}$ = 15 Vdc, $V_{GS}$ = 0, f = 1.0 kHz) | 2N5265<br>2N5266<br>2N5267<br>2N5268<br>2N5269<br>2N5270 | $\lvert y_{fs} \rvert$ | 900<br>1000<br>1500<br>2000<br>2200<br>2500 | 2700<br>3000<br>3500<br>4000<br>4500<br>5000 | μmhos |
| Forward Transconductance ($V_{DS}$ = 15 Vdc, $V_{GS}$ = 0, f = 100 MHz) | 2N5265<br>2N5266<br>2N5267<br>2N5268<br>2N5269<br>2N5270 | $Re(y_{fs})$ | 800<br>900<br>1400<br>1700<br>1900<br>2100 | -<br>-<br>-<br>-<br>-<br>- | μmhos |
| Output Admittance ($V_{DS}$ = 15 Vdc, $V_{GS}$ = 0, f = 1.0 kHz) | | $\lvert y_{os} \rvert$ | - | 75 | μmhos |
| Input Capacitance ($V_{DS}$ = 15 Vdc, $V_{GS}$ = 0, f = 1.0 MHz) | | $C_{iss}$ | - | 7.0 | pF |
| Reverse Transfer Capacitance ($V_{DS}$ = 15 Vdc, $V_{GS}$ = 0, f = 1.0 MHz) | | $C_{rss}$ | - | 2.0 | pF |
| Common-Source Noise Figure ($V_{DS}$ = 15 Vdc, $V_{GS}$ = 0, $R_G$ = 1.0 M ohm, f = 100 Hz, BW = 1.0 Hz) | | NF | - | 2.5 | dB |
| Equivalent Short-Circuit Input Noise Voltage ($V_{DS}$ = 15 Vdc, $V_{GS}$ = 0, f = 100 Hz, BW = 1.0 Hz) | | $e_n$ | - | 115 | nV/√Hz |