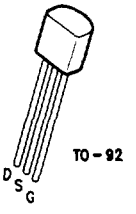
National Semiconductor

# J108
# J109
# J110




TL/G/10100-2

## N-Channel JFET Switch

## Electrical Characteristics $T_A$ = 25°C unless otherwise noted

| Symbol | Parameter | | Min | Max | Units |
|---|---|---|---|---|---|
| **OFF CHARACTERISTICS** | | | | | |
| $V_{(BR)GSS}$ | Gate-Source Breakdown Voltage ($V_{DS}$ = 0, $I_G$ = −10 μAdc) | | −25 | | Vdc |
| $I_{GSS}$ | Gate Reverse Current ($V_{GS}$ = −15 Vdc, $V_{DS}$ = 0) | | | −3.0 | nAdc |
| | ($V_{GS}$ = −15 Vdc, $V_{DS}$ = 0, $T_A$ = 100°C) | | | −200 | |
| $V_{GS(off)}$ | Gate Source Cutoff Voltage ($V_{DS}$ = 15 Vdc, $I_D$ = 10 nAdc) | J108 | −3.0 | −10 | Vdc |
| | | J109 | −2.0 | −6.0 | |
| | | J110 | −0.5 | −4.0 | |
| **ON CHARACTERISTICS** | | | | | |
| $I_{DSS}$ | Zero-Gate-Voltage Drain Current, (Note 1) ($V_{DS}$ = 15 Vdc, $V_{GS}$ = 0) | J108 | 80 | | mAdc |
| | | J109 | 40 | | |
| | | J110 | 10 | | |
| $r_{DS(on)}$ | Drain-Source-On-Resistance ($V_{DS}$ ≤ 0.1Vdc, $V_{GS}$ = 0) | J108 | | 8.0 | Ω |
| | | J109 | | 12 | |
| | | J110 | | 18 | |
| **SMALL-SIGNAL CHARACTERISTICS** | | | | | |
| $C_{dg(on)}$ + $C_{sg(on)}$ | Drain Gate + Source Gate On-Capacitance ($V_{DS}$ = 0 Vdc, $V_{GS}$ = 0, f = 1.0 MHz) | | | 85 | pF |
| $C_{dg(off)}$ | Drain Gate Off-Capacitance ($V_{DS}$ = 0 Vdc, $V_{GS}$ = −10V, f = 1.0 MHz) | | | 15 | pF |
| $C_{sg(off)}$ | Source Gate Off-Capacitance ($V_{DS}$ = 0 Vdc, $V_{GS}$ = −10V, f = 1.0 MHz) | | | 15 | pF |

**Note 1:** Pulse Duration 300 μs, Duty Cycle ≤ 2.0%.

**Note 2:** For characteristics curves, see Process 58.