**ELECTRICAL CHARACTERISTICS** ($T_C$ = 25°C unless otherwise noted)

| Characteristic | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| **OFF CHARACTERISTICS** | | | | | |
| Drain−Source Breakdown Voltage ($V_{GS}$ = 0, $I_D$ = 10 μA) | $V_{(BR)DS}$ | 200 | – | – – | Vdc |
| Zero Gate Voltage Drain Current ($V_{DSS}$ = 130 Vdc, $V_{GS}$ = 0) | $I_{DSS}$ | – | – | 30 | nAdc |
| Gate−Body Leakage Current ($V_{GS}$ = 15 Vdc, $V_{DS}$ = 0) | $I_{GSSF}$ | – | – | 10 | nAdc |
| **ON CHARACTERISTICS** (Note 3) | | | | | |
| Gate Threshold Voltage ($I_D$ = 1.0 mA, $V_{DS}$ = $V_{GS}$) | $V_{GS(th)}$ | 0.5 | – | 1.5 | Vdc |
| Static Drain−to−Source On−Resistance ($V_{GS}$ = 2.0 Vdc, $I_D$ = 50 mA) ($V_{GS}$ = 2.8 Vdc, $I_D$ = 100 mA) | $r_{DS(on)}$ | – – | – – | 10 8.0 | Ω |
| Drain Cutoff Current ($V_{GS}$ = 0.2 V, $V_{DS}$ = 70 V) | $I_{DSX}$ | – | – | 25 | μA |
| Forward Transconductance ($I_D$ = 120 mA, $V_{DS}$ = 20 V) | $g_{FS}$ | – | 0.33 | – | Mhos |
| **DYNAMIC CHARACTERISTICS** | | | | | |
| Input Capacitance ($V_{DS}$ = 25 V, $V_{GS}$ = 0, f = 1.0 MHz) | $C_{iss}$ | – | – | 150 | pF |
| Output Capacitance ($V_{DS}$ = 25 V, $V_{GS}$ = 0, f = 1.0 MHz) | $C_{oss}$ | – | – | 30 | pF |
| Reverse Transfer Capacitance ($V_{DS}$ = 25 V, $V_{GS}$ = 0, f = 1.0 MHz) | $C_{rss}$ | – | – | 10 | pF |
| **SWITCHING CHARACTERISTICS** | | | | | |
| Turn−On Time (See Figure 1) | $t_{d(on)}$ | – | – | 15 | ns |
| Turn−Off Time (See Figure 1) | $t_{d(off)}$ | – | – | 15 | ns |

3. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle = 2.0%.

## RESISTIVE SWITCHING

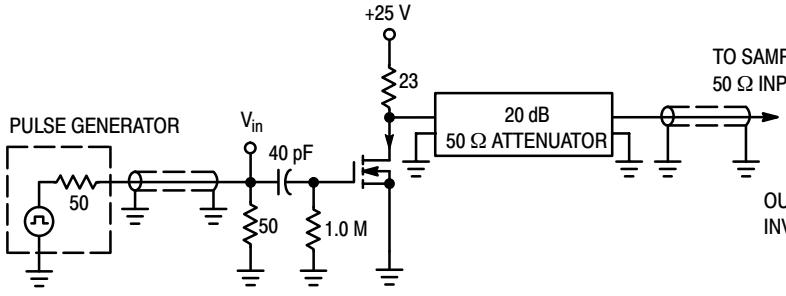



**Figure 1. Switching Test Circuit**

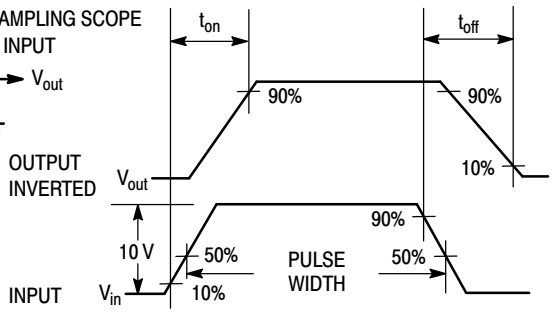
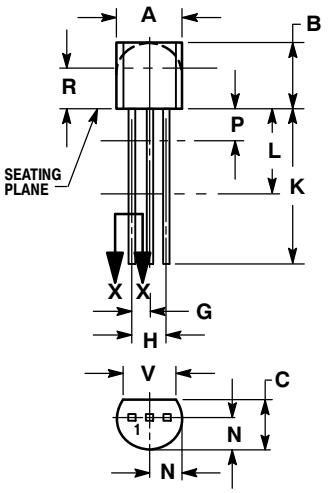



**Figure 2. Switching Waveforms**

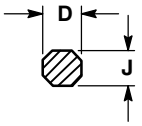
# BS108

## PACKAGE DIMENSIONS

**TO−92 (TO−226)**
CASE 29−11
ISSUE AM




STRAIGHT LEAD
BULK PACK




**SECTION X−X**

NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

| | INCHES | | MILLIMETERS | |
|---|---|---|---|---|
| DIM | MIN | MAX | MIN | MAX |
| A | 0.175 | 0.205 | 4.45 | 5.20 |
| B | 0.170 | 0.210 | 4.32 | 5.33 |
| C | 0.125 | 0.165 | 3.18 | 4.19 |
| D | 0.016 | 0.021 | 0.407 | 0.533 |
| G | 0.045 | 0.055 | 1.15 | 1.39 |
| H | 0.095 | 0.105 | 2.42 | 2.66 |
| J | 0.015 | 0.020 | 0.39 | 0.50 |
| K | 0.500 | --- | 12.70 | --- |
| L | 0.250 | --- | 6.35 | --- |
| N | 0.080 | 0.105 | 2.04 | 2.66 |
| P | --- | 0.100 | --- | 2.54 |
| R | 0.115 | --- | 2.93 | --- |
| V | 0.135 | --- | 3.43 | --- |

STYLE 30:
PIN 1. DRAIN
2. GATE
3. SOURCE



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