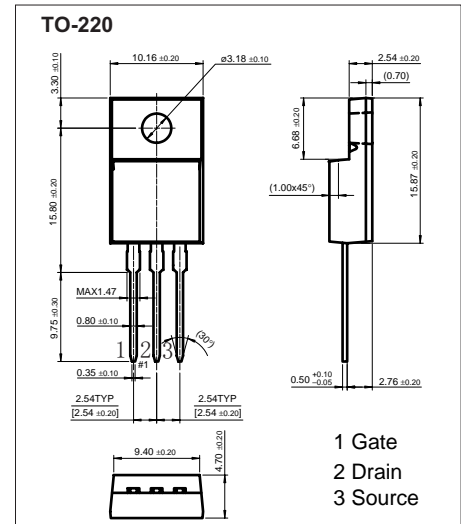
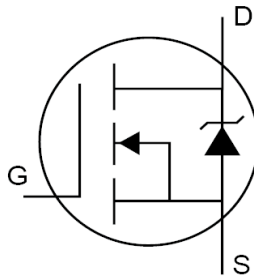


75N08

Features

VDS=75V, RDS(on)=0.009 @ VGS=10V, ID=30A

VDS=75V, RDS(on)=0.011 @ VGS=4.5V, ID=20A

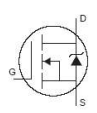


Absolute Maximum Ratings Ta = 25

| Parameter | Symbol | Rating | Unit |
|--|----------|--------------|------|
| Drain- Source Voltage | VDS | 75 | V |
| Continuous Drain Current | ID | ±75 | A |
| Continuous Drain Current | ID | ±66 | |
| Pulsed Drain Current*1 | IDM | ±240 | |
| Power Dissipation Ta = 25 | PD | 250 | W |
| Gate-to-Source Voltage | VGS | ±20 | V |
| Avalanche Current*1 | IAR | ±75 | A |
| Repetitive Avalanche Energy*1 | EAR | 280 | mJ |
| Junction-to-Case | R JC | 0.6 | /W |
| Junction-to-Ambient | R JA | 62.5 | |
| Operating Junction and Storage Temperature Range | TJ, TSTG | -55 to + 175 | |

*1 Duty Cycle 1 %

Electrical Characteristics Ta = 25

| Parameter | Symbol | Testconditons | Min | Typ | Max | Unit |
|---|----------|---|-----|------|-------|------|
| Drain-to-Source Breakdown Voltage | V(BR)DSS | VGS = 0V, ID = 250μA | 75 | | | V |
| Static Drain-to-Source On-Resistance | RDS(on) | VGS = 10V, ID = 30A | | | 0.009 | |
| Gate Threshold Voltage | VGS(th) | VDS = VGS, ID = 250μA | 1 | | 3 | V |
| Forward Transconductance | gfs | VDS = 15V, ID = 30A | 30 | | | S |
| Drain-to-Source Leakage Current | IDSS | VDS = 60V, VGS = 0V | | | 1 | μA |
| | | VDS = 60V, VGS = 0V, TJ = 125 | | | 50 | |
| Gate-to-Source Forward Leakage | IGSS | VGS = 20V | | | 100 | nA |
| Gate-to-Source Reverse Leakage | | VGS = -20V | | | -100 | |
| Total Gate Charge | Qg | VDS = 30 V, VGS = 10 V, ID = 75 A | | 121 | 150 | nC |
| Gate-to-Source Charge | Qgs | | | 20 | | |
| Gate-to-Drain Charge | Qgd | | | 25 | | |
| Turn-On Delay Time | td(on) | VDD = 30V, RL=0.47Ω, ID=75A, VGEN=10V RG=2.5 | | 11 | 20 | ns |
| Rise Time | tr | | | 10 | 20 | |
| Turn-Off Delay Time | td(off) | | | 107 | 200 | |
| Fall Time | tf | | | 22 | 40 | |
| Input Capacitance | Ciss | VGS= 0 V, VDS = 25 V, f = 1 MHz | | 5600 | | pF |
| Output Capacitance | Coss | | | 820 | | |
| Reverse Transfer Capacitance | Crss | | | 275 | | |
| Continuous Source Current (Body Diode) | IS | MOSFET symbol showing the integral reverse p-n junction diode.  | | | 75 | A |
| Pulsed Source Current (Body Diode) *1 | ISM | | | | 240 | |
| Diode Forward Voltage | VSD | TJ = 25℃, IF = 75A, VGS = 0V*1 | | | 1.3 | V |
| Reverse Recovery Time | trr | TJ = 25℃, IF = 75A | | 80 | 120 | ns |
| Reverse RecoveryCharge | Qrr | di/dt = 100A/μs*1 | | 0.32 | 0.54 | uC |

*1 Pulse width 300 μs; duty cycle 2%.

*2 Repetitive rating; pulse width limited bymax

■ Marking

| | |
|---------|-------|
| Marking | 75N08 |
|---------|-------|

■ Typical Characteristics

Figure 1. On-Region Characteristics

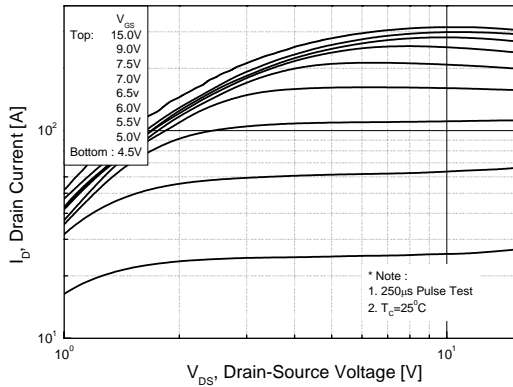


Figure 2. Transfer Characteristics

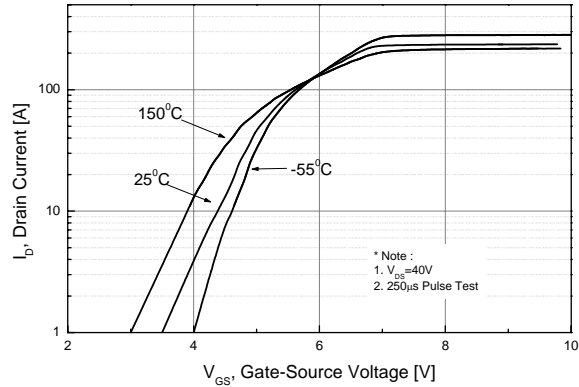


Figure 3. On-Resistance Variation vs. Drain Current and Gate Voltage

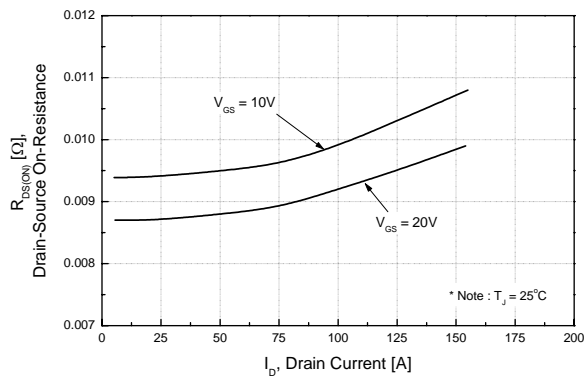


Figure 4. Body Diode Forward Voltage Variation vs. Source Current and Temperature

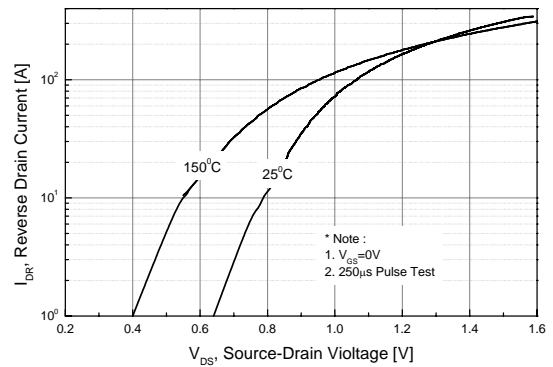


Figure 5. Capacitance Characteristics

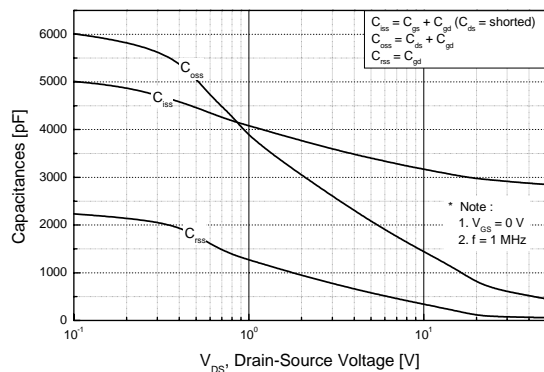
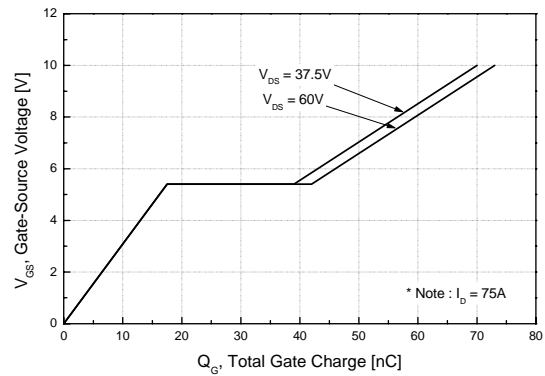


Figure 6. Gate Charge Characteristics



■ Typical Characteristics

Figure 7. Breakdown Voltage Variation vs. Temperature

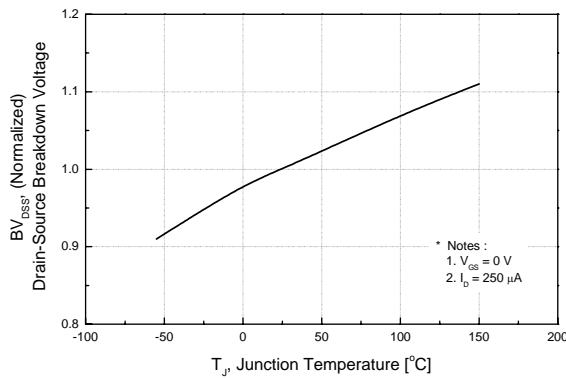


Figure 8. On-Resistance Variation vs. Temperature

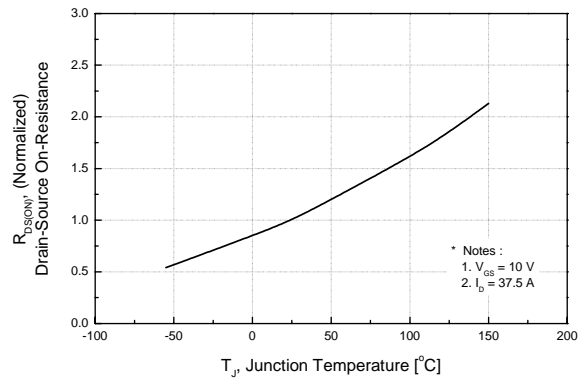


Figure 9. Maximum Safe Operating Area

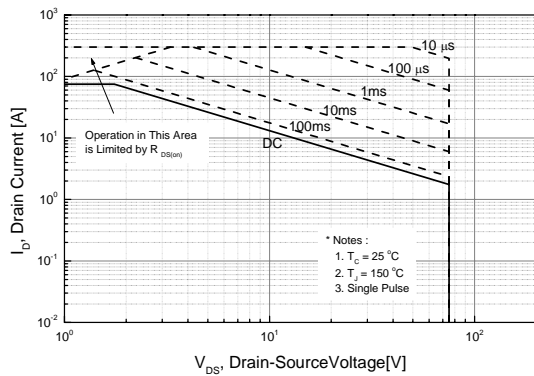


Figure 10. Maximum Drain Current vs. Case Temperature

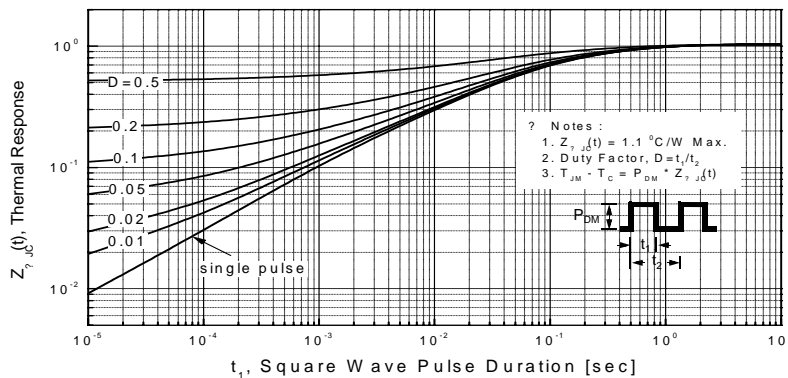
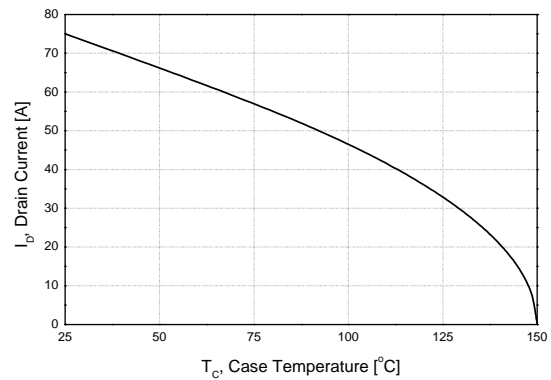


Figure 11. Transient Thermal Response Curve