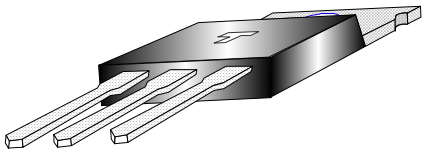
Transys Electronics LIMITED

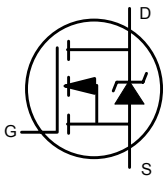
# IRF620

## Power MOSFET

**$V_{DSS}$ = 200V, $R_{DS(on)}$ = 0.80 ohm, $I_D$ = 5.2 A**



N Channel




Symbol

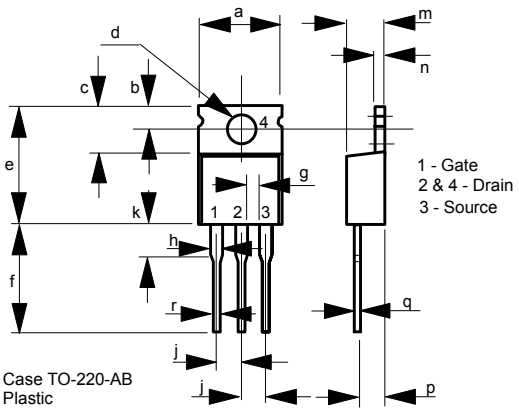
| ELECTRICAL CHARACTERISICS at Tj = 25°C Maximum. Unless stated Otherwise | | | | | | |
|---|---|---|---|---|---|---|
| Parameter | Symbol | Test Conditions | Value | | | Unit |
| | | | Min | Typ | Max | |
| Drain to Source Breakdown Voltage | $V_{(BR)DSS}$ | $V_{GS}$ = 0 $V_{DC}$, $I_D$ = 250µA | 200 | - | - | Volt |
| Drain to Source Leakage Current | $I_{DSS}$ | $V_{DS}$ = 200$V_{DC}$, $V_{GS}$ = 0$V_{DC}$ | - | - | 25 | µA |
| | | $V_{DS}$ = 160$V_{DC}$, $V_{GS}$ = 0$V_{DC}$ Tj=125 °C | - | - | 250 | µA |
| Gate to Source Leakage Current | $I_{GSS}$ | $V_{GS}$ = +20$V_{DC}$ | - | - | 100 | nA |
| | | $V_{GS}$ = -20$V_{DC}$ | - | - | -100 | nA |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}$ = $V_{GS}$, $I_D$ = 250µA | 2.0 | - | 4.0 | Volt |
| Static Drain to Source On - Resistance | $R_{DS(on)}$ | $V_{GS}$= 10$V_{DC}$, $I_D$ = 3.1A | - | - | 0.80 | Ω |
| Gate Charge | $Q_G$ | $I_D$ = 4.8A | - | - | 14 | nC |
| Gate to Source Charge | $Q_{GS}$ | $V_{DS}$ = 160$V_{DC}$, | - | - | 3.0 | nC |
| Gate to Drain Charge | $Q_{GD}$ | $V_{GS}$ = 10$V_{DC}$ | - | - | 7.9 | nC |
| Input Capacitance | $C_{ISS}$ | | - | 260 | - | pF |
| Output Capacitance | $C_{OSS}$ | $V_{DS}$ = 25$V_{DC}$, $V_{GS}$= 0$V_{DC}$, f = 1.0MHZ | - | 100 | - | pF |
| Transfer Capacitance | $C_{RSS}$ | | - | 30 | - | pF |
| Turn On Delay Time | td(on) | | - | 7.2 | - | nS |
| Turn Off Delay Time | td(off) | $V_{DD}$ = 100$V_{DC}$, $I_D$ = 4.8A, $R_G$ = 18Ω | - | 19 | - | nS |
| Rise Time | tr | $R_D$ = 20Ω | - | 22 | - | nS |
| Fall Time | tf | | - | 13 | - | nS |
| Continuous Source Current | $I_S$ | | - | - | 5.2 | A |
| Pulsed Source Current | $I_{SM}$ | | - | - | 18 | A |
| Forward Voltage (Diode) | $V_{SD}$ | $V_{GS}$ = 0$V_{DC}$, $I_S$ =5.2A, Tp = 300µS | - | - | 1.8 | V |

| MAXIMUM RATINGS (Tj = 25°C unless stated otherwise) | | | | |
|---|---|---|---|---|
| Parameter | Symbol | Condition | Value | Unit |
| Gate to Source Voltage | $V_{GS}$ | | +/- 20V | Volt |
| Drain to Source Voltage | $V_{DSS}$ | | 200 | Volt |
| Continuous Drain Current | $I_D$ | | 5.2 | Amp |
| Pulsed Drain Current | $I_{DM}$ | _ | 18 | Amp |
| Total Power Dissapation | $P_D$ | ($T_A$ = 25 C) | 50 | W |
| Thermal Resistance (Junction to Ambient) | $R_{TH\ (J-A)}$ | | 62 | °C/W |

Maximum Operating Temperature Range (Tj) -55 to +150 °C
Maximum Storage Temperature Range (Tstg) -55 to +150 °C

## Mechanical Dimensions

| DIMENSIONS | | | | |
|---|---|---|---|---|
| | Millimetres | | Inches | |
| Dim | Min | Max | Min | Max |
| a | 10.29 | 10.54 | 0.405 | 0.415 |
| b | 2.62 | 2.87 | 0.103 | 0.113 |
| c | 6.10 | 6.47 | 0.240 | 0.255 |
| d | 3.54 | 3.78 | 0.139 | 0.149 |
| e | 14.84 | 15.24 | 0.584 | 0.600 |
| f | 13.47 | 14.09 | 0.530 | 0.555 |
| g | 1.15 | | 0.045 | |
| h | 1.15 | 1.400 | 0.045 | 0.055 |
| j | | 2.54 | | 0.100 |
| k | 3.550 | 4.06 | 0.140 | 0.160 |
| m | 4.20 | 4.69 | 0.165 | 0.185 |
| n | 1.22 | 1.32 | 0.048 | 0.052 |
| p | 2.64 | 2.92 | 0.104 | 0.115 |
| q | 0.48 | 0.55 | 0.018 | 0.022 |
| r | 0.69 | 0.93 | 0.027 | 0.037 |




Case TO-220-AB
Plastic