

# Isc N-Channel MOSFET Transistor

## IRFZ48ZS

### • FEATURES

- With To-263(D2PAK) package
- Low input capacitance and gate charge
- Low gate input resistance
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • APPLICATIONS

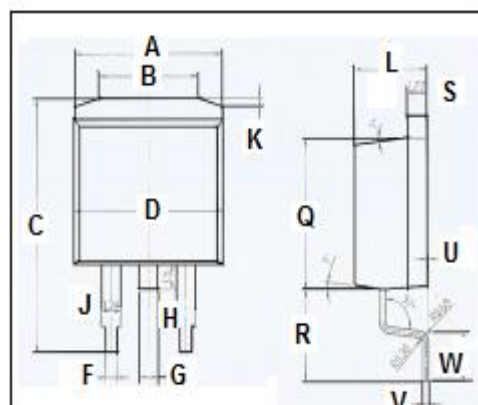
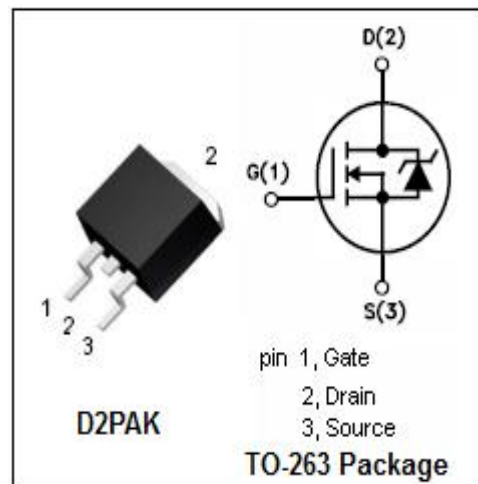
- Switching applications

### • ABSOLUTE MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ )

| SYMBOL    | PARAMETER   | VALUE    | UNIT               |
|-----------|---|----------|--------------------|
| $V_{DS}$  | Drain-Source Voltage  | 55       | V                  |
| $V_{GS}$  | Gate-Source Voltage   | $\pm 20$ | V                  |
| $I_D$     | Drain Current-Continuous<br>$T_c=25^{\circ}\text{C}$<br>$T_c=100^{\circ}\text{C}$ | 61<br>43 | A                  |
| $I_{DM}$  | Drain Current-Single Pulsed   | 240      | A                  |
| $P_D$     | Total Dissipation @ $T_c=25^{\circ}\text{C}$                                      | 91       | W                  |
| $T_{ch}$  | Max. Operating Junction Temperature   | 175      | $^{\circ}\text{C}$ |
| $T_{stg}$ | Storage Temperature   | -55~175  | $^{\circ}\text{C}$ |

### • THERMAL CHARACTERISTICS

| SYMBOL         | PARAMETER                             | MAX  | UNIT                 |
|----------------|---------------------------------------|------|----------------------|
| $R_{th(ch-c)}$ | Channel-to-case thermal resistance    | 1.64 | $^{\circ}\text{C/W}$ |
| $R_{th(ch-a)}$ | Channel-to-ambient thermal resistance | 62   | $^{\circ}\text{C/W}$ |



| DIM | mm    |       |
|-----|-------|-------|
|     | MIN   | MAX   |
| A   | 10    |       |
| B   | 6.6   | 6.8   |
| C   | 15.23 | 15.25 |
| D   | 10.15 | 10.17 |
| F   | 0.76  | 0.78  |
| G   | 1.26  | 1.28  |
| H   | 1.4   | 1.6   |
| J   | 1.33  | 1.35  |
| K   | 0.4   | 0.6   |
| L   | 4.6   | 4.8   |
| Q   | 8.69  | 8.71  |
| R   | 5.28  | 5.30  |
| S   | 1.26  | 1.28  |
| U   | 0.0   | 0.2   |
| V   | 0.37  | 0.39  |
| W   | 2.80  | 2.82  |

**Isc N-Channel MOSFET Transistor****IRFZ48ZS****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

| SYMBOL       | PARAMETER                      | CONDITIONS  | MIN | TYP | MAX       | UNIT      |
|--------------|--------------------------------|---|-----|-----|-----------|-----------|
| $BV_{DSS}$   | Drain-Source Breakdown Voltage | $V_{GS}=0V; I_D=0.25mA$   | 55  |     |           | V         |
| $V_{GS(th)}$ | Gate Threshold Voltage         | $V_{DS}=V_{GS}; I_D=0.25mA$   | 2.0 |     | 4.0       | V         |
| $R_{DS(on)}$ | Drain-Source On-Resistance     | $V_{GS}=10V; I_D=37A$   |     | 8.6 | 11        | $m\Omega$ |
| $I_{GSS}$    | Gate-Source Leakage Current    | $V_{GS}=\pm 20V; V_{DS}=0V$   |     |     | $\pm 0.2$ | $\mu A$   |
| $I_{DSS}$    | Drain-Source Leakage Current   | $V_{DS}=55V; V_{GS}=0V; T_J=25^{\circ}\text{C}$<br>$V_{DS}=55V; V_{GS}=0V; T_J=125^{\circ}\text{C}$ |     |     | 20<br>250 | $\mu A$   |
| $V_{SDF}$    | Diode forward voltage          | $I_{SD}=37A, V_{GS}=0V$   |     |     | 1.3       | V         |

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