

Isc N-Channel MOSFET Transistor

IRFS33N15D

• 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

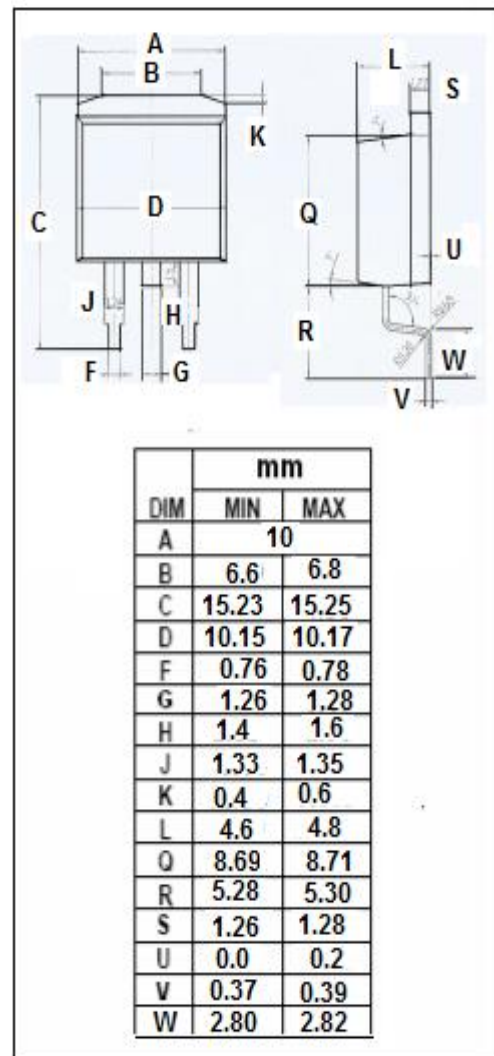
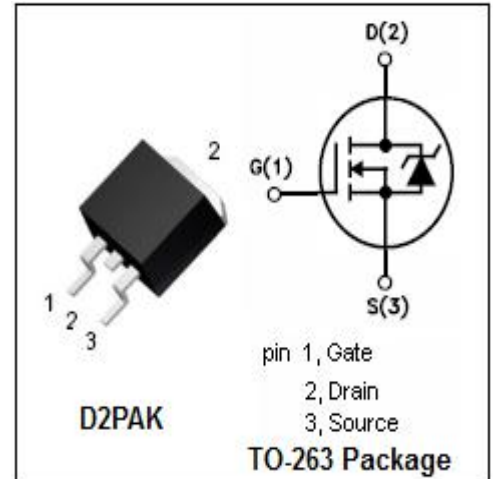
- Switching applications

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|-----------------------------------------------------------------------------------|----------|--------------------|
| V_{DS} | Drain-Source Voltage | 150 | V |
| V_{GS} | Gate-Source Voltage | ± 30 | V |
| I_D | Drain Current-Continuous $T_c=25^{\circ}\text{C}$ $T_c=100^{\circ}\text{C}$ | 33 24 | A |
| I_{DM} | Drain Current-Single Pulsed | 130 | A |
| P_D | Total Dissipation @ $T_c=25^{\circ}\text{C}$ | 170 | 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 | 0.9 | $^{\circ}\text{C/W}$ |
| $R_{th(ch-a)}$ | Channel-to-ambient thermal resistance | 40 | $^{\circ}\text{C/W}$ |



Isc N-Channel MOSFET Transistor**IRFS33N15D****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------|--------------------------------|-------------------------------------------------------------------------------------------------------|-----|-----|-----------|-----------|
| BV_{DSS} | Drain-Source Breakdown Voltage | $V_{GS}=0V; I_D=0.25mA$ | 150 | | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}=V_{GS}; I_D=0.25mA$ | 3.0 | | 5.5 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}=10V; I_D=20A$ | | | 56 | $m\Omega$ |
| I_{GSS} | Gate-Source Leakage Current | $V_{GS}=\pm 30V; V_{DS}=0V$ | | | ± 0.1 | μA |
| I_{DSS} | Drain-Source Leakage Current | $V_{DS}=150V; V_{GS}=0V; T_j=25^{\circ}\text{C}$ $V_{DS}=120V; V_{GS}=0V; T_j=150^{\circ}\text{C}$ | | | 25 250 | μA |
| V_{SDF} | Diode forward voltage | $I_{SD}=20A, V_{GS}=0V$ | | | 1.3 | V |

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