

# Isc N-Channel MOSFET Transistor

# IPA65R660CFD

### • FEATURES

- With TO-220F Package
- Drain Source Voltage  
:  $V_{DSS}=650V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 0.66 \Omega (\text{Max})$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • APPLICATIONS

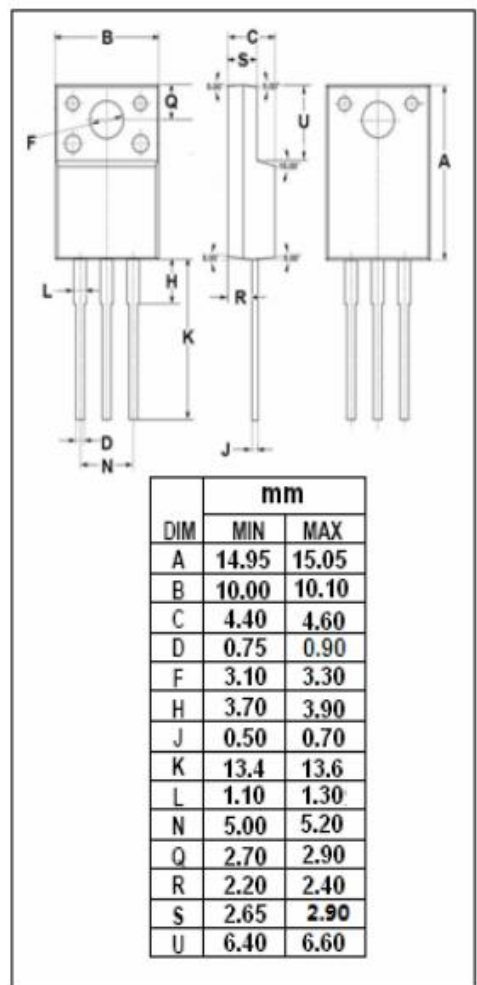
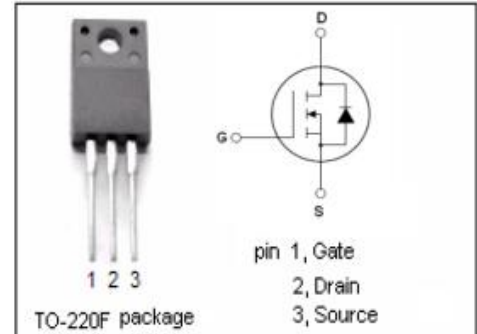
- Switching applications

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

| SYMBOL    | PARAMETER   | VALUE    | UNIT             |
|-----------|---|----------|------------------|
| $V_{DSS}$ | Drain-Source Voltage  | 650      | V                |
| $V_{GSS}$ | Gate-Source Voltage   | $\pm 20$ | V                |
| $I_D$     | Drain Current-Continuous @ $T_c=25^\circ\text{C}$<br>( $V_{GS}$ at 10V) $T_c=100^\circ\text{C}$ | 6<br>3.8 | A                |
| $I_{DM}$  | Drain Current-Single Pulsed   | 17       | A                |
| $P_D$     | Total Dissipation @ $T_c=25^\circ\text{C}$  | 28       | W                |
| $T_j$     | Max. Operating Junction Temperature   | -55~150  | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature   | -55~150  | $^\circ\text{C}$ |

### • THERMAL CHARACTERISTICS

| SYMBOL         | PARAMETER                             | MAX | UNIT               |
|----------------|---------------------------------------|-----|--------------------|
| $R_{th(ch-c)}$ | Channel-to-case thermal resistance    | 4.5 | $^\circ\text{C/W}$ |
| $R_{th(ch-a)}$ | Channel-to-ambient thermal resistance | 80  | $^\circ\text{C/W}$ |



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## • ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

| SYMBOL              | PARAMETER                      | CONDITIONS  | MIN | TYPE | MAX  | UNIT |
|---------------------|--------------------------------|---|-----|------|------|------|
| BV <sub>DSS</sub>   | Drain-Source Breakdown Voltage | V <sub>GS</sub> =0V; I <sub>D</sub> =1mA  | 650 |      |      | V    |
| V <sub>GS(th)</sub> | Gate Threshold Voltage         | V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> =0.21mA  | 3.5 | 4    | 4.5  | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance     | V <sub>GS</sub> = 10V; I <sub>D</sub> =2.1A   |     | 0.59 | 0.66 | Ω    |
| I <sub>GSS</sub>    | Gate-Source Leakage Current    | V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0V  |     |      | ±100 | nA   |
| I <sub>DSS</sub>    | Drain-Source Leakage Current   | V <sub>DS</sub> = 600V; V <sub>GS</sub> = 0V; T <sub>J</sub> =25°C<br>V <sub>DS</sub> = 600V; V <sub>GS</sub> = 0V; T <sub>J</sub> =150°C |     | 600  | 5    | μA   |
| V <sub>SDF</sub>    | Diode forward voltage          | I <sub>SD</sub> = 3.2A, V <sub>GS</sub> = 0 V   |     | 0.9  |      | V    |

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