

## isc N-Channel MOSFET Transistor

## IPB65R110CFD

## • FEATURES

- With TO-263(D2PAK) packaging
- Ultra-fast body diode
- High speed switching
- Very high commutation ruggedness
- Easy to use
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operationz

## • APPLICATIONS

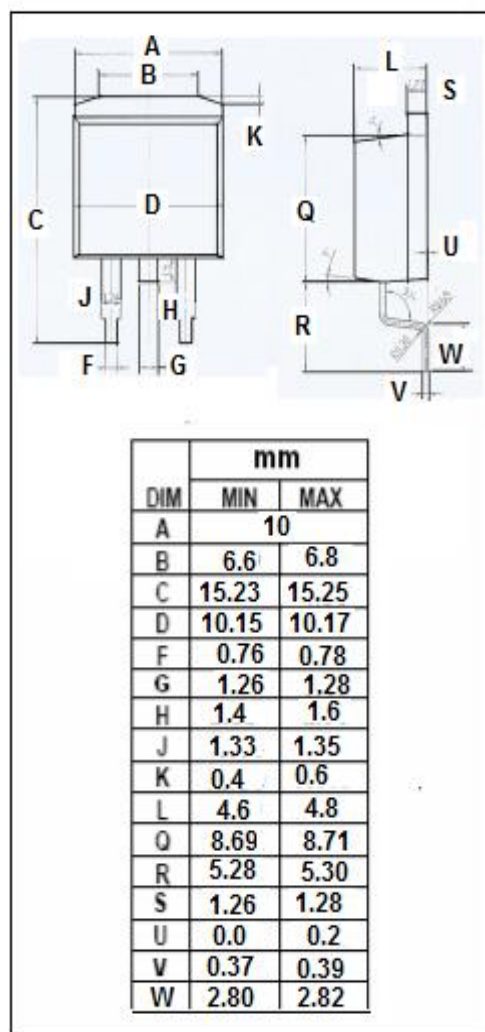
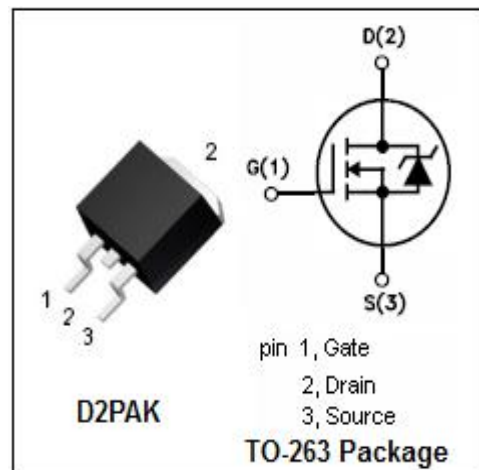
- Switching applications

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

| SYMBOL    | PARAMETER                                                                       | VALUE        | UNIT               |
|-----------|---------------------------------------------------------------------------------|--------------|--------------------|
| $V_{DS}$  | Drain-Source Voltage                                                            | 650          | V                  |
| $V_{GS}$  | Gate-Source Voltage                                                             | $\pm 20$     | V                  |
| $I_D$     | Drain Current-Continuous@ $T_c=25^{\circ}\text{C}$<br>$T_c=100^{\circ}\text{C}$ | 31.2<br>19.7 | A                  |
| $I_{DM}$  | Drain Current-Single Pulsed                                                     | 99.6         | A                  |
| $P_D$     | Total Dissipation                                                               | 277.8        | W                  |
| $T_j$     | 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    | 0.45 | $^{\circ}\text{C/W}$ |
| $R_{th(ch-a)}$ | Channel-to-ambient thermal resistance | 62   | $^{\circ}\text{C/W}$ |



**isc N-Channel MOSFET Transistor****IPB65R110CFD****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

| SYMBOL              | PARAMETER                      | CONDITIONS                                                                                 | MIN | TYP | 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> =±20V; I <sub>D</sub> =1.3mA                                               | 3.5 |     | 4.5        | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance     | V <sub>GS</sub> = 10V; I <sub>D</sub> =12.7A                                               |     | 99  | 110        | mΩ   |
| I <sub>GSS</sub>    | Gate-Source Leakage Current    | V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0V                                               |     |     | ±0.1       | μA   |
| I <sub>DSS</sub>    | Drain-Source Leakage Current   | V <sub>DS</sub> = 650V; V <sub>GS</sub> = 0V@T <sub>c</sub> =25°C<br>T <sub>c</sub> =125°C |     |     | 1.5<br>400 | μA   |
| V <sub>SDF</sub>    | Diode forward voltage          | I <sub>SD</sub> =19.1A, V <sub>GS</sub> = 0 V                                              |     |     | 0.9        | V    |

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