**INCHANGE Semiconductor**

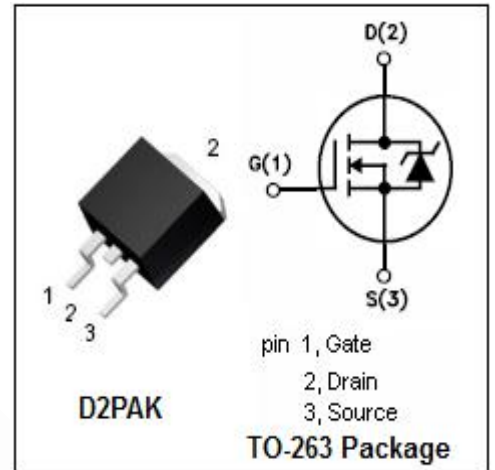## isc N-Channel MOSFET Transistor    IPB65R150CFD

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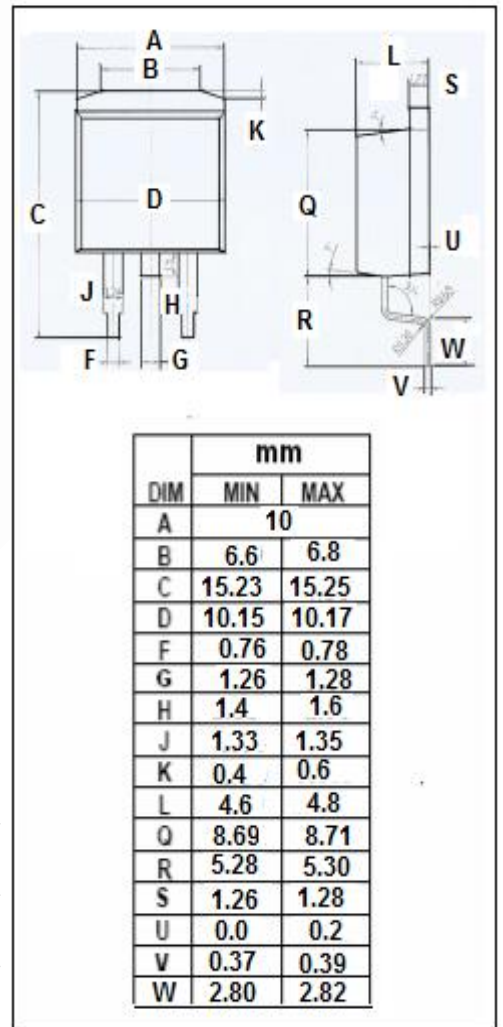  performance and reliable operationz

- **APPLICATIONS**
- Switching applications



pin 1, Gate
2, Drain
3, Source

D2PAK

TO-263 Package

- **ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)**

| SYMBOL | PARAMETER | VALUE | UNIT |
|--------|-----------|-------|------|
| $V_{DSS}$ | Drain-Source Voltage | 650 | V |
| $V_{GSS}$ | Gate-Source Voltage | ±20 | V |
| $I_D$ | Drain Current-Continuous@$T_C$=25℃ <br> $T_C$=100℃ | 22.4 <br> 14.2 | A |
| $I_{DM}$ | Drain Current-Single Pulsed | 72 | A |
| $P_D$ | Total Dissipation | 159.3 | W |
| $T_j$ | Operating Junction Temperature | -55~150 | ℃ |
| $T_{stg}$ | Storage Temperature | -55~150 | ℃ |

- **THERMAL CHARACTERISTICS**

| SYMBOL | PARAMETER | MAX | UNIT |
|--------|-----------|-----|------|
| Rth(ch-c) | Channel-to-case thermal resistance | 0.64 | ℃/W |
| Rth(ch-a) | Channel-to-ambient thermal resistance | 62 | ℃/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 |

### ELECTRICAL CHARACTERISTICS

**T$_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| BV$_{DSS}$ | Drain-Source Breakdown Voltage | V$_{GS}$=0V; I$_D$= 1mA | 650 | | | V |
| V$_{GS(th)}$ | Gate Threshold Voltage | V$_{DS}$=±20V; I$_D$=0.9mA | 3.5 | | 4.5 | V |
| R$_{DS(on)}$ | Drain-Source On-Resistance | V$_{GS}$= 10V; I$_D$=9.3A | | 135 | 150 | m Ω |
| I$_{GSS}$ | Gate-Source Leakage Current | V$_{GS}$= ±20V;V$_{DS}$= 0V | | | ±0.1 | μ A |
| I$_{DSS}$ | Drain-Source Leakage Current | V$_{DS}$= 650V; V$_{GS}$= 0V@Tc=25℃<br>　　　　　　　　　　　Tc=125℃ | | | 1<br>300 | μ A |
| V$_{SDF}$ | Diode forward voltage | I$_{SD}$=14A, V$_{GS}$ = 0 V | | | 0.9 | V |