

## isc N-Channel MOSFET Transistor

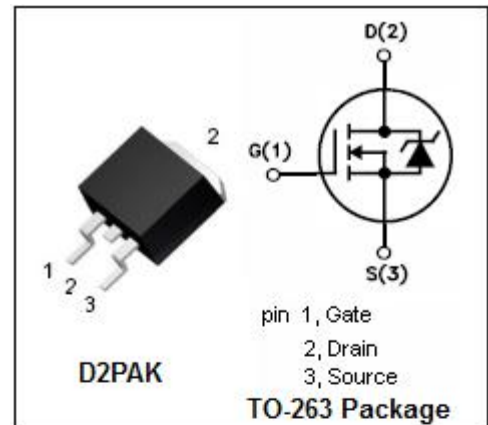
## IPB055N03L

## • DESCRIPTION

- Drain Current :  $I_D = 50A @ T_C = 25^\circ C$
- Drain Source Voltage  
:  $V_{DSS} = 30V(\text{Min})$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • APPLICATIONS

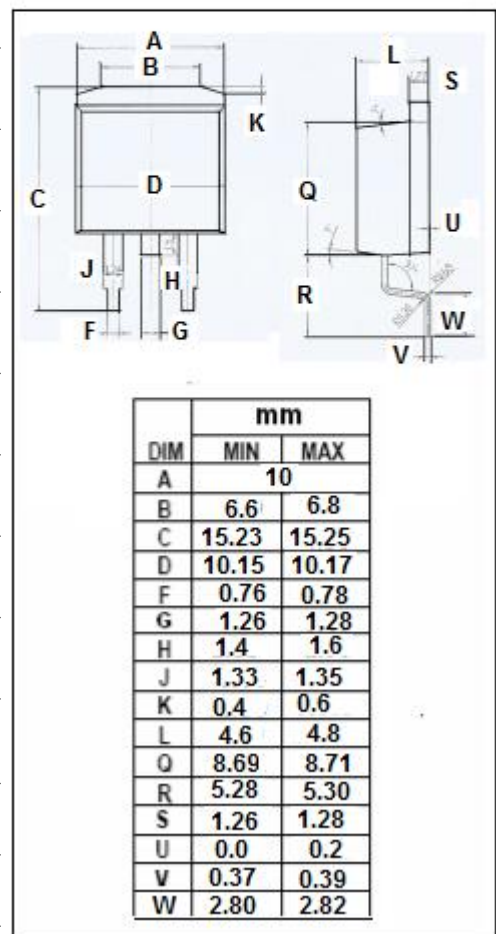
- Designed for high current, high speed switching, switch mode power supplies.

ABSOLUTE MAXIMUM RATINGS( $T_C = 25^\circ C$ )

| SYMBOL        | PARAMETER                           | VALUE    | UNIT       |
|---------------|-------------------------------------|----------|------------|
| $V_{DSS}$     | Drain-Source Voltage ( $V_{GS}=0$ ) | 30       | V          |
| $V_{GS}$      | Gate-Source Voltage                 | $\pm 20$ | V          |
| $I_D$         | Drain Current-continuous            | 50       | A          |
| $I_{D(puls)}$ | Pulse Drain Current                 | 350      | A          |
| $P_{tot}$     | Total Dissipation                   | 68       | W          |
| $T_j$         | Max. Operating Junction Temperature | 175      | $^\circ C$ |
| $T_{stg}$     | Storage Temperature Range           | -55~175  | $^\circ C$ |

## • THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                            | MAX | UNIT         |
|--------------|--------------------------------------|-----|--------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case | 2.2 | $^\circ C/W$ |



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• ELECTRICAL CHARACTERISTICS (T<sub>c</sub>=25°C)

| SYMBOL               | PARAMETER                       | CONDITIONS                                                        | MIN | TYPE | MAX | UNIT |
|----------------------|---------------------------------|-------------------------------------------------------------------|-----|------|-----|------|
| V <sub>(BR)DSS</sub> | Drain-Source Breakdown Voltage  | V <sub>GS</sub> = 0; I <sub>D</sub> = 1mA                         | 30  |      |     | V    |
| V <sub>GS(th)</sub>  | Gate Threshold Voltage          | V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> =250μA         | 1   |      | 2.2 | V    |
| R <sub>DS(on)</sub>  | Drain-Source On-Resistance      | V <sub>GS</sub> = 10V; I <sub>D</sub> =30A                        |     |      | 5.5 | mΩ   |
| I <sub>GSS</sub>     | Gate-Body Leakage Current       | V <sub>GS</sub> = 20V; V <sub>DS</sub> = 0                        |     |      | 100 | nA   |
| I <sub>DSS</sub>     | Zero Gate Voltage Drain Current | V <sub>DS</sub> = 30V; V <sub>GS</sub> = 0; T <sub>J</sub> =25°C  |     |      | 1   | μA   |
|                      |                                 | V <sub>DS</sub> = 30V; V <sub>GS</sub> = 0; T <sub>J</sub> =125°C |     |      | 100 |      |
| V <sub>SD</sub>      | Diode Forward On-Voltage        | I <sub>F</sub> = 30A; V <sub>GS</sub> = 0                         |     |      | 1.1 | V    |

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