



# JMPC20N65BJ

## Electrical Characteristics (T<sub>J</sub> = 25°C unless otherwise specified)

| Symbol                     | Parameter                       | Conditions                                                 | Min. | Typ. | Max. | Unit |
|----------------------------|---------------------------------|------------------------------------------------------------|------|------|------|------|
| <b>Off Characteristics</b> |                                 |                                                            |      |      |      |      |
| V <sub>(BR)DSS</sub>       | Drain-Source Breakdown Voltage  | I <sub>D</sub> = 250μA, V <sub>GS</sub> = 0V               | 650  | -    | -    | V    |
| I <sub>DSS</sub>           | Zero Gate Voltage Drain Current | V <sub>DS</sub> = 650V, V <sub>GS</sub> = 0V               | -    | -    | 1.0  | μA   |
| I <sub>GSS</sub>           | Gate-Body Leakage Current       | V <sub>DS</sub> = 0V, V <sub>GS</sub> = ±30V               | -    | -    | ±100 | nA   |
| <b>On Characteristics</b>  |                                 |                                                            |      |      |      |      |
| V <sub>GS(th)</sub>        | Gate Threshold Voltage          | V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA | 2    | 3    | 4    | V    |
| R <sub>DS(ON)</sub>        |                                 |                                                            | -    | 0.4  | 0.47 | Ω    |
|                            |                                 |                                                            |      |      |      |      |
| C <sub>iss</sub>           |                                 |                                                            | -    | 3234 | -    | pF   |
| C <sub>oss</sub>           |                                 |                                                            | -    | 266  | -    | pF   |
| C <sub>rss</sub>           |                                 |                                                            | -    | 34   | -    | pF   |
| Q <sub>g</sub>             | Total Gate Charge               |                                                            | -    | 73   | -    | nC   |
| Q <sub>gs</sub>            | Gate Source Charge              |                                                            | -    | 17   | -    | nC   |
| Q <sub>gd</sub>            | Gate Drain("Miller") Charge     |                                                            | -    | 29   | -    | nC   |
|                            |                                 |                                                            |      |      |      |      |
| t <sub>d(on)</sub>         |                                 |                                                            | -    | 45   | -    | ns   |
| t <sub>r</sub>             |                                 |                                                            | -    | 64   | -    | ns   |
| t <sub>d(off)</sub>        |                                 |                                                            | -    | 218  | -    | ns   |
| t <sub>f</sub>             |                                 |                                                            | -    | 84   | -    | ns   |
|                            |                                 |                                                            |      |      |      |      |
| I <sub>S</sub>             |                                 |                                                            | -    | -    | 20   | A    |
| I <sub>SM</sub>            |                                 |                                                            | -    | -    | 80   | A    |
| V <sub>SD</sub>            |                                 |                                                            | -    | -    | 1.2  | V    |
| t <sub>rr</sub>            |                                 |                                                            | -    | 494  | -    | ns   |
| Q <sub>rr</sub>            |                                 |                                                            | -    | 7.9  | -    | μC   |

- Notes:
1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature.
  2. E<sub>AS</sub> condition: Starting T<sub>J</sub>=25C, V<sub>DD</sub>=50V, V<sub>G</sub>=10V, R<sub>G</sub>=25ohm, L=10mH, I<sub>AS</sub>=14A
  3. R<sub>θJA</sub> is measured with the device mounted on a minimum recommended pad of 2oz copper FR4 PCB
  4. Pulse Test: Pulse Width 300μs, Duty Cycle 0.5%.

## Typical Performance Characteristics

Figure 1: Output Characteristics

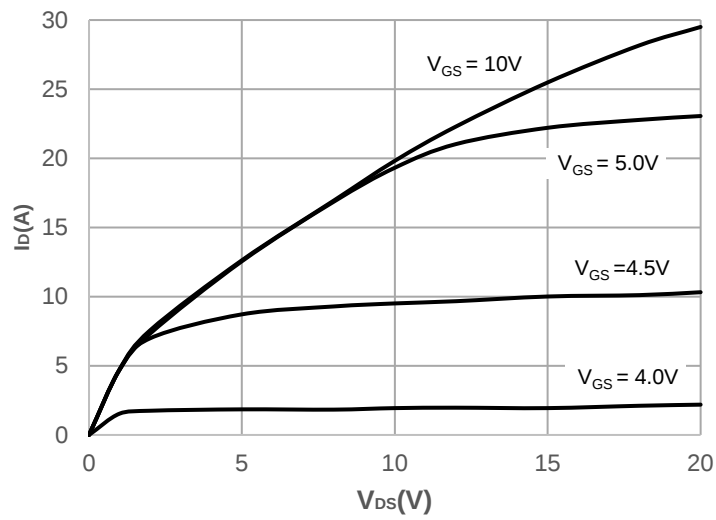
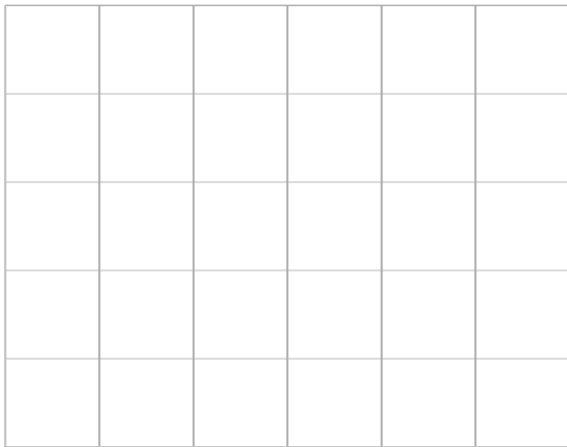
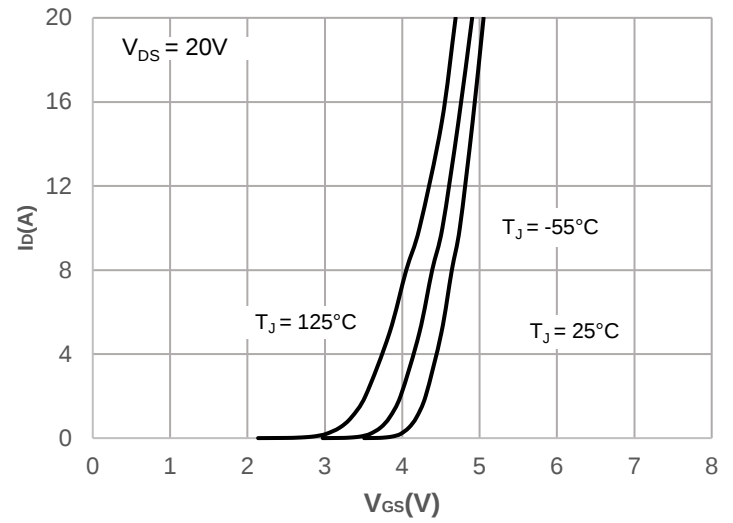


Figure 2: Typical Transfer Characteristics



## Typical Performance Characteristics

Figure 7: Normalized Breakdown voltage vs. Junction Temperature

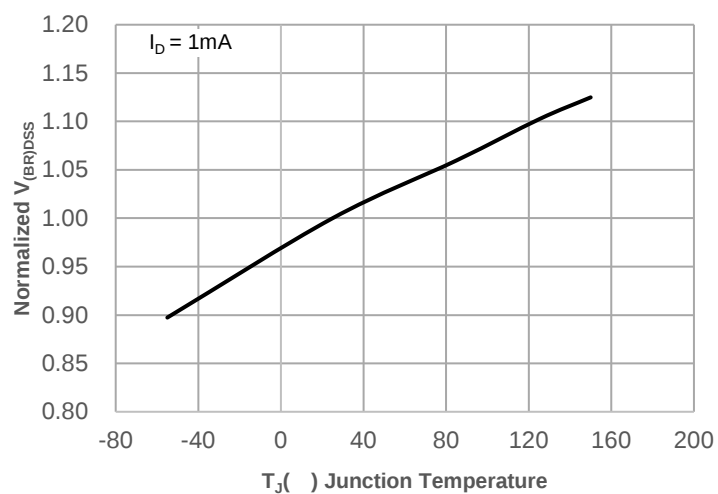


Figure 8: Normalized on Resistance vs. Junction Temperature

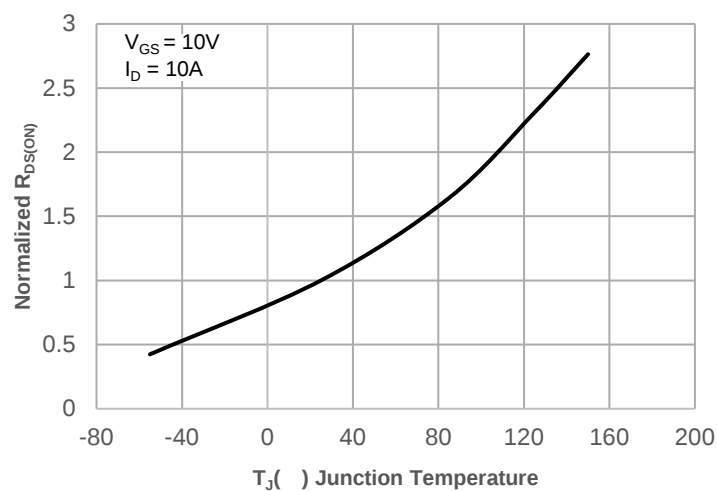
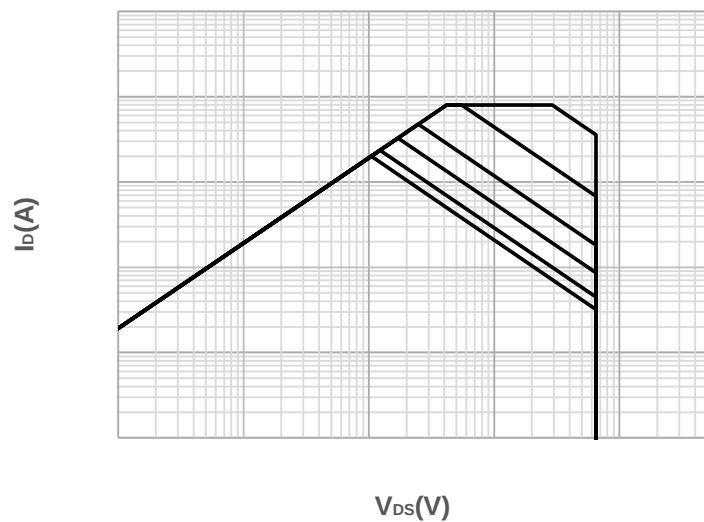
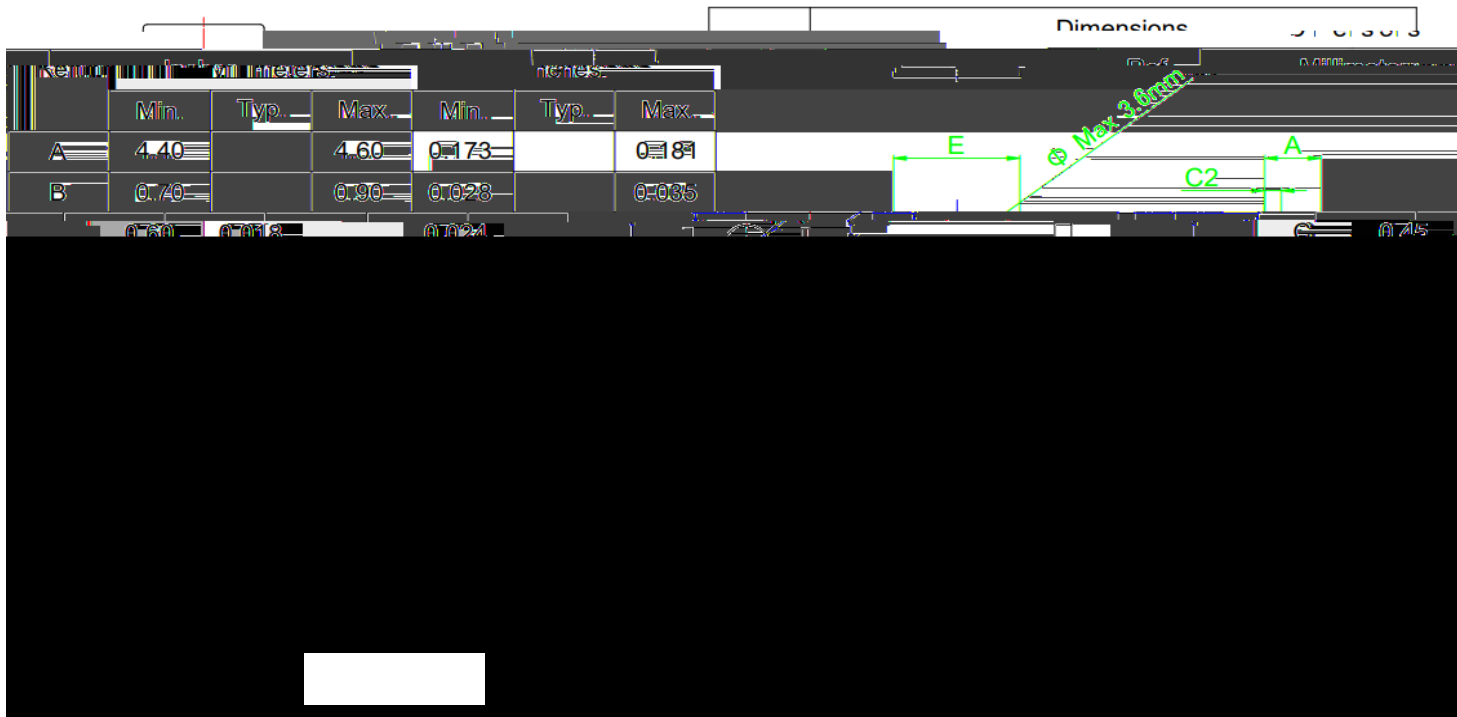


Figure 9: Maximum Safe Operating Area





## Package Mechanical Data(TO-220C-3L)



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