

isc N-Channel MOSFET Transistor IPD050N10N5, IIPD050N10N5

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 5m\Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

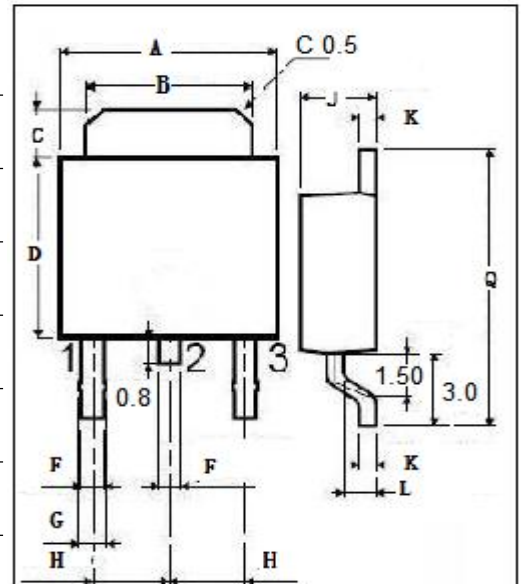
- High frequency switching

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------------|
| V_{DSS} | Drain-Source Voltage | 100 | V |
| V_{GS} | Gate-Source Voltage | ± 20 | V |
| I_D | Drain Current-Continuous | 80 | A |
| I_{DM} | Drain Current-Single Pulsed | 320 | A |
| P_D | Total Dissipation @ $T_c=25^\circ\text{C}$ | 150 | W |
| T_j | Max. Operating Junction Temperature | 175 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -55~175 | $^\circ\text{C}$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|---------------------------------------|-----|--------------------|
| $R_{th(j-c)}$ | Channel-to-case thermal resistance | 1 | $^\circ\text{C/W}$ |
| $R_{th(j-a)}$ | Channel-to-ambient thermal resistance | 75 | $^\circ\text{C/W}$ |



| DIM | mm | |
|-----|------|------|
| | MIN | MAX |
| A | 6.40 | 6.60 |
| B | 5.20 | 5.40 |
| C | 1.15 | 1.35 |
| D | 5.70 | 6.10 |
| F | 0.65 | |
| G | 0.75 | |
| H | 2.10 | 2.50 |
| J | 2.10 | 2.40 |
| K | 0.40 | 0.60 |
| L | 0.90 | 1.10 |
| Q | 9.90 | 10.1 |

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ELECTRICAL CHARACTERISTICS

$T_C=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------|--------------------------------|--------------------------------|-----|-----|-----|-----------|
| BV_{DSS} | Drain-Source Breakdown Voltage | $V_{GS}=0V; I_D=1mA$ | 100 | | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}=V_{GS}; I_D=84\ \mu A$ | 2.2 | | 3.8 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}=10V; I_D=40A$ | | | 5 | $m\Omega$ |
| I_{GSS} | Gate-Source Leakage Current | $V_{GS}=20V$ | | | 0.1 | μA |
| I_{DSS} | Drain-Source Leakage Current | $V_{DS}=100V; V_{GS}=0V$ | | | 1 | μA |
| V_{SD} | Diode forward voltage | $I_F=40A, V_{GS}=0V$ | | | 1.2 | V |

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