

isc N-Channel MOSFET Transistor
RD3G500GN
FEATURES

- Drain Current $-I_D = 50A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 40V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 4.9m\Omega (\text{Max})$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

DESCRIPTION

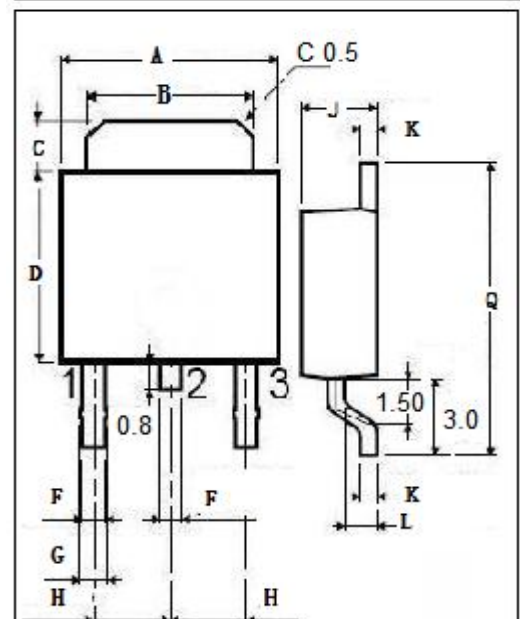
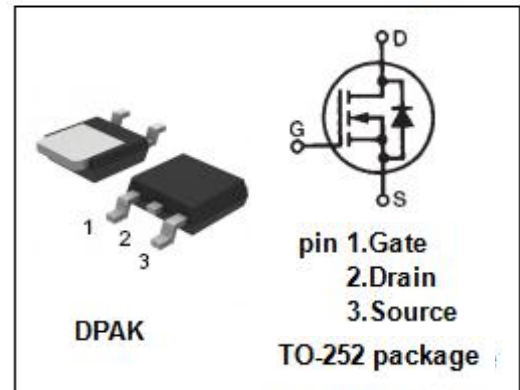
- Designed for use in switch mode power supplies and general purpose applications.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------|
| V_{DSS} | Drain-Source Voltage | 40 | V |
| V_{GS} | Gate-Source Voltage-Continuous | ± 20 | V |
| I_D | Drain Current-Continuous | 50 | A |
| I_{DM} | Drain Current-Single Pluse | 100 | A |
| P_D | Total Dissipation @ $T_C = 25^\circ C$ | 35 | W |
| T_J | Max. Operating Junction Temperature | 150 | $^\circ C$ |
| T_{stg} | Storage Temperature | -55~150 | $^\circ C$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|-----|--------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 3.5 | $^\circ C/W$ |



| 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°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|----------------------|---------------------------------|--|-----|------|------|
| V _{(BR)DSS} | Drain-Source Breakdown Voltage | V _{GS} = 0; I _D = 1mA | 40 | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} = V _{GS} ; I _D = 1mA | 1.0 | 2.5 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} = 10V; I _D = 40A | | 4.9 | mΩ |
| I _{GSS} | Gate-Body Leakage Current | V _{GS} = ±20V; V _{DS} = 0 | | ±500 | nA |
| I _{DSS} | Zero Gate Voltage Drain Current | V _{DS} = 40V; V _{GS} = 0 | | 1 | μA |
| V _{SD} | Forward On-Voltage | I _S = 29A; V _{GS} = 0 | | 1.2 | V |

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