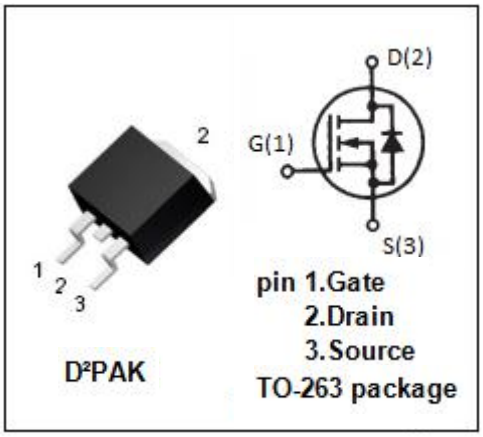
# isc N-Channel MOSFET Transistor RCJ450N20

## FEATURES

- Drain Current –$I_D$= 45A@ $T_C$=25℃
- Drain Source Voltage-
  : $V_{DSS}$=200V(Min)
- Static Drain-Source On-Resistance
  : $R_{DS(on)}$ = 55mΩ(Max)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation




## DESCRIPTION

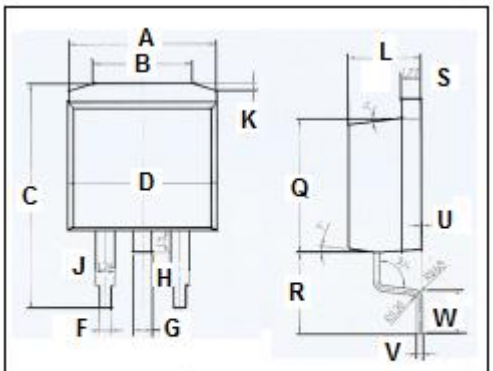
- Designed for use in switch mode power supplies and general purpose applications.

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{DSS}$ | Drain-Source Voltage | 200 | V |
| $V_{GS}$ | Gate-Source Voltage-Continuous | ±30 | V |
| $I_D$ | Drain Current-Continuous | 45 | A |
| $I_{DM}$ | Drain Current-Single Pluse | 180 | A |
| $P_D$ | Total Dissipation @$T_C$=25℃ | 211 | W |
| $T_J$ | Max. Operating Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature | -55~150 | ℃ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance, Junction to Case | 0.59 | ℃/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 |

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|---|---|---|---|---|---|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}$= 0; $I_D$= 1mA | 200 | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}$= $V_{GS}$; $I_D$=1mA | 3 | 5 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}$= 10V; $I_D$= 22.5A | | 55 | mΩ |
| $I_{GSS}$ | Gate-Body Leakage Current | $V_{GS}$= ±30V;$V_{DS}$= 0 | | ±100 | nA |
| $I_{DSS}$ | Zero Gate Voltage Drain Current | $V_{DS}$= 200V; $V_{GS}$= 0 | | 1 | μA |
| $V_{SD}$ | Forward On-Voltage | $I_S$= 45A; $V_{GS}$= 0 | | 1.5 | V |