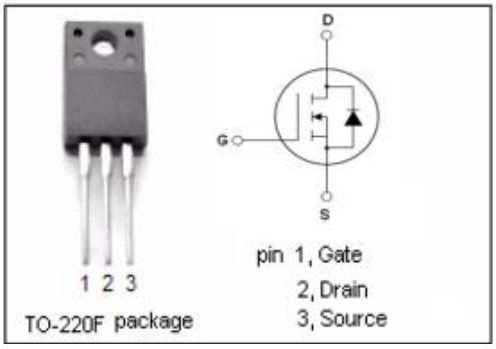
# isc N-Channel MOSFET Transistor IPA60R199CP, IIPA60R199CP

- **FEATURES**
- Static drain-source on-resistance:
  $R_{DS}$(on) ≤0.199Ω
- High peak current capability
- Enhancement mode
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



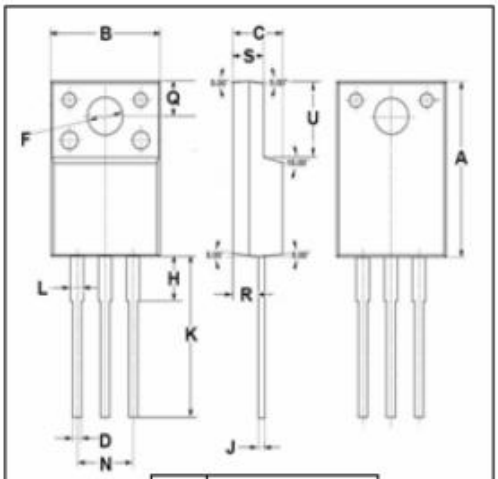

- **APPLICATIONS**
- Hard switching SMPS topologies

- **ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)**

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{DSS}$ | Drain-Source Voltage | 600 | V |
| $V_{GS}$ | Gate-Source Voltage | ±20 | V |
| $I_D$ | Drain Current-Continuous | 16 | A |
| $I_{DM}$ | Drain Current-Single Pulsed | 51 | A |
| $P_D$ | Total Dissipation @$T_C$=25℃ | 34 | W |
| $T_j$ | Max. Operating Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature | -55~150 | ℃ |

- **THERMAL CHARACTERISTICS**

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| Rth(ch-c) | Channel-to-case thermal resistance | 3.7 | ℃/W |
| Rth(ch-a) | Channel-to-ambient thermal resistance | 80 | ℃/W |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 14.95 | 15.05 |
| B | 10.00 | 10.10 |
| C | 4.40 | 4.60 |
| D | 0.75 | 0.90 |
| F | 3.10 | 3.30 |
| H | 3.70 | 3.90 |
| J | 0.50 | 0.70 |
| K | 13.4 | 13.6 |
| L | 1.10 | 1.30 |
| N | 5.00 | 5.20 |
| Q | 2.70 | 2.90 |
| R | 2.20 | 2.40 |
| S | 2.65 | 2.90 |
| U | 6.40 | 6.60 |

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## ELECTRICAL CHARACTERISTICS

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

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| $BV_{DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}$=0V; $I_D$ = 250 μA | 600 | | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}$=$V_{GS}$; $I_D$=0.66mA | 2.5 | | 3.5 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}$=10V; $I_D$=9.9A | | | 0.199 | Ω |
| $I_{GSS}$ | Gate-Source Leakage Current | $V_{GS}$=20V; $V_{DS}$= 0V | | | 100 | nA |
| $I_{DSS}$ | Drain-Source Leakage Current | $V_{DS}$=600V; $V_{GS}$= 0V | | | 1 | μA |
| | | $V_{DS}$=600V; $V_{GS}$= 0V;$T_j$= 150℃ | | 10 | | μA |
| $V_{SD}$ | Diode forward voltage | $I_F$ =9.9A; $V_{GS}$ = 0V | | | 1.2 | V |