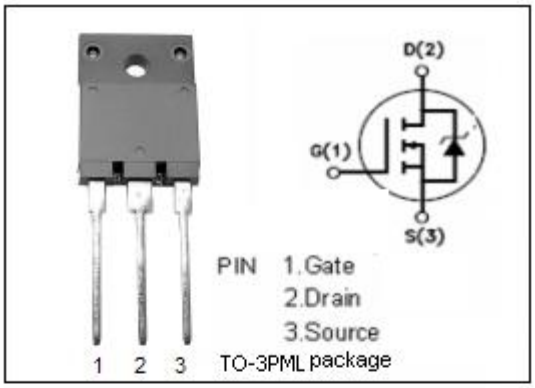
# isc N-Channel MOSFET Transistor 2SK1213

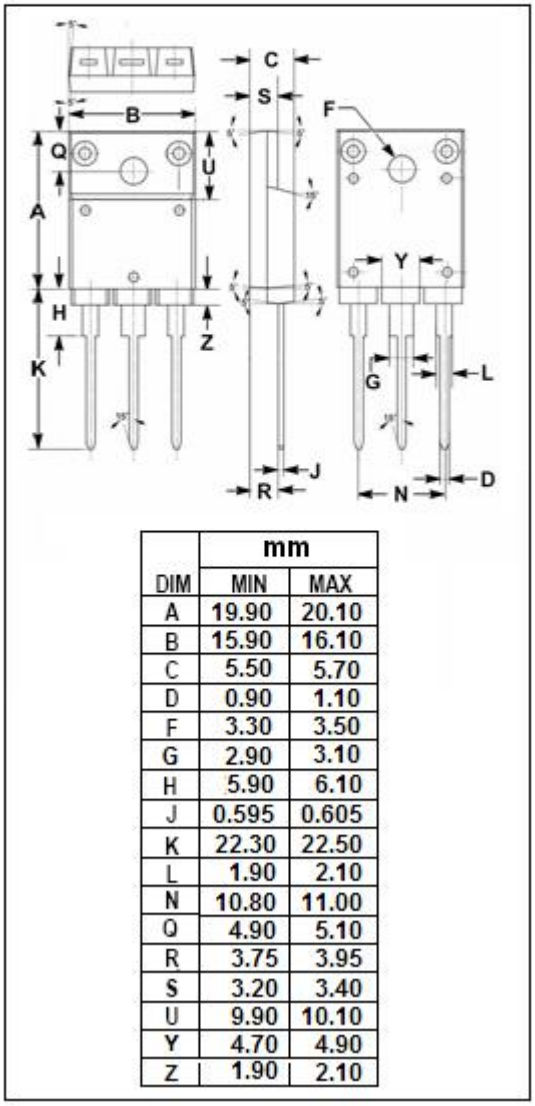



## DESCRIPTION

- Drain Current –$I_D$=6A@ $T_C$=25℃
- Drain Source Voltage-
  : $V_{DSS}$=600V(Min)
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Designed for high voltage, high speed power switching




| DIM | mm MIN | mm MAX |
|---|---|---|
| A | 19.90 | 20.10 |
| B | 15.90 | 16.10 |
| C | 5.50 | 5.70 |
| D | 0.90 | 1.10 |
| F | 3.30 | 3.50 |
| G | 2.90 | 3.10 |
| H | 5.90 | 6.10 |
| J | 0.595 | 0.605 |
| K | 22.30 | 22.50 |
| L | 1.90 | 2.10 |
| N | 10.80 | 11.00 |
| Q | 4.90 | 5.10 |
| R | 3.75 | 3.95 |
| S | 3.20 | 3.40 |
| U | 9.90 | 10.10 |
| Y | 4.70 | 4.90 |
| Z | 1.90 | 2.10 |

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

| SYMBOL | ARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{DSS}$ | Drain-Source Voltage ($V_{GS}$=0) | 600 | V |
| $V_{GS}$ | Gate-Source Voltage | ±20 | V |
| $I_D$ | Drain Current-continuous@ TC=25℃ | 6 | A |
| $P_{tot}$ | Total Dissipation@TC=25℃ | 125 | W |
| $T_j$ | Max. Operating Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -55~150 | ℃ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance,Junction to Case | 1.0 | ℃/W |
| $R_{th\ j\text{-}a}$ | Thermal Resistance,Junction to Ambient | 50 | ℃/W |

# isc N-Channel Mosfet Transistor 2SK1213

• **ELECTRICAL CHARACTERISTICS ($T_C$=25℃)**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}$= 0; $I_D$= 10mA | 600 | | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}$=10 V; $I_D$=1mA | 1.5 | | 3.5 | V |
| $R_{DS(on)}$ | Drain-Source On-stage Resistance | $V_{GS}$=10V; $I_D$=3A | | 0.95 | 1.25 | Ω |
| $I_{GSS}$ | Gate Source Leakage Current | $V_{GS}$= ±20V;$V_{DS}$= 0 | | | ±100 | nA |
| $I_{DSS}$ | Zero Gate Voltage Drain Current | $V_{DS}$=600V; $V_{GS}$= 0 | | | 300 | uA |
| $V_{SD}$ | Forward On-Voltage | $I_S$=6A; $V_{GS}$=0 | | | 2.0 | V |
| tr | Rise time | VGS=10V;ID=3A; RL=100Ω | | 25 | 50 | ns |
| ton | Turn-on time | | | 40 | 80 | ns |
| tf | Fall time | | | 20 | 40 | ns |
| toff | Turn-off time | | | 85 | 170 | ns |