

isc N-Channel MOSFET Transistor

2SK789

DESCRIPTION

- Drain Current $-I_D=15A@ T_C=25^\circ C$
- Drain Source Voltage-
: $V_{DSS}= 450V(\text{Min})$
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

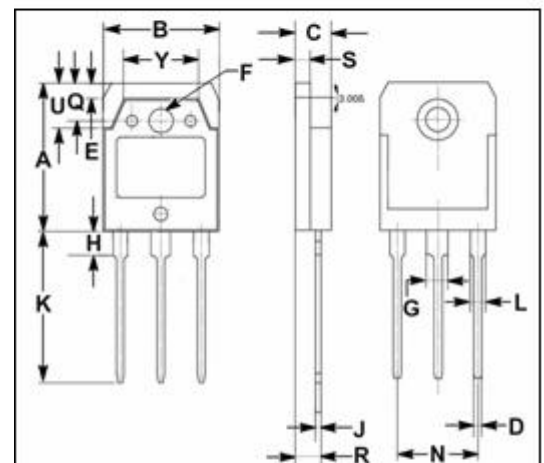
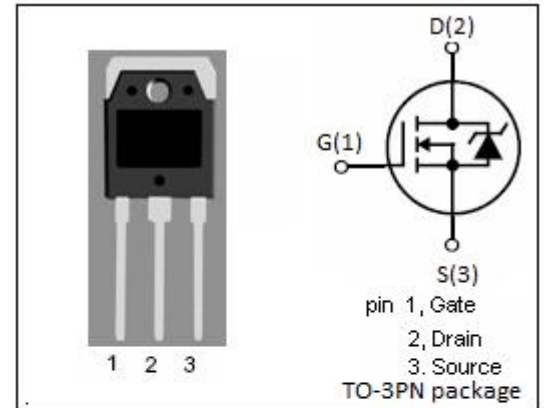
- Designed for high voltage, high speed power switching applications such as switching regulators, converters, solenoid and relay drivers.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------|
| V_{DSS} | Drain-Source Voltage ($V_{GS}=0$) | 500 | V |
| V_{GS} | Gate-Source Voltage | ± 20 | V |
| I_D | Drain Current-continuous@ $T_C=25^\circ C$ | 15 | A |
| P_{tot} | Total Dissipation@ $T_C=25^\circ C$ | 150 | W |
| T_j | Max. Operating Junction Temperature | 150 | $^\circ C$ |
| T_{stg} | Storage Temperature Range | -55~150 | $^\circ C$ |

THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|---|-------|--------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 0.833 | $^\circ C/W$ |
| $R_{th\ j-a}$ | Thermal Resistance, Junction to Ambient | 50 | $^\circ C/W$ |



| DIM | mm | |
|-----|-------|-------|
| | MIN | MAX |
| A | 19.60 | 20.30 |
| B | 15.50 | 15.70 |
| C | 4.70 | 4.90 |
| D | 0.90 | 1.10 |
| E | 1.90 | 2.10 |
| F | 3.40 | 3.60 |
| G | 2.90 | 3.20 |
| H | 3.20 | 3.40 |
| J | 0.595 | 0.605 |
| K | 19.80 | 20.70 |
| L | 1.90 | 2.20 |
| N | 10.89 | 10.91 |
| Q | 4.90 | 5.10 |
| R | 3.35 | 3.45 |
| S | 1.995 | 2.100 |
| U | 5.90 | 6.20 |
| Y | 9.90 | 10.10 |

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• ELECTRICAL CHARACTERISTICS (T_c=25°C)

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|----------------------|----------------------------------|---|-----|-----|-------|------|
| V _{(BR)DSS} | Drain-Source Breakdown Voltage | V _{GS} =0; I _D = 10mA | 450 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} =10 V; I _D =1mA | 2.0 | | 4.0 | V |
| R _{DS(on)} | Drain-Source On-stage Resistance | V _{GS} =10V; I _D = 7A | | | 0.40 | Ω |
| I _{GSS} | Gate Source Leakage Current | V _{GS} = ±20V; V _{DS} = 0 | | | ± 100 | nA |
| I _{DSS} | Zero Gate Voltage Drain Current | V _{DS} =450V; V _{GS} = 0 | | | 300 | uA |
| V _{SD} | Diode Forward Voltage | I _F = 15A; V _{GS} =0 | | | 2.0 | V |

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