

isc N-Channel MOSFET Transistor

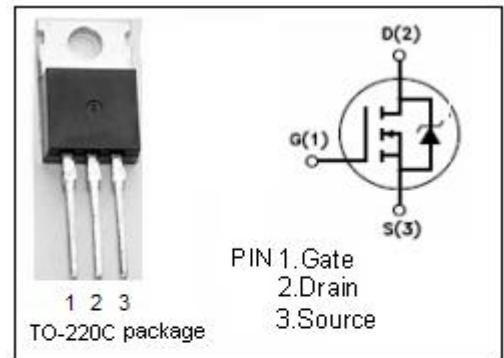
2SK2027-01

DESCRIPTION

- Drain Current $-I_D = 8A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 600V(\text{Min})$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Switching regulators
- UPS
- DC-DC converters
- General purpose power amplifier

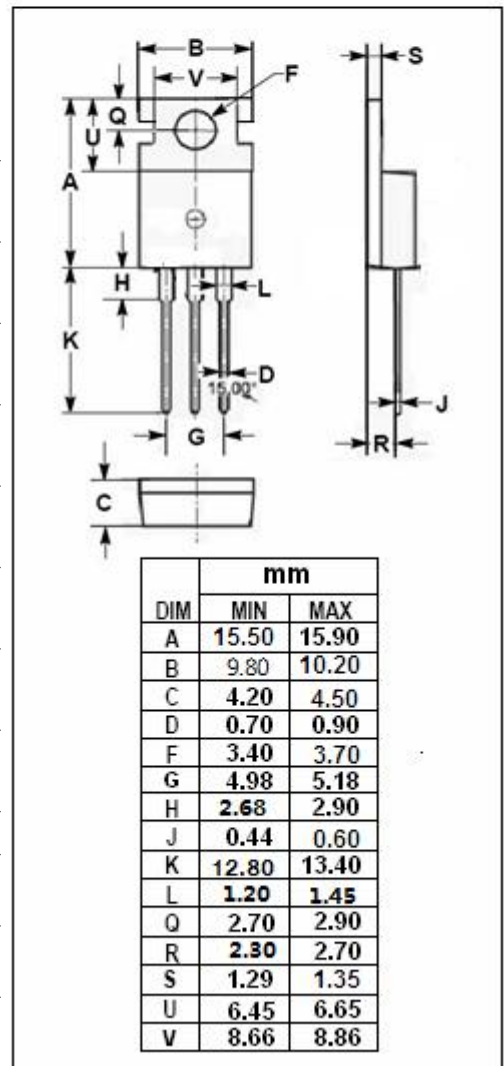


ABSOLUTE MAXIMUM RATINGS($T_a = 25^\circ C$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---------------|--|----------|------------|
| V_{DSS} | Drain-Source Voltage ($V_{GS}=0$) | 600 | V |
| V_{GS} | Gate-Source Voltage | ± 30 | V |
| I_D | Drain Current-continuous@ $T_C = 25^\circ C$ | 8 | A |
| $I_{D(puls)}$ | Pulsed Drain Current | 32 | A |
| P_{tot} | Total Dissipation@ $T_C = 25^\circ C$ | 80 | 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 | 1.56 | $^\circ C/W$ |
| $R_{th j-a}$ | Thermal Resistance, Junction to Ambient | 75 | $^\circ C/W$ |



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• ELECTRICAL CHARACTERISTICS (T_c=25°C)

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYPE | MAX | UNIT |
|----------------------|---------------------------------|---|-----|------|------|------|
| V _{(BR)DSS} | Drain-Source Breakdown Voltage | V _{GS} = 0; I _D = 1mA | 600 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} = V _{GS} ; I _D =1mA | 2.5 | 3.0 | 3.5 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} = 10V; I _D = 4A | | 1.0 | 1.2 | Ω |
| I _{GSS} | Gate-Body Leakage Current | V _{GS} = ±30V; V _{DS} = 0 | | | ±100 | nA |
| I _{DSS} | Zero Gate Voltage Drain Current | V _{DS} = 600V; V _{GS} = 0 | | | 500 | μA |
| C _{iss} | Input Capacitance | V _{DS} =25V; | | 1500 | 2200 | pF |
| C _{rss} | Reverse Transfer Capacitance | V _{GS} =0V; f _r =1MHz | | 30 | 45 | |
| C _{oss} | Output Capacitance | | | 140 | 210 | |
| t _r | Rise Time | V _{GS} =10V; | | 30 | 45 | ns |
| t _{d(on)} | Turn-on Delay Time | I _D =8A; | | 20 | 30 | |
| t _f | Fall Time | V _{DD} =300V; R _L =10 Ω | | 50 | 75 | |
| t _{d(off)} | Turn-off Delay Time | | | 90 | 135 | |

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