

isc N-Channel Mosfet Transistor

STP20NM50FD

• FEATURES

- Drain Current $I_D = 20A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 500V(\text{Min})$
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

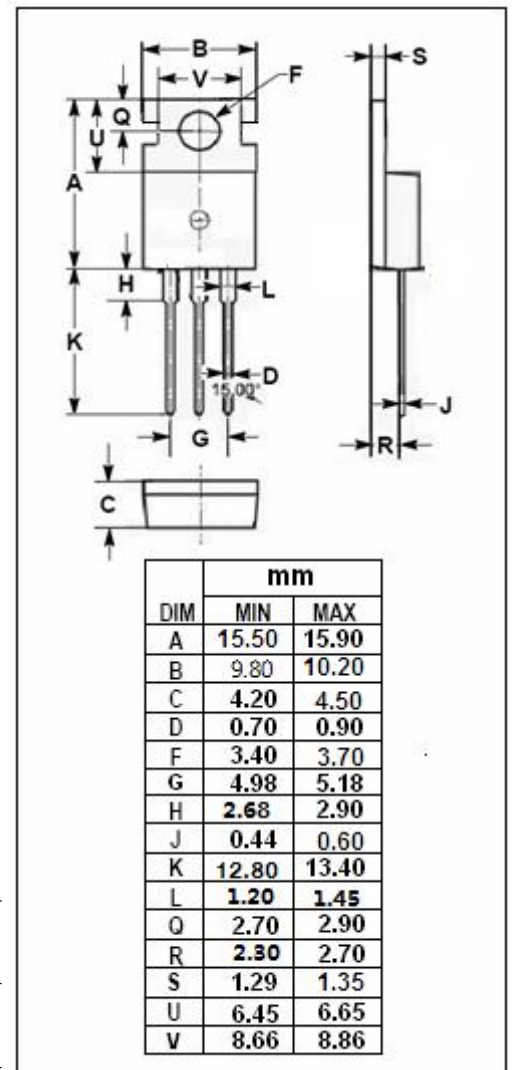
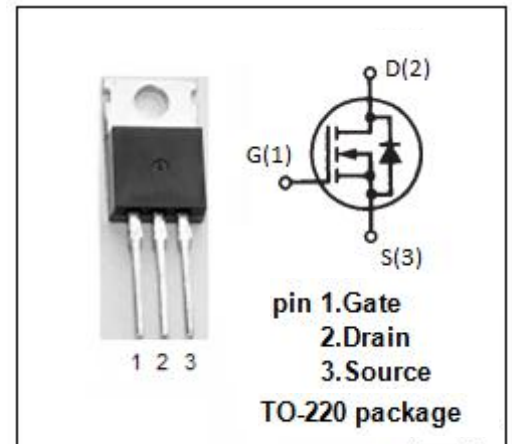
- Switching applications

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------|
| V_{DSS} | Drain-Source Voltage | 500 | V |
| V_{GS} | Gate-Source Voltage | ± 30 | V |
| I_D | Drain Current-continuous@ $T_C = 25^\circ C$ | 20 | A |
| I_{DM} | Pulse Drain Current | 80 | A |
| P_{tot} | Total Dissipation@ $T_C = 25^\circ C$ | 192 | W |
| T_j | Max. Operating Junction Temperature | -65~150 | $^\circ C$ |
| T_{stg} | Storage Temperature Range | -65~150 | $^\circ C$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|--------------------------------------|------|--------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 0.65 | $^\circ C/W$ |



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ELECTRICAL CHARACTERISTICS

T_c=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYPE | MAX | UNIT |
|----------------------|---------------------------------|---|-----|------|------|------|
| V _{(BR)DSS} | Drain-Source Breakdown Voltage | V _{GS} = 0; I _D = 1mA | 500 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} = V _{GS} ; I _D =250μA | 3 | | 5 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} = 10V; I _D = 10A | | | 250 | mΩ |
| I _{GSS} | Gate-Body Leakage Current | V _{GS} = ±30V; V _{DS} = 0 | | | ±100 | nA |
| I _{DSS} | Zero Gate Voltage Drain Current | V _{DS} = Max rating | | | 1 | μA |
| | | V _{DS} = Max rating; T _c =125°C | | | 10 | |
| V _{SD} | Diode Forward On-Voltage | I _S = 20A; V _{GS} = 0 | | | 1.5 | V |

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