

isc N-Channel MOSFET Transistor

MDF18N50TH

• FEATURES

- Drain-source on-resistance:
 $R_{DS(on)} \leq 0.27\Omega$ (max)
- Enhancement mode
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

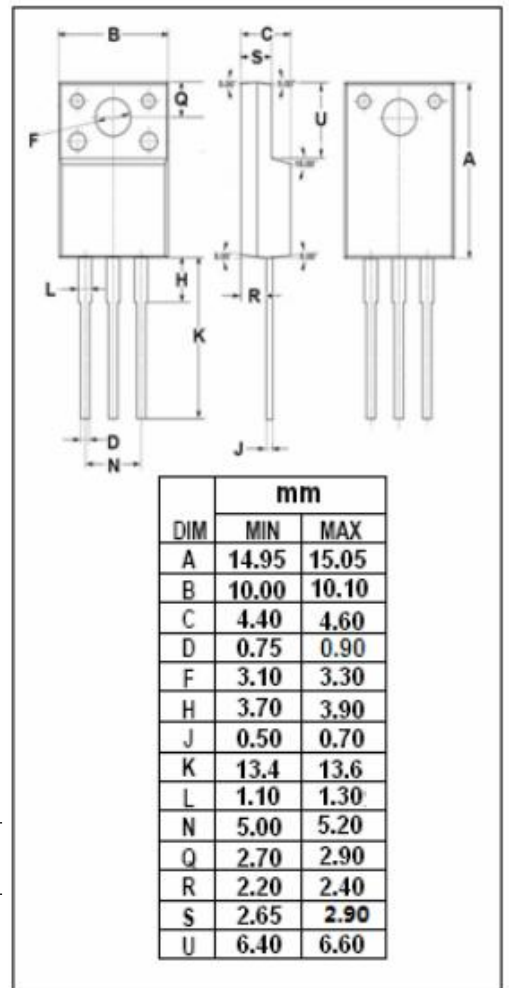
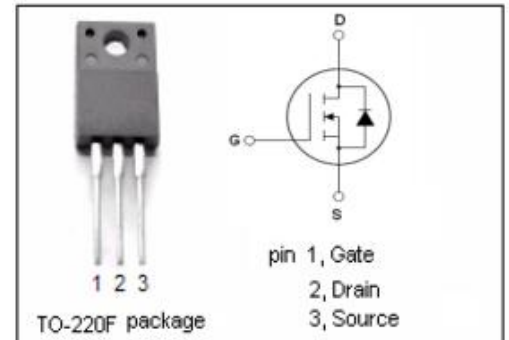
- Power Supply
- High Current, High Speed Switching

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------------|
| V_{DS} | Drain-Source Voltage | 500 | V |
| V_{GS} | Gate-Source Voltage | ± 30 | V |
| I_D | Drain Current-Continuous | 18 | A |
| I_{DM} | Drain Current-Single Pulsed | 72 | A |
| P_D | Total Dissipation @ $T_c=25^\circ\text{C}$ | 37 | W |
| T_j | Max. Operating Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -55~150 | $^\circ\text{C}$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|----------------|------------------------------------|-----|--------------------|
| $R_{th(ch-c)}$ | Channel-to-case thermal resistance | 3.4 | $^\circ\text{C/W}$ |



isc N-Channel MOSFET Transistor**MDF18N50TH****ELECTRICAL CHARACTERISTICS****T_c=25°C unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP | MAX | UNIT |
|---------------------|--------------------------------|--|-----|-----|------|------|
| BV _{DSS} | Drain-Source Breakdown Voltage | V _{GS} =0V; I _D = 0.25mA | 500 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} = V _{GS} ; I _D =0.25mA | 3.0 | | 5.0 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} =10V; I _D =9A | | | 0.27 | Ω |
| I _{GSS} | Gate-Source Leakage Current | V _{GS} = ±30V; V _{DS} = 0V | | | ±100 | nA |
| I _{DSS} | Drain-Source Leakage Current | V _{DS} =500V; V _{GS} = 0V | | | 1 | μA |
| V _{SD} | Diode forward voltage | I _{DR} =18A, V _{GS} = 0 V | | | 1.4 | V |

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