

Isc N-Channel MOSFET Transistor

STP90NF03L

• FEATURES

- Typical $R_{DS(on)}=0.0056 \Omega$
- Conduction losses reduced
- Switching losses reduced
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

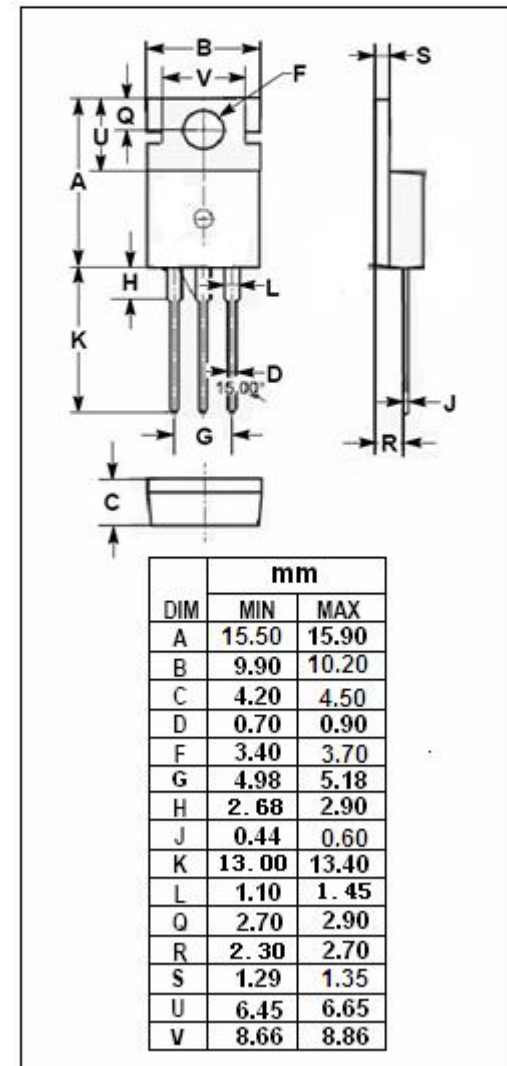
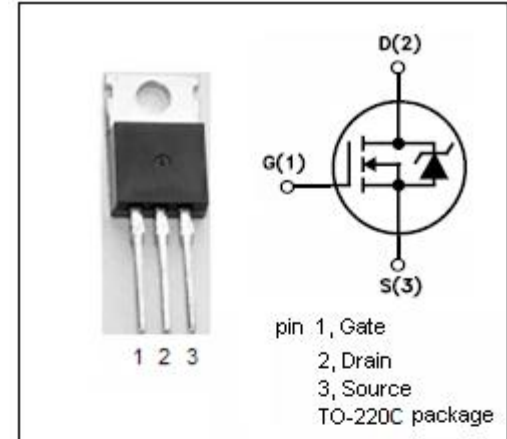
- Switching application

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|----------|------------------|
| V_{DSS} | Drain-Source Voltage | 30 | V |
| V_{GSS} | Gate-Source Voltage | ± 20 | V |
| I_D | Drain Current-Continuous@ $T_c=25^\circ\text{C}$ $T_c=100^\circ\text{C}$ | 90 65 | A |
| I_{DM} | Drain Current-Single Pulsed | 360 | A |
| P_D | Total Dissipation | 150 | W |
| T_j | Max. Operating Junction Temperature | 175 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -65~175 | $^\circ\text{C}$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|----------------|---------------------------------------|------|--------------------|
| $R_{th(ch-c)}$ | Channel-to-case thermal resistance | 1 | $^\circ\text{C/W}$ |
| $R_{th(ch-a)}$ | Channel-to-ambient thermal resistance | 62.5 | $^\circ\text{C/W}$ |



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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 | 30 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} =±20V; I _D =0.25mA | 1 | | 2.5 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} = 10V; I _D =45A V _{GS} = 5V; I _D =45A | | 5.6 7.0 | 6.5 12 | mΩ |
| I _{GSS} | Gate-Source Leakage Current | V _{GS} = ±20V; V _{DS} = 0V | | | ±0.1 | μA |
| I _{DSS} | Drain-Source Leakage Current | V _{DS} = 30V; V _{GS} = 0V; T _J =25°C T _J =125°C | | | 1 10 | μA |
| V _{SDF} | Diode forward voltage | I _{SD} =90A, V _{GS} = 0 V | | | 1.3 | V |

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