

isc N-Channel MOSFET Transistor

SPP20N65C3, ISPP20N65C3

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 0.19\Omega$
- Enhancement mode
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

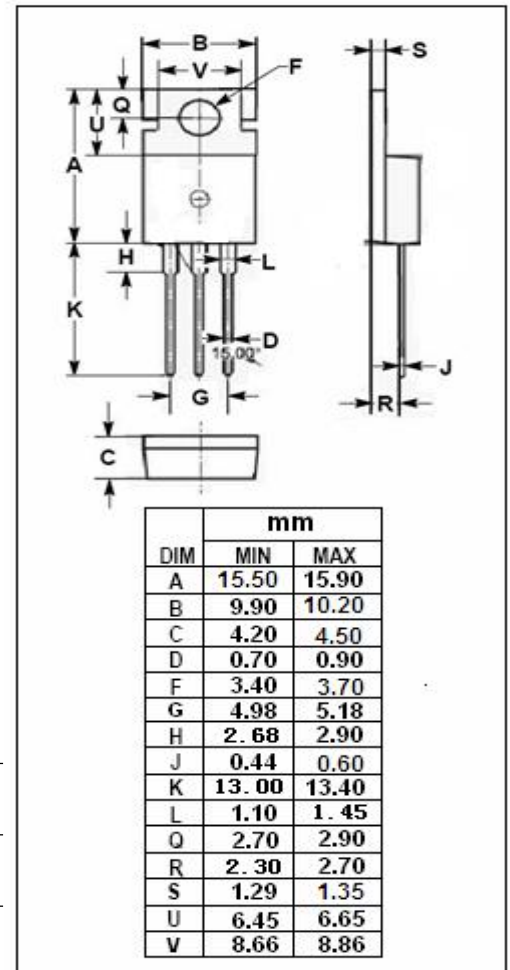
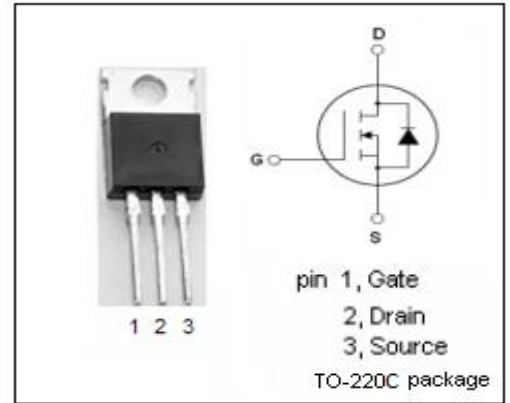
- Ultra low gate charge
- High peak current capability

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------------|
| V_{DSS} | Drain-Source Voltage | 650 | V |
| V_{GS} | Gate-Source Voltage | ± 20 | V |
| I_D | Drain Current-Continuous | 20.7 | A |
| I_{DM} | Drain Current-Single Pulsed | 62.1 | A |
| P_D | Total Dissipation @ $T_c=25^\circ\text{C}$ | 208 | 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 | 0.6 | $^\circ\text{C/W}$ |
| $R_{th(ch-a)}$ | Channel-to-ambient thermal resistance | 62 | $^\circ\text{C/W}$ |



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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 | 650 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} =V _{GS} ; I _D =1mA | 2.1 | | 3.9 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} =10V; I _D =13.1A | | | 0.19 | Ω |
| I _{GSS} | Gate-Source Leakage Current | V _{GS} =20V; V _{DS} =0V | | | 0.1 | μA |
| I _{DSS} | Drain-Source Leakage Current | V _{DS} =600V; V _{GS} = 0V | | | 1 | μA |
| V _{SD} | Diode forward voltage | I _F =I _S ; V _{GS} = 0V | | | 1.2 | V |

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