

isc N-Channel MOSFET Transistor

6N80A

• FEATURES

- Drain Current $I_D = 6A @ T_C = 25^\circ C$
- Drain Source Voltage: $V_{DSS} = 800V(\text{Min})$
- Static Drain-Source On-Resistance : $R_{DS(on)} = 2 \Omega (\text{Max})$
- Avalanche Energy Specified
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION.

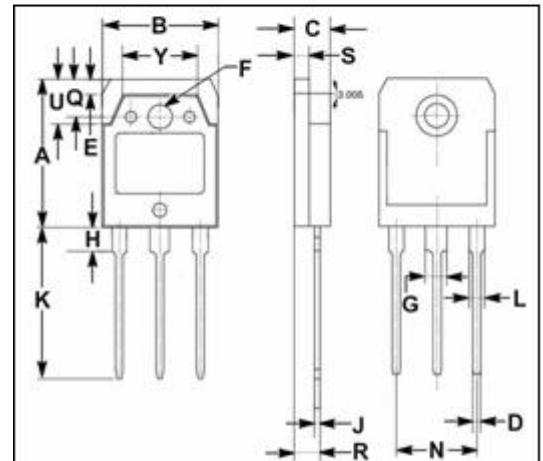
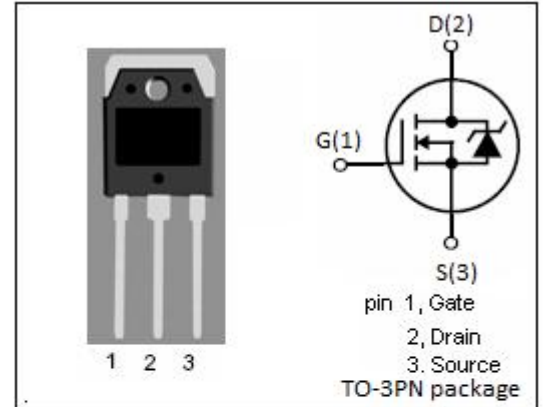
- Switch-mode and resonant-mode
- Power supplies
- Motor controls
- Uninterruptible Power Supplies (UPS)
- DC choppers

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------|
| V_{DSS} | Drain-Source Voltage | 800 | V |
| V_{GS} | Gate-Source Voltage-Continuous | ± 20 | V |
| I_D | Drain Current-Continuous | 6 | A |
| I_{DM} | Drain Current-Single Plused | 24 | A |
| P_D | Total Dissipation @ $T_C = 25^\circ C$ | 180 | W |
| T_j | Max. Operating Junction Temperature | 150 | $^\circ C$ |
| T_{stg} | Storage Temperature | -55~150 | $^\circ C$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|--------------|---|------|--------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case | 0.83 | $^\circ C/W$ |
| $R_{th j-a}$ | Thermal Resistance, Junction to Ambient | 40 | $^\circ C/W$ |



| DIM | mm | |
|-----|-------|-------|
| | MIN | MAX |
| A | 19.60 | 20.30 |
| B | 15.50 | 15.70 |
| C | 4.70 | 4.90 |
| D | 0.90 | 1.10 |
| E | 1.90 | 2.10 |
| F | 3.40 | 3.60 |
| G | 2.90 | 3.20 |
| H | 3.20 | 3.40 |
| J | 0.595 | 0.605 |
| K | 19.80 | 20.70 |
| L | 1.90 | 2.20 |
| N | 10.89 | 10.91 |
| Q | 4.90 | 5.10 |
| R | 3.35 | 3.45 |
| S | 1.995 | 2.100 |
| U | 5.90 | 6.20 |
| Y | 9.90 | 10.10 |

isc N-Channel MOSFET Transistor**6N80A****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 =3mA | 800 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} = V _{GS} ; I _D =250μA | 2.0 | | 4.5 | V |
| V _{SD} | Diode Forward On-voltage | I _S = 6A; V _{GS} = 0 | | | 1.5 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} = 10V; I _D = 3A | | | 1.4 | Ω |
| I _{GSS} | Gate-Body Leakage Current | V _{GS} = ±20V; V _{DS} = 0 | | | ±100 | nA |
| I _{DSS} | Zero Gate Voltage Drain Current | V _{DS} =800V; V _{GS} = 0 | | | 250 | μA |
| t _r | Rise Time | V _{GS} =10V; I _D =3A; V _{DD} =400V; R _L =2Ω | | | 110 | ns |
| t _{d(on)} | Turn-on Delay Time | | | | 100 | |
| t _f | Fall Time | | | | 100 | |
| t _{d(off)} | Turn-off Delay Time | | | | 200 | |

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