

isc N-Channel MOSFET Transistor

TK20N60W5

• FEATURES

- Low drain-source on-resistance:
 $R_{DS(ON)} \leq 175\text{m}\Omega$
- Easy to control Gate switching
- Enhancement mode:
 $V_{th} = 3.0 \text{ to } 4.5\text{V}$ ($V_{DS} = 10\text{V}$, $I_D = 1\text{mA}$)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

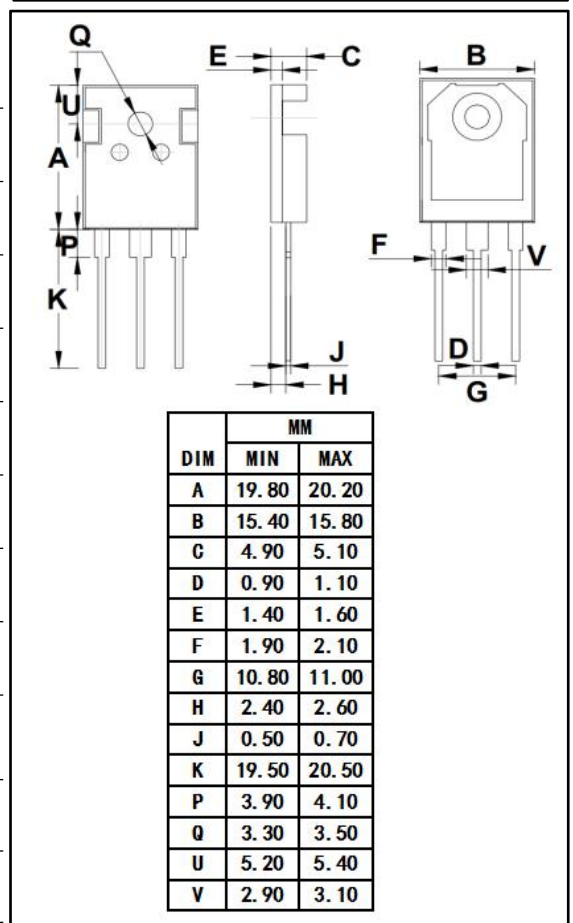
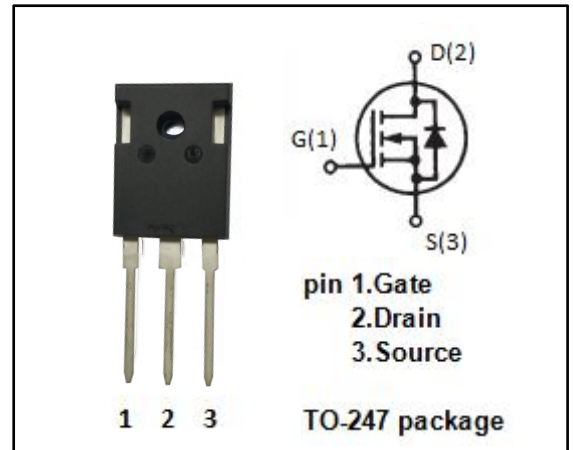
- Switching Voltage Regulators

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------------|
| V_{DSS} | Drain-Source Voltage | 600 | V |
| V_{GS} | Gate-Source Voltage | ± 30 | V |
| I_D | Drain Current-Continuous | 20 | A |
| I_{DM} | Drain Current-Single Pulsed | 80 | A |
| P_D | Total Dissipation @ $T_c = 25^\circ\text{C}$ | 165 | 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 | 0.757 | $^\circ\text{C/W}$ |



isc N-Channel MOSFET Transistor**TK20N60W5****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 = 10mA | 600 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} = 10V; I _D =1mA | 3 | | 4.5 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} = 10V; I _D =10A | | | 175 | mΩ |
| I _{GSS} | Gate-Source Leakage Current | V _{GS} = ±30V; V _{DS} = 0V | | | ±1 | μA |
| I _{DSS} | Drain-Source Leakage Current | V _{DS} = 600V; V _{GS} = 0V | | | 100 | μA |
| V _{SDF} | Diode forward voltage | I _{DR} =20 A, V _{GS} = 0 V | | | 1.7 | V |

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