

## Isc N-Channel MOSFET Transistor

## MMF80R650PTH

## • FEATURES

- Low power loss
- High speed switching
- Low on-resistance
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • APPLICATIONS

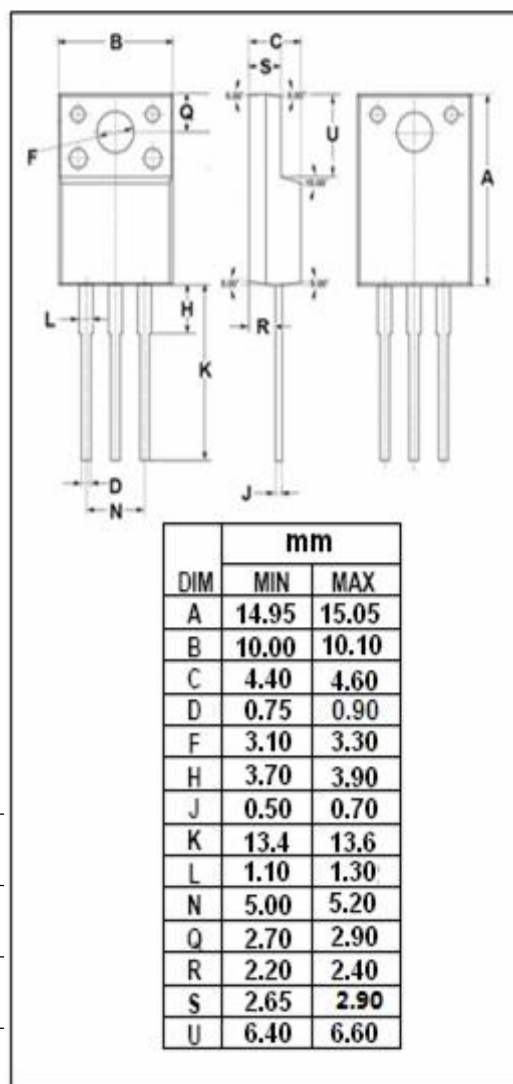
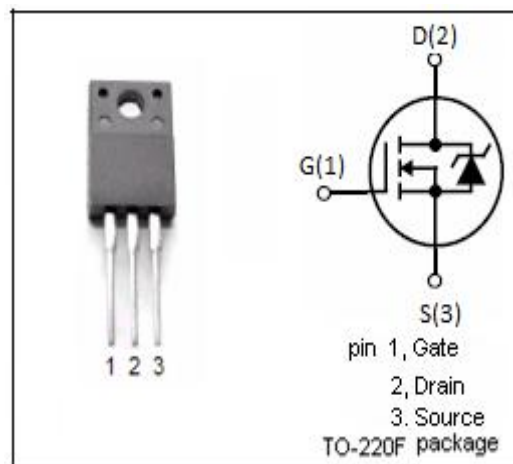
- Switching applications
- Motor control
- DC - DC converters

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

| SYMBOL    | PARAMETER                                                                       | VALUE     | UNIT               |
|-----------|---------------------------------------------------------------------------------|-----------|--------------------|
| $V_{DS}$  | Drain-Source Voltage                                                            | 800       | V                  |
| $V_{GS}$  | Gate-Source Voltage                                                             | $\pm 30$  | V                  |
| $I_D$     | Drain Current-Continuous@ $T_c=25^{\circ}\text{C}$<br>$T_c=100^{\circ}\text{C}$ | 8<br>5.05 | A                  |
| $I_{DM}$  | Drain Current-Single Pulsed                                                     | 24        | A                  |
| $P_D$     | Total Dissipation                                                               | 32        | W                  |
| $T_j$     | Operating Junction Temperature                                                  | -55~150   | $^{\circ}\text{C}$ |
| $T_{stg}$ | Storage Temperature                                                             | -55~150   | $^{\circ}\text{C}$ |

## • THERMAL CHARACTERISTICS

| SYMBOL         | PARAMETER                             | MAX  | UNIT                 |
|----------------|---------------------------------------|------|----------------------|
| $R_{th(ch-c)}$ | Channel-to-case thermal resistance    | 3.9  | $^{\circ}\text{C/W}$ |
| $R_{th(ch-a)}$ | Channel-to-ambient thermal resistance | 62.5 | $^{\circ}\text{C/W}$ |



**Isc N-Channel MOSFET Transistor****MMF80R650PTH****ELECTRICAL CHARACTERISTICS****T<sub>C</sub>=25°C unless otherwise specified**

| SYMBOL              | PARAMETER                      | CONDITIONS                                    | MIN | TYP  | MAX  | UNIT |
|---------------------|--------------------------------|-----------------------------------------------|-----|------|------|------|
| BV <sub>DSS</sub>   | Drain-Source Breakdown Voltage | V <sub>GS</sub> =0V; I <sub>D</sub> = 0.25mA  | 800 |      |      | V    |
| V <sub>GS(th)</sub> | Gate Threshold Voltage         | V <sub>DS</sub> =±30V; I <sub>D</sub> =0.25mA | 2   |      | 4    | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance     | V <sub>GS</sub> = 10V; I <sub>D</sub> =5.1A   |     | 0.56 | 0.65 | Ω    |
| I <sub>GSS</sub>    | Gate-Source Leakage Current    | V <sub>GS</sub> = ±30V; V <sub>DS</sub> = 0V  |     |      | ±0.1 | μ A  |
| I <sub>DSS</sub>    | Drain-Source Leakage Current   | V <sub>DS</sub> = 800V; V <sub>GS</sub> = 0V  |     |      | 1    | μ A  |
| V <sub>SDF</sub>    | Diode forward voltage          | I <sub>SD</sub> =8A, V <sub>GS</sub> = 0 V    |     |      | 1.4  | V    |

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