

## isc N-Channel MOSFET Transistor

TK16G60W5

## • FEATURES

- Low drain-source on-resistance:  
 $R_{DS(on)} \leq 0.23\Omega$ .
- Enhancement mode:  
 $V_{th} = 3.0$  to  $4.5V$  ( $V_{DS} = 10V$ ,  $I_D = 0.79mA$ )
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • DESCRIPTION

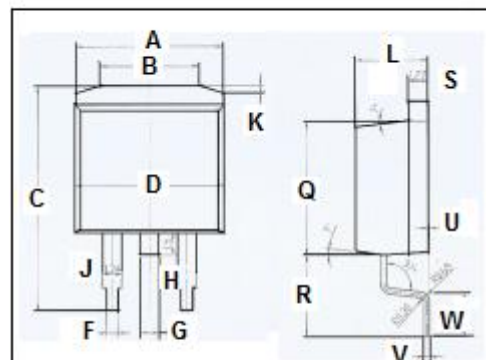
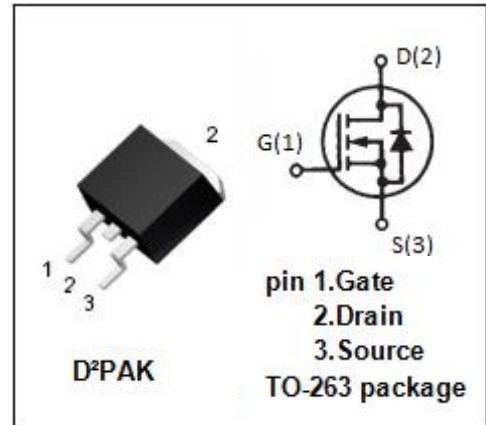
- Switching Voltage Regulators

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

| SYMBOL    | PARAMETER                              | VALUE    | UNIT       |
|-----------|----------------------------------------|----------|------------|
| $V_{DS}$  | Drain-Source Voltage                   | 600      | V          |
| $V_{GS}$  | Gate-Source Voltage                    | $\pm 30$ | V          |
| $I_D$     | Drain Current-Continuous               | 15.8     | A          |
| $I_{DM}$  | Drain Current-Single Pulsed            | 63.2     | A          |
| $P_D$     | Total Dissipation @ $T_c = 25^\circ C$ | 130      | W          |
| $T_j$     | Max. Operating Junction Temperature    | 150      | $^\circ C$ |
| $T_{stg}$ | Storage Temperature                    | -55~150  | $^\circ C$ |

## • THERMAL CHARACTERISTICS

| SYMBOL         | PARAMETER                          | MAX   | UNIT         |
|----------------|------------------------------------|-------|--------------|
| $R_{th(ch-c)}$ | Channel-to-case thermal resistance | 0.962 | $^\circ C/W$ |



| DIM | mm    |       |
|-----|-------|-------|
|     | MIN   | MAX   |
| A   | 10    |       |
| B   | 6.6   | 6.8   |
| C   | 15.23 | 15.25 |
| D   | 10.15 | 10.17 |
| F   | 0.76  | 0.78  |
| G   | 1.26  | 1.28  |
| H   | 1.4   | 1.6   |
| J   | 1.33  | 1.35  |
| K   | 0.4   | 0.6   |
| L   | 4.6   | 4.8   |
| Q   | 8.69  | 8.71  |
| R   | 5.28  | 5.30  |
| S   | 1.26  | 1.28  |
| U   | 0.0   | 0.2   |
| V   | 0.37  | 0.39  |
| W   | 2.80  | 2.82  |

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## 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> =10mA     | 600 |     |      | V    |
| V <sub>GS(th)</sub> | Gate Threshold Voltage         | V <sub>DS</sub> =10V; I <sub>D</sub> =0.79mA  | 3.0 |     | 4.5  | V    |
| R <sub>DS(on)</sub> | Drain-Source On-Resistance     | V <sub>GS</sub> =10V; I <sub>D</sub> =7.9A    |     |     | 0.23 | Ω    |
| I <sub>GSS</sub>    | Gate-Source Leakage Current    | V <sub>GS</sub> = ±30V; V <sub>DS</sub> = 0V  |     |     | ±1   | μA   |
| I <sub>DSS</sub>    | Drain-Source Leakage Current   | V <sub>DS</sub> =600V; V <sub>GS</sub> = 0V   |     |     | 100  | μA   |
| V <sub>SDF</sub>    | Diode forward voltage          | I <sub>DR</sub> =15.8A, V <sub>GS</sub> = 0 V |     |     | 1.7  | V    |

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