

isc N-Channel MOSFET Transistor
2SK1594
FEATURES

- Drain Current $-I_D = 3A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 100V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 1.6 \Omega (\text{Max})$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

DESCRIPTION

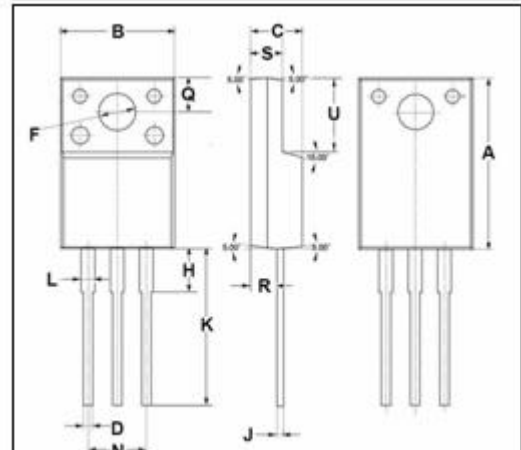
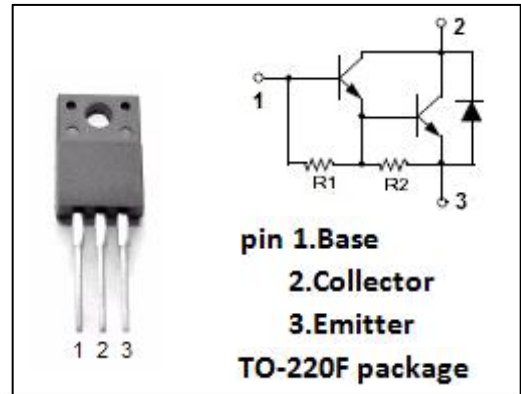
- motor drive, DC-DC converter, power switch and solenoid drive.

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------|
| V_{DSS} | Drain-Source Voltage | 30 | V |
| V_{GS} | Gate-Source Voltage-Continuous | ± 20 | V |
| I_D | Drain Current-Continuous | ± 20 | A |
| I_{DM} | Drain Current-Single Pulse | ± 80 | A |
| P_D | Total Dissipation @ $T_C = 25^\circ C$ | 30 | 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 | 4.17 | $^\circ C/W$ |



| DIM | mm | |
|-----|-------|-------|
| | MIN | MAX |
| A | 14.95 | 15.05 |
| B | 10.00 | 10.10 |
| C | 4.40 | 4.60 |
| D | 0.75 | 0.90 |
| F | 3.10 | 3.30 |
| H | 3.70 | 3.90 |
| J | 0.50 | 0.70 |
| K | 13.4 | 13.6 |
| L | 1.10 | 1.30 |
| N | 5.00 | 5.20 |
| Q | 2.70 | 2.90 |
| R | 2.20 | 2.40 |
| S | 2.65 | 2.90 |
| U | 6.40 | 6.60 |

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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|----------------------|---------------------------------|---|-----|-------|------|
| V _{(BR)DSS} | Drain-Source Breakdown Voltage | V _{GS} = 0; I _D = 10mA | 30 | -- | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} = 10V; I _D = 1mA | 1 | 2.5 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} = 10V; I _D = 10A | -- | 0.045 | Ω |
| I _{GSS} | Gate-Body Leakage Current | V _{GS} = ±20V; V _{DS} = 0 | -- | ±10 | uA |
| I _{DSS} | Zero Gate Voltage Drain Current | V _{DS} = 30V; V _{GS} = 0 | -- | 10 | uA |
| V _{SD} | Forward On-Voltage | I _S = 20A; V _{GS} = 0 | -- | 1 | V |

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