

isc N-Channel MOSFET Transistor

2SK1916

DESCRIPTION

- Drain Current $-I_D=18A@ T_C=25^\circ C$
- Drain Source Voltage:
: $V_{DSS}=450V(\text{Min})$
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

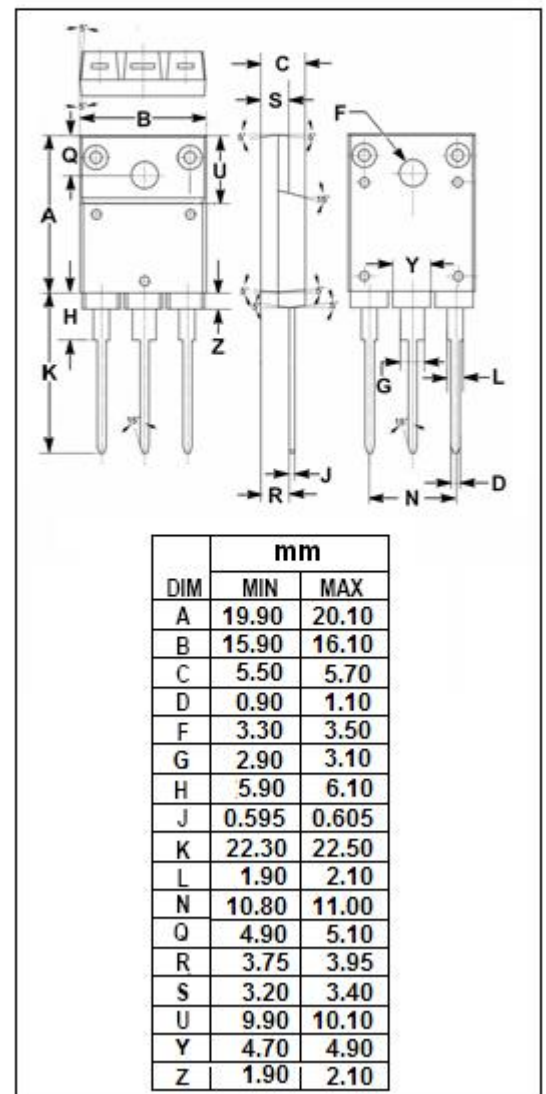
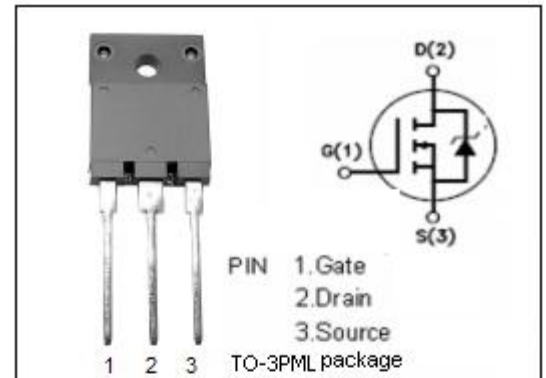
- Switching regulator
- UPS
- General purpose power amplifier

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

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|--|----------|------------|
| V_{DSS} | Drain-Source Voltage ($V_{GS}=0$) | 450 | V |
| V_{GS} | Gate-Source Voltage | ± 30 | V |
| I_D | Drain Current-continuous@ $T_C=25^\circ C$ | 18 | A |
| P_{tot} | Total Dissipation@ $T_C=25^\circ C$ | 80 | W |
| T_j | Max. Operating Junction Temperature | 150 | $^\circ C$ |
| T_{stg} | Storage Temperature Range | -55~150 | $^\circ C$ |

• THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---------------|---|------|--------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case | 1.56 | $^\circ C/W$ |
| $R_{th\ j-a}$ | Thermal Resistance, Junction to Ambient | 30 | $^\circ C/W$ |



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• ELECTRICAL CHARACTERISTICS (T_c=25°C)

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYPE | MAX | UNIT |
|----------------------|-------------------------------------|--|-----|------|------|------|
| V _{(BR)DSS} | Drain-Source Breakdown Voltage | V _{GS} = 0; I _D =1mA | 450 | | | V |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} = V _{GS} ; I _D =1mA | 2.5 | | 5 | V |
| V _{DF} | Body to drain diode forward voltage | I _F = 4 A, V _{GS} = 0 | | 0.92 | 1.41 | V |
| R _{DS(on)} | Drain-Source On-Resistance | V _{GS} = 10V; I _D =8A | | 0.3 | 0.45 | Ω |
| I _{GSS} | Gate-Body Leakage Current | V _{GS} = ±30V; V _{DS} = 0 | | | ±100 | nA |
| I _{DSS} | Zero Gate Voltage Drain Current | V _{DS} =450V; V _{GS} = 0 | | | 500 | μA |
| C _{iss} | Input capacitance | V _{DS} =25V; V _{GS} =0V; f _T =1MHz | | 1800 | 2700 | pF |
| C _{rss} | Reverse transfer capacitance | | | 120 | 185 | |
| C _{oss} | Output capacitance | | | 270 | 410 | |
| t _r | Rise time | V _{GS} =10V; I _D =18A; V _{DD} =300V; R _L =25 Ω | | 100 | 150 | ns |
| t _{on} | Turn-on time | | | 70 | 110 | |
| t _f | Fall time | | | 80 | 120 | |
| t _{off} | Turn-off time | | | 250 | 380 | |

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