

isc N-Channel MOSFET Transistor

TK31N60W5

• FEATURES

- Low drain-source on-resistance:
 $R_{DS(on)} \leq 0.099\Omega$.
- Enhancement mode:
 $V_{th} = 3 \text{ to } 4.5\text{V}$ ($V_{DS} = 10\text{V}$, $I_D = 15.4\text{A}$)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

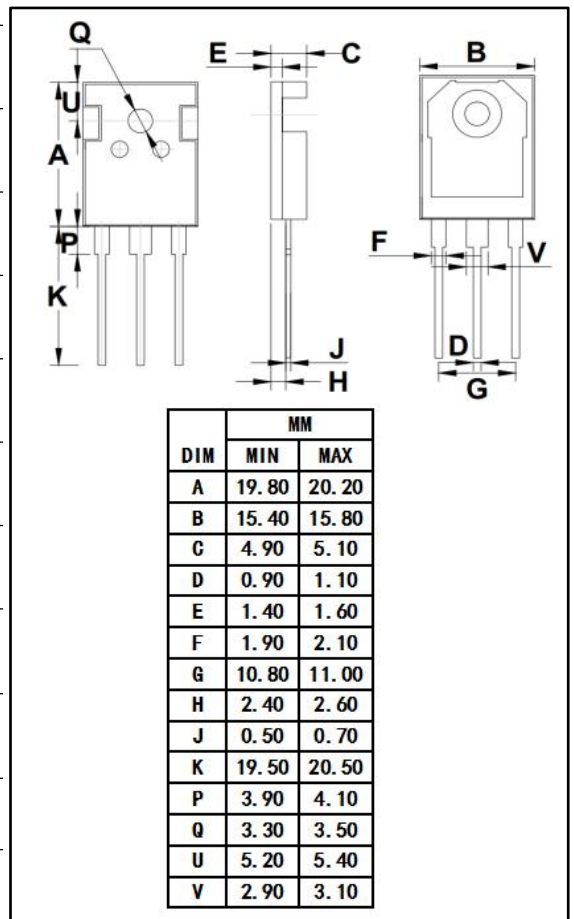
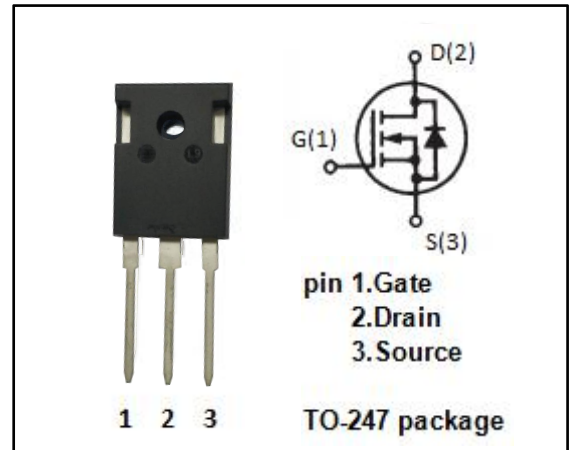
- Switching Voltage Regulators

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	600	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-Continuous	30.8	A
I_{DM}	Drain Current-Single Pulsed	123	A
P_D	Total Dissipation @ $T_c = 25^\circ\text{C}$	230	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	0.543	$^\circ\text{C/W}$



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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 =1.5mA	3		4.5	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} =10V; I _D =15.4A			99	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	uA
V _{SDF}	Diode forward voltage	I _{DR} =30.8A, V _{GS} = 0 V			1.7	V

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