

iscN-Channel MOSFET Transistor

IRFP31N50L

• FEATURES

- Low drain-source on-resistance:
 $R_{DS(ON)} = 0.18\Omega$ (MAX)
- Enhancement mode:
 $V_{th} = 3.0$ to $5.0V$ ($V_{DS} = 10V$, $I_D = 0.25mA$)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

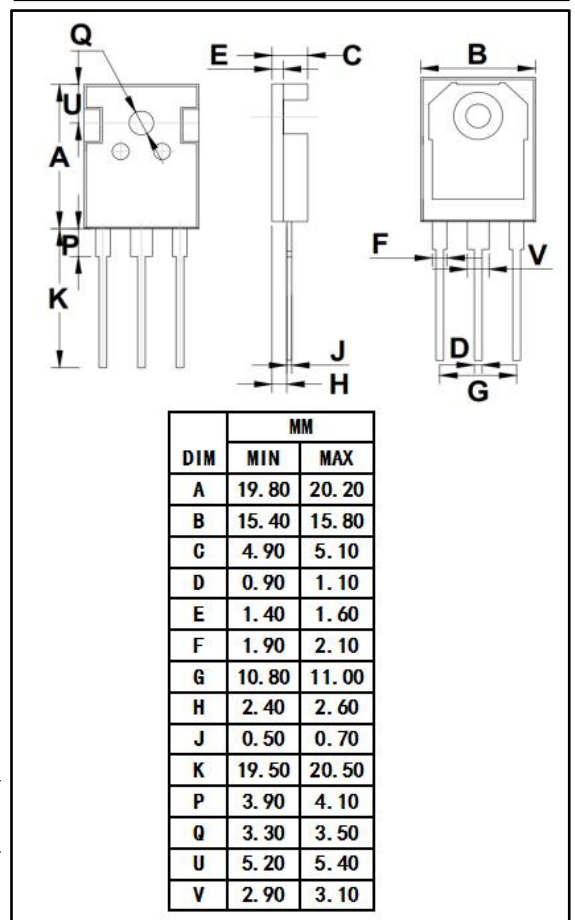
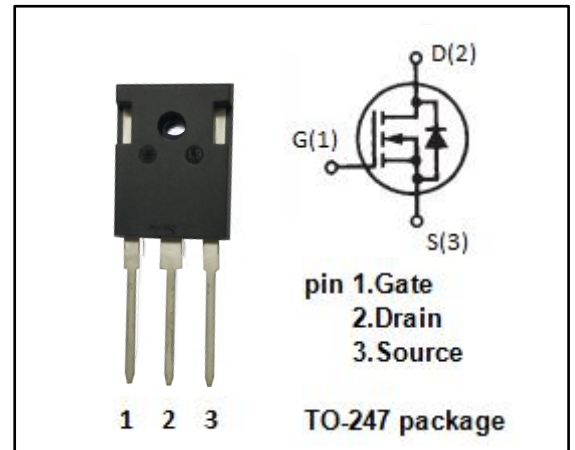
- Switching Voltage Regulators

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	500	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-Continuous	31	A
I_{DM}	Drain Current-Single Pulsed	124	A
P_D	Total Dissipation @ $T_c = 25^\circ C$	460	W
T_j	Max. Operating Junction Temperature	$-55 \sim 150$	$^\circ C$
T_{stg}	Storage Temperature	$-55 \sim 150$	$^\circ C$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	0.26	$^\circ C/W$



iscN-Channel MOSFET Transistor**IRFP31N50L****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 = 0.25mA	500			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = 10V; I _D =0.25mA	3.0		5.0	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} =10V; I _D =19A			0.18	Ω
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±30V; V _{DS} = 0V			± 100	nA
I _{DSS}	Drain-Source Leakage Current	V _{DS} =500V; V _{GS} = 0V V _{DS} =400V; V _{GS} = 0V; T _J =125°C			50 2000	uA
V _{SDF}	Diode forward voltage	I _{DR} =31A, V _{GS} = 0 V			1.5	V

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