

isc N-Channel MOSFET Transistor

IRFB31N20D, IIRFB31N20D

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 82m\Omega$
- Enhancement mode
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

- reliable device for use in a wide variety of applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	200	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 @ $T_c=25^\circ C$	200	W
T_j	Max. Operating Junction Temperature	175	$^\circ C$
T_{stg}	Storage Temperature	-55~175	$^\circ C$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	0.75	$^\circ C/W$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62	$^\circ C/W$



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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 =0.25mA	200			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} ; I _D =0.25mA	3		5.5	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} =10V; I _D =18A			82	mΩ
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±30V; V _{DS} =0V			±100	nA
I _{DSS}	Drain-Source Leakage Current	V _{DS} =200V; V _{GS} = 0V			25	μA
V _{SD}	Diode forward voltage	I _F =18A, V _{GS} = 0V			1.3	V