

isc N-Channel MOSFET Transistor IRFB38N20D, IIRFB38N20D

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 54m\Omega$
- Enhancement mode
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

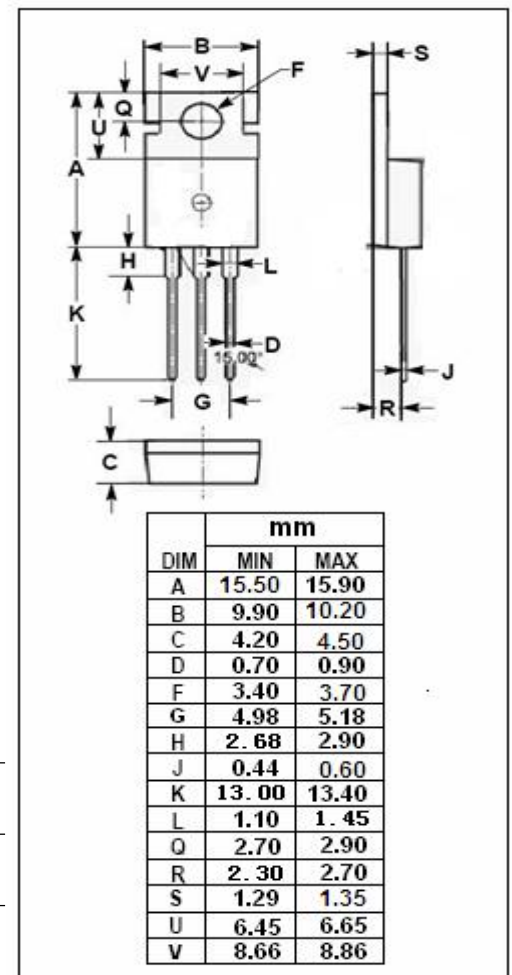
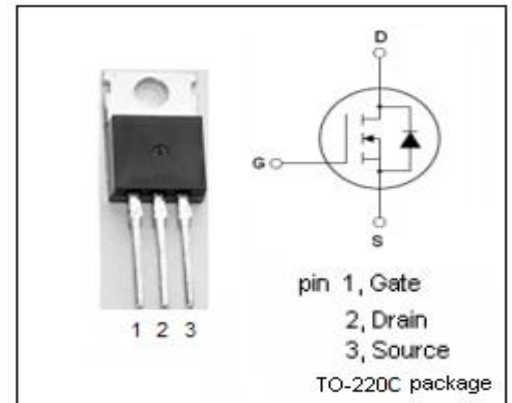
- High frequency DC-DC converters

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	200	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-Continuous	43	A
I_{DM}	Drain Current-Single Pulsed	180	A
P_D	Total Dissipation @ $T_c=25^\circ\text{C}$	300	W
T_j	Max. Operating Junction Temperature	175	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~175	$^\circ\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	0.47	$^\circ\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

$T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$; $I_D=250\ \mu A$	200			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$; $I_D=250\ \mu A$	3		5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V$; $I_D=26A$			54	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 30V$			± 0.1	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=200V$; $V_{GS}=0V$			25	μA
V_{SD}	Diode forward voltage	$I_F=26A$; $V_{GS}=0V$			1.5	V

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