

isc N-Channel MOSFET Transistor

IRFB3004, IIRFB3004

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 1.75m\Omega$
- Enhancement mode
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

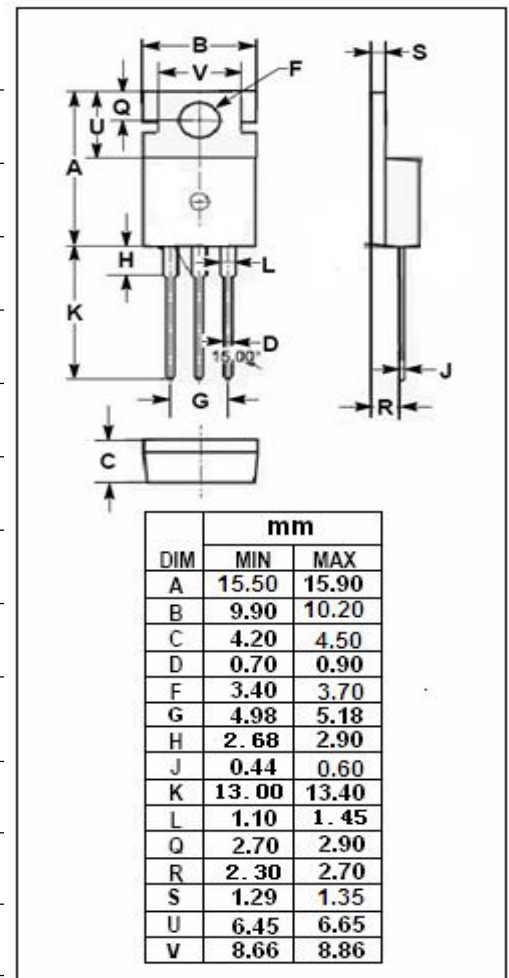
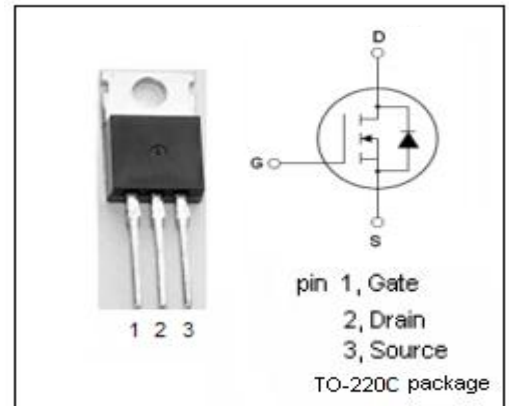
- High Efficiency Synchronous Rectification in SMPS
- Uninterruptible Power Supply
- Hard Switched and High Frequency Circuits

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	40	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous	340	A
I_{DM}	Drain Current-Single Pulsed	1310	A
P_D	Total Dissipation @ $T_c=25^\circ\text{C}$	380	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	0.4	$^\circ\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
B _V DSS	Drain-Source Breakdown Voltage	V _{GS} =0V; I _D = 250μA	40			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} ; I _D =250 μ A	2		4	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} =10V; I _D =195A			3.0	mΩ
I _{GSS}	Gate-Source Leakage Current	V _{GS} =± 20V			±100	nA
I _{DSS}	Drain-Source Leakage Current	V _{DS} =40V; V _{GS} = 0V			20	μ A
V _{SD}	Diode forward voltage	I _S =195A, V _{GS} = 0 V			1.3	V

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