

# isc N-Channel MOSFET Transistor

## IRFB3806, IIRFB3806

### • FEATURES

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 15.8m\Omega$
- Enhancement mode
- Fast Switching Speed
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • DESCRIPTION

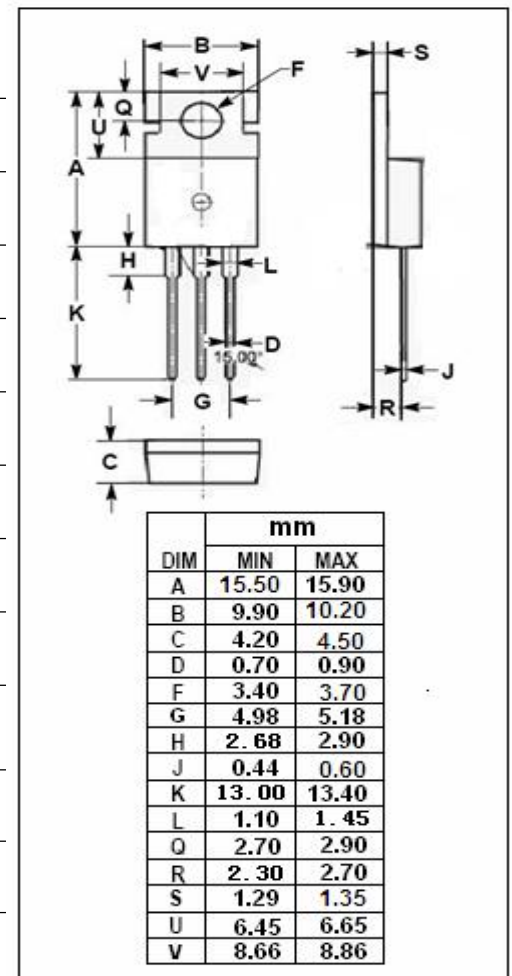
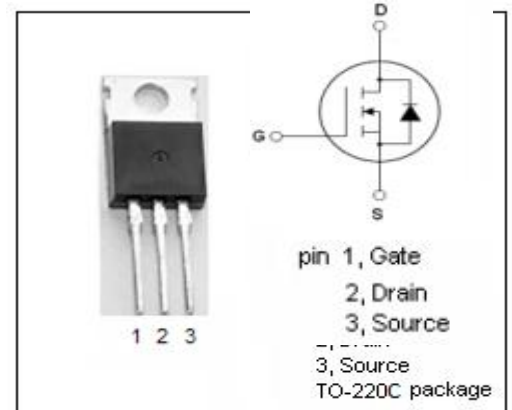
- Suitable for High speed power switching and high efficiency synchronous rectification in SMPS

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	60	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-Continuous	43	A
$I_{DM}$	Drain Current-Single Pulsed	170	A
$P_D$	Total Dissipation @ $T_c=25^\circ C$	71	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	2.12	$^\circ C/W$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	62	$^\circ C/W$



**isc N-Channel MOSFET Transistor****IRFB3806, IIRFB3806****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=250\ \mu\text{A}$	60			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=50\ \mu\text{A}$	2		4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=25A$			15.8	$m\Omega$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 20V$			$\pm 100$	nA
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=60V; V_{GS}=0V$			20	$\mu\text{A}$
$V_{SD}$	Diode forward voltage	$I_S=25A, V_{GS}=0V$			1.3	V

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