

# isc N-Channel MOSFET Transistor

# IRF831FI

## DESCRIPTION

- Drain Current  $-I_D = 3.0A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 450V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 1.5 \Omega (\text{Max})$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

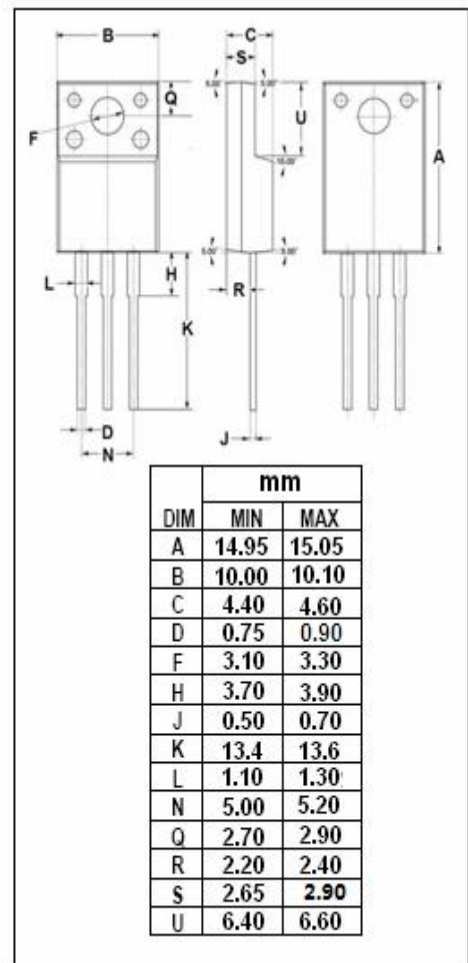
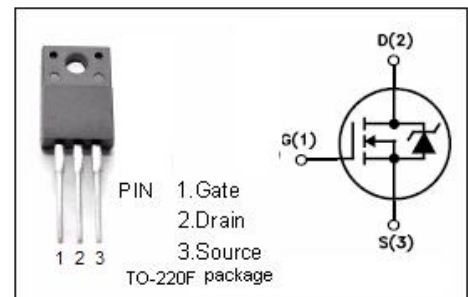
- Desinged for high efficiency switch mode power supply.

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

SYMBOL	ARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage ( $V_{GS}=0$ )	450	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-continuous@ $T_C = 25^\circ C$	3	A
$P_D$	Power Dissipation@ $T_C = 25^\circ C$	35	W
$T_j$	Max. Operating Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.67	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	80	$^\circ C/W$



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• ELECTRICAL CHARACTERISTICS (T<sub>c</sub>=25°C)

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0; I <sub>D</sub> = 0.25mA	450		V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> = 0.25mA	2	4	V
R <sub>DS(on)</sub>	Drain-Source On-stage Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 2.5A		1.5	Ω
I <sub>GSS</sub>	Gate Source Leakage Current	V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0		±500	nA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> = 450V; V <sub>GS</sub> = 0		250	uA
V <sub>SD</sub>	Diode Forward Voltage	I <sub>F</sub> = 3A; V <sub>GS</sub> = 0		1.6	V

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