

## isc N-Channel MOSFET Transistor

## IRFP451

## FEATURES

- Drain Current  $-I_D = 13A @ T_C = 25^\circ C$
- Drain Source Voltage-  
:  $V_{DSS} = 450V (Min)$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 0.4 \Omega (Max)$
- Fast Switching
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## DESCRIPTION

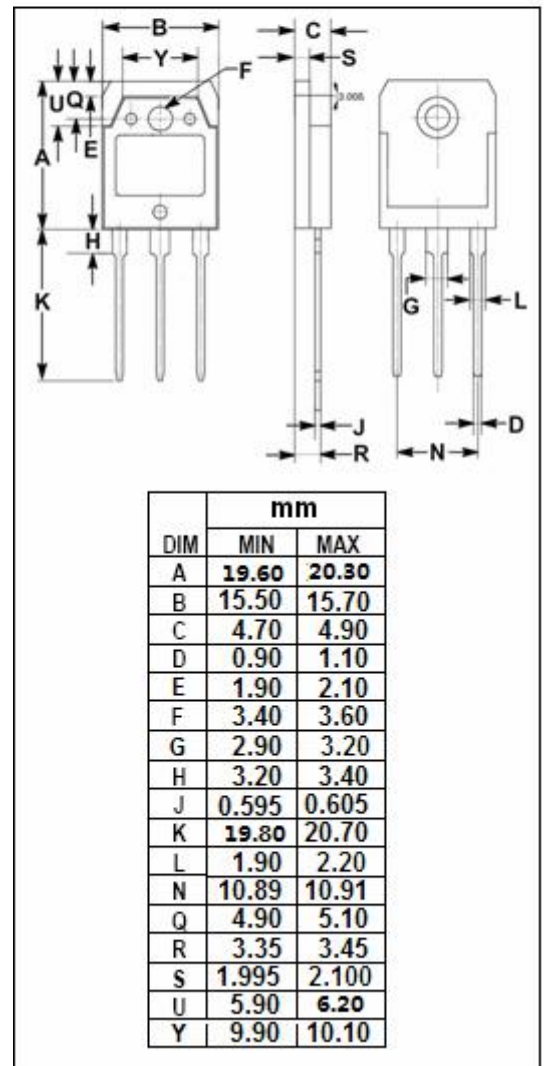
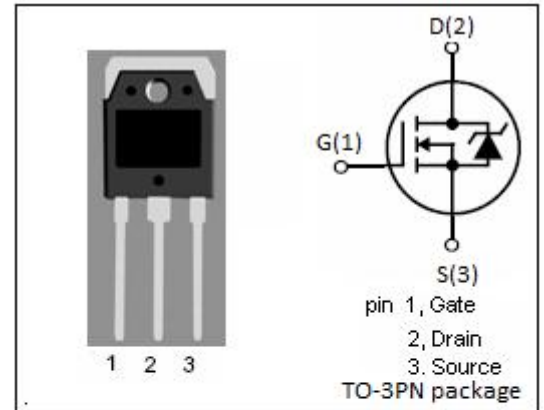
- Designed for use in switch mode power supplies and general purpose applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	450	V
$V_{GS}$	Gate-Source Voltage-Continuous	$\pm 20$	V
$I_D$	Drain Current-Continuous	13	A
$I_{DM}$	Drain Current-Single Pluse	52	A
$P_D$	Total Dissipation @ $T_C = 25^\circ C$	150	W
$T_J$	Max. Operating Junction Temperature	$-55 \sim 150$	$^\circ C$
$T_{stg}$	Storage Temperature	$-55 \sim 150$	$^\circ C$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.7	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	30	$^\circ C/W$



**isc N-Channel MOSFET Transistor****IRFP451****ELECTRICAL CHARACTERISTICS****T<sub>c</sub>=25°C unless otherwise specified**

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-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 7A		0.4	Ω
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0		±100	nA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> = 450V; V <sub>GS</sub> = 0		250	μA
V <sub>SD</sub>	Forward On-Voltage	I <sub>S</sub> = 13A; V <sub>GS</sub> = 0		1.4	V

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