

isc N-Channel Mosfet Transistor

IRF830A

FEATURES

- Drain Current $-I_D=5A@ T_C=25^{\circ}C$
- Drain Source Voltage-
: $V_{DSS}= 500V(\text{Min})$
- Fast Switching Speed
- Low Drive Requirement
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

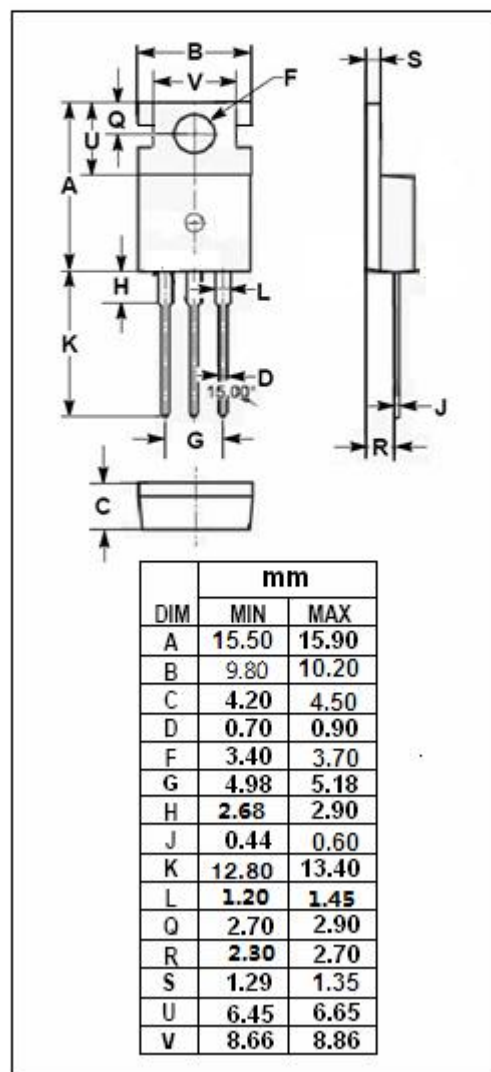
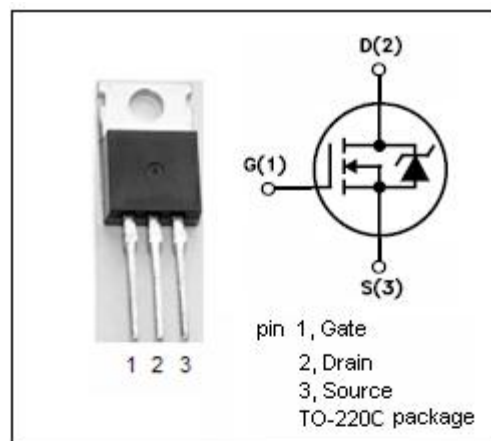
- Switch Mode Power Supply
- Uninterruptable Power Supply
- High speed power switching

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage	500	V
V_{GS}	Gate-Source Voltage-Continuous	± 30	V
I_D	Drain Current-Continuous@ $T_C=25^{\circ}C$	5	A
	Drain Current-continuous@ $T_C=100^{\circ}C$	3.2	
I_{DM}	Drain Current-Single Plused	20	A
P_D	Total Dissipation @ $T_C=25^{\circ}C$	74	W
T_j	Max. Operating Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature	-55~150	$^{\circ}C$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance,Junction to Case	1.7	$^{\circ}C/W$
$R_{th j-a}$	Thermal Resistance,Junction to Ambient	62	$^{\circ}C/W$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0$; $I_D=0.25\text{mA}$	500			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$; $I_D=0.25\text{mA}$	2		4.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}$; $I_D=3\text{A}$			1.4	Ω
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 30\text{V}$; $V_{DS}=0$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=500\text{V}$; $V_{GS}=0$			25	μA
V_{SD}	Forward On-Voltage	$I_S=5\text{A}$; $V_{GS}=0$			1.5	V
Gfs	Forward Transconductance	$V_{DS}=50\text{V}$; $I_D=3\text{A}$	2.8			S
$t_{d(on)}$	Turn-on Delay Time	$V_{DD}=250\text{V}$; $I_D=5\text{A}$; $R_G=14\Omega$		10		ns
t_r	Rise Time			21		
$t_{d(off)}$	Turn-off Delay Time			21		
t_f	Fall Time			15		

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