

isc N-Channel Mosfet Transistor

IRF820FI

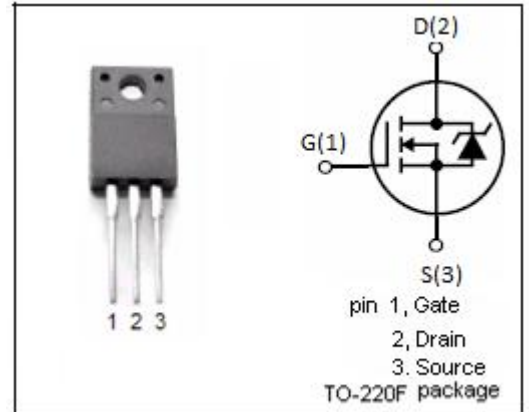
• FEATURES

- Low $R_{DS(on)} = 2.5 \Omega$ (TYP)
- Lower Input Capacitance
- Improved Gate Charge
- Fast Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

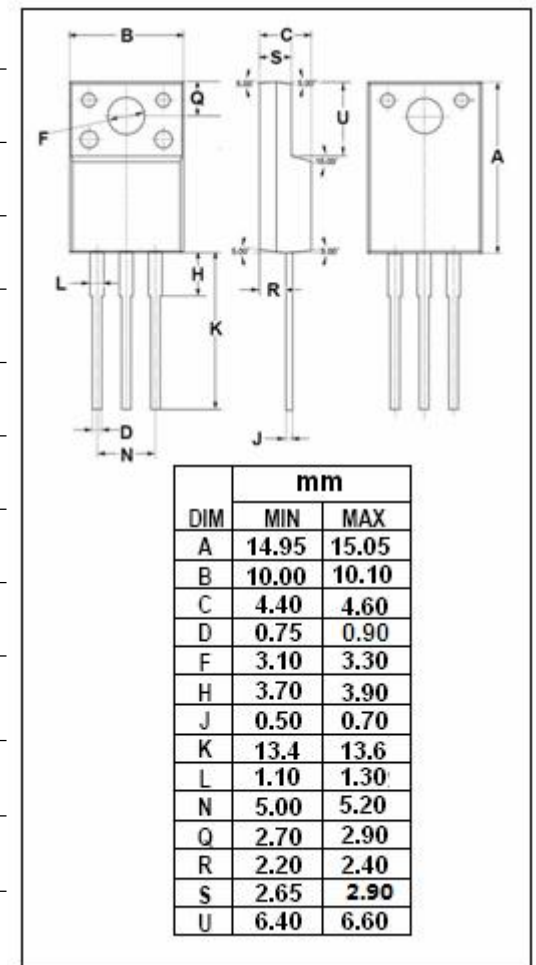
High current , high speed switching

- Switching mode power supplies
- DC-DC & DC-AC converter



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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage ($V_{GS}=0$)	500	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-continuous@ $TC=25^\circ\text{C}$	2.2	A
I_{DM}	Drain Current-Single Pulsed	12	A
P_{tot}	Total Dissipation@ $TC=25^\circ\text{C}$	35	W
T_j	Max. Operating Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.57	$^\circ\text{C}/\text{W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C}/\text{W}$

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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0; I _D =0.25mA	500			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} ; I _D =0.25mA	2.0		4.0	V
V _{SD}	Diode Forward On-voltage	I _S = 3A; V _{GS} = 0			1.6	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D = 1.5A		2.5	3.0	Ω
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±20V; V _{DS} = 0			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =500V; V _{GS} = 0			250	μA
G _{fs}	Forward Transconductance	V _{DS} = 25V; I _D =1.5A	0.8			S
t _{d(on)}	Turn-on Delay Time	I _D =1.5A; V _{DD} =250V; R _G =50 Ω			45	ns
t _r	Rise Time				110	
t _{d(off)}	Turn-off Delay Time				215	
t _f	Fall Time				80	

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