

isc N-Channel MOSFET Transistor

IRF821

FEATURES

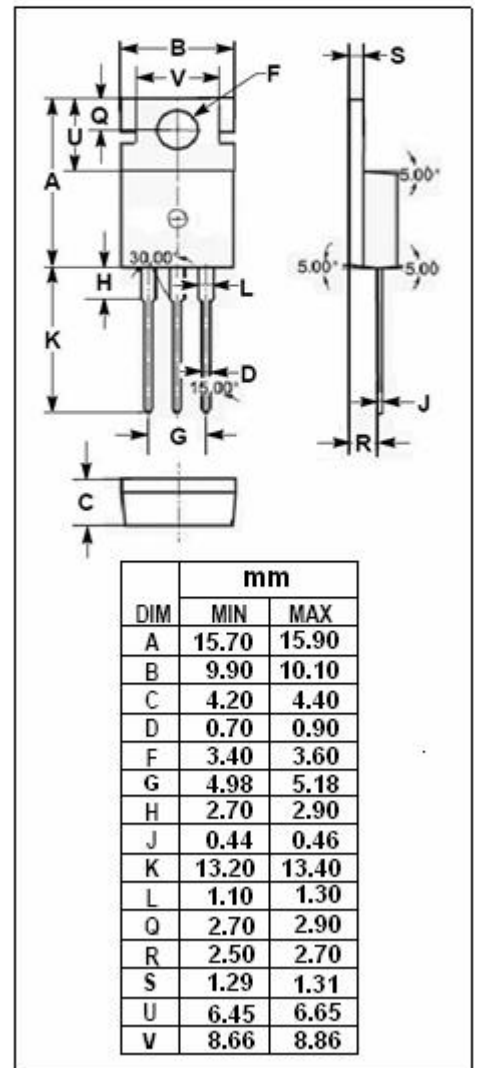
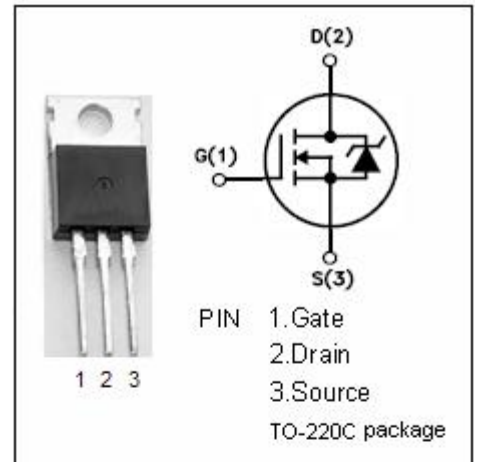
- Lower Input Capacitance
- Improved Gate Charge
- Extended Safe Operating Area
- Rugged Gate Oxide Technology

DESCRIPTION

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

ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>DSS</sub>	Drain-Source Voltage	450	V
V <sub>GS</sub>	Gate-Source Voltage-Continuous	±20	V
I <sub>D</sub>	Drain Current-Continuous	2.5	A
I <sub>DM</sub>	Drain Current-Single Pluse	8	A
P <sub>D</sub>	Total Dissipation @T <sub>C</sub> =25°C	50	W
T <sub>J</sub>	Max. Operating Junction Temperature	-55~150	°C
T <sub>stg</sub>	Storage Temperature	-55~150	°C



**THERMAL CHARACTERISTICS**

<b>SYMBOL</b>	<b>PARAMETER</b>	<b>MAX</b>	<b>UNIT</b>
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.5	°C/W
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	80	°C/W

**isc N-Channel MOSFET Transistor****IRF821****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=0.25\text{mA}$	450		V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=0.25\text{mA}$	2	4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=1.4\text{A}$		3	$\Omega$
$I_{GSS}$	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}; V_{DS}=0$		$\pm 500$	nA
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=450\text{V}; V_{GS}=0$		250	$\mu\text{A}$
$V_{SD}$	Forward On-Voltage	$I_S=2.5\text{A}; V_{GS}=0$		1.6	V
$C_{iss}$	Input Capacitance	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, F=1.0\text{MHz}$		510	pF
$C_{oss}$	Output Capacitance			60	pF
$C_{rss}$	Reverse Transfer Capacitance			26	pF

**• SWITCHING CHARACTERISTICS ( $T_C=25^\circ\text{C}$ )**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$T_d(on)$	Turn-on Delay Time	$V_{DD}=250\text{V}, I_D=2.5\text{A}$ $R_G=18\Omega$		11	15	ns
$T_r$	Rise Time			11	18	ns
$T_d(off)$	Turn-off Delay Time			29	42	ns
$T_f$	Fall Time			12	18	ns