

# isc N-Channel Mosfet Transistor

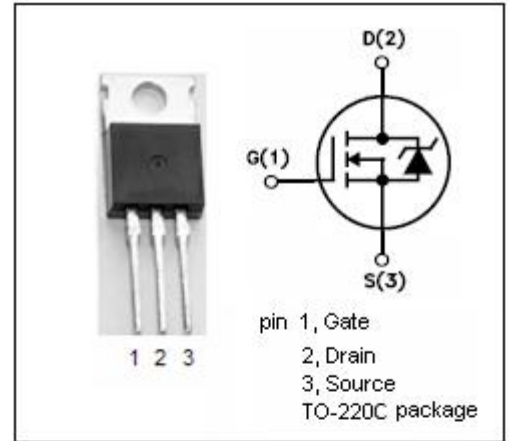
# IRF530

### FEATURES

- Low  $R_{DS(on)}$
- $V_{GS}$  Rated at  $\pm 20V$
- Silicon Gate for Fast Switching Speed
- Rugged
- Low Drive Requirements
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

- Designed especially for high voltage, high speed applications, such as off-line switching power supplies, UPS, AC and DC motor controls, relay and solenoid drivers.

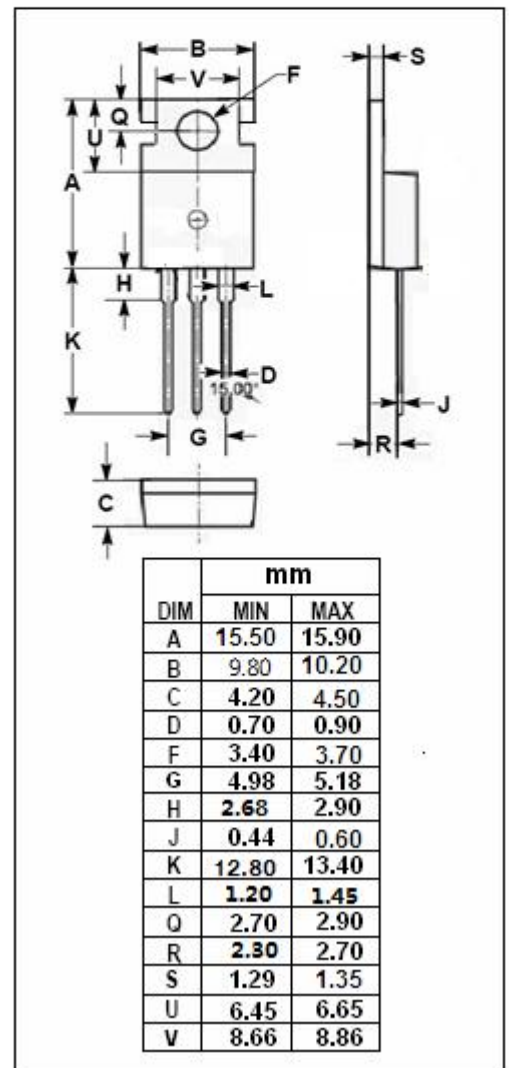


### ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ C$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	100	V
$V_{GS}$	Gate-Source Voltage-Continuous	$\pm 20$	V
$I_D$	Drain Current-Continuous@ $TC=25^\circ C$	14	A
	Drain Current-continuous@ $TC=100^\circ C$	9	
$I_{DM}$	Drain Current-Single Plused	56	A
$P_D$	Total Dissipation @ $T_c=25^\circ C$	79	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	1.58	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	80	$^\circ C/W$



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## ELECTRICAL CHARACTERISTICS

T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0; I <sub>D</sub> = 0.25mA	100			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> = 8.3A			0.16	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> = 100V; V <sub>GS</sub> =0			250	uA
V <sub>SD</sub>	Forward On-Voltage	I <sub>S</sub> = 14A; V <sub>GS</sub> =0			2.5	V
t <sub>d(on)</sub>	Turn-on Delay Time	V <sub>DD</sub> =36V; I <sub>D</sub> =8A; V <sub>GS</sub> =10V; R <sub>GS</sub> =15Ω			30	ns
t <sub>r</sub>	Rise Time				75	
t <sub>d(off)</sub>	Turn-off Delay Time				40	
t <sub>f</sub>	Fall Time				45	

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