

isc N-Channel Mosfet Transistor

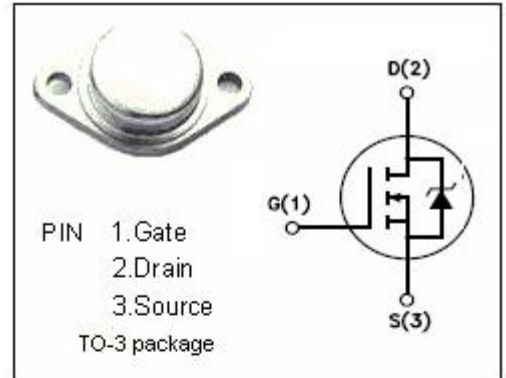
IRF441

FEATURES

- V_{GS} Rated at $\pm 20V$
- Silicon Gate for Fast Switching Speeds
- $I_{DSS}, V_{DS(on)}, SOA$ and $V_{GS(th)}$ specified at Elevated temperature
- Rugged
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

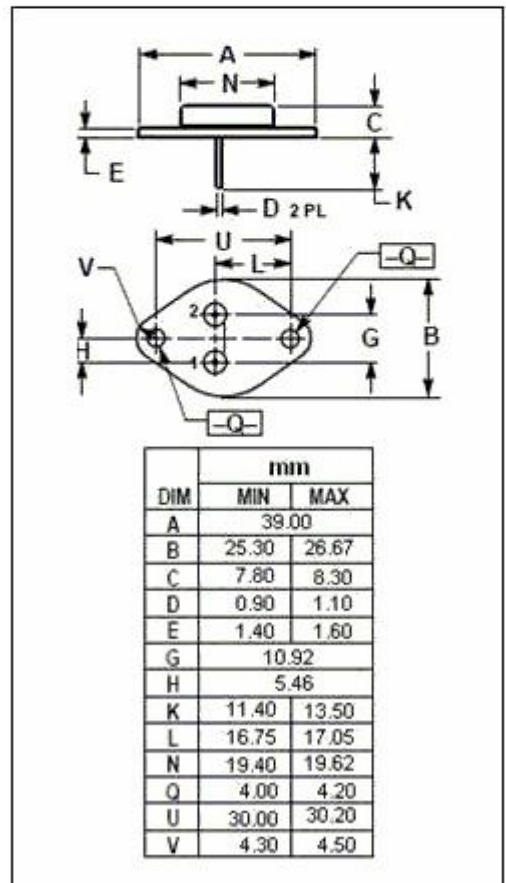
APPLICATIONS

- 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 ($V_{GS}=0$)	450	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-continuous@ $TC=25^\circ C$	8	A
I_{DM}	Drain Current-Single Pulsed	32	A
P_{tot}	Total Dissipation@ $TC=25^\circ C$	125	W
T_j	Max. Operating Junction Temperature	-55~150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	1.0	$^\circ C/W$
$R_{th j-A}$	Thermal Resistance, Junction to Ambient	60	$^\circ C/W$

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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	450			V
V _{GS(TH)}	Gate Threshold Voltage	V _{DS} =V _{GS} ; I _D =0.25mA	2.0		4.0	V
R _{DS(ON)}	Drain-Source On-stage Resistance	V _{GS} =10V; I _D =4A			0.85	Ω
I _{GSS}	Gate Source Leakage Current	V _{GS} =±20V; V _{DS} =0			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =450V; V _{GS} =0			25	μA
V _{SD}	Diode Forward Voltage	I _S =8A; V _{GS} =0			2.0	V
G _{fs}	Forward Transconductance	V _{DS} =10V; I _D =4A	4.0			S
t _{d(on)}	Turn-on Delay Time	I _D =4A; V _{DD} =220V; R _{GS} =4.7 Ω; V _{GS} =10V			35	ns
t _r	Rise Time				15	
t _{d(off)}	Turn-off Delay Time				90	
t _f	Fall Time				30	

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