

isc N-Channel MOSFET Transistor

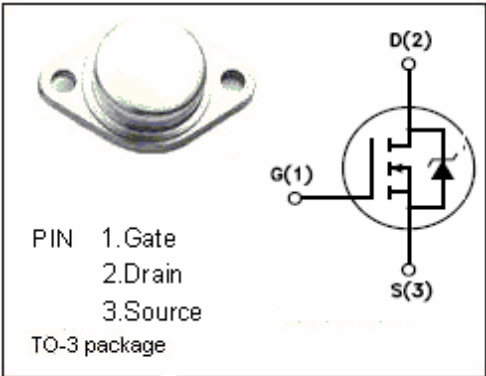
IRF421

DESCRIPTION

- silicon Gate for fast switching at elevate
- rugged
- low drive requirements
- ease of paralleling

APPLICATIONS

- high speed applications such as
Switching power supplies,AC and DCmotor controls
relay and solenoid driver.

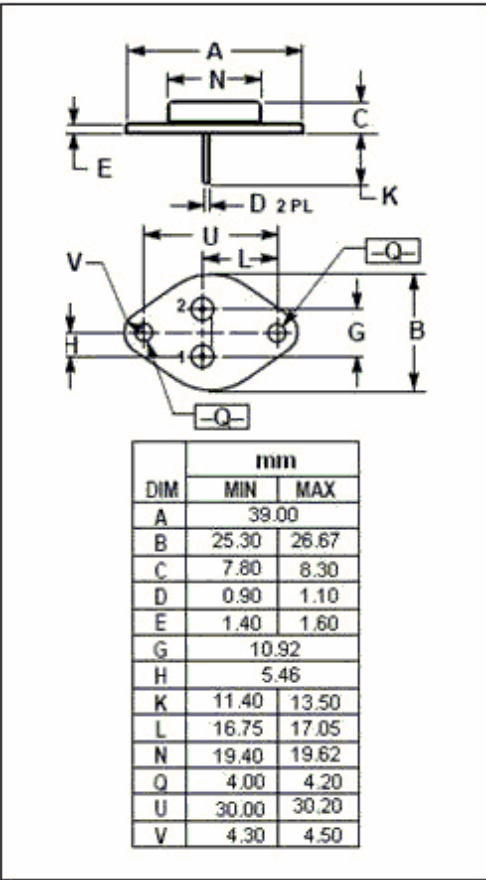


ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	ARAMETER	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℃	2.5	A
P _{tot}	Total Dissipation@TC=25℃	50	W
T _j	Max. Operating Junction Temperature	-55~150	℃
T _{stg}	Storage Temperature Range	-55~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
R _{th j-c}	Thermal Resistance,Junction to Case	2.5	℃/W
R _{th j-a}	Thermal Resistance,Junction to Ambient	30	℃/W



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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	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	$V_{DS}=V_{GS}$; $I_D=250\mu\text{A}$	2		4	V
$R_{DS(ON)}$	Drain-Source On-stage Resistance	$V_{GS}=10\text{V}$; $I_D=1\text{A}$			3	Ω
I_{GSS}	Gate Source Leakage Current	$V_{GS}=\pm 20\text{V}$; $V_{DS}=0$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=450\text{V}$; $V_{GS}=0$			250	μA
V_{SD}	Diode Forward Voltage	$I_F=2.5\text{A}$; $V_{GS}=0$			1.4	V
C_{iss}	Input Capacitance	$V_{DS}=25\text{V}$; $V_{GS}=0\text{V}$; $f_T=1\text{MHz}$		300		pF
C_{rss}	Reverse Transfer Capacitance			75		
C_{oss}	Output Capacitance			20		
t_r	Rise Time	$I_D=2.5\text{A}$; $V_{DD}=250\text{V}$; $R_G=18\Omega$		10	15	ns
$t_{d(on)}$	Turn-on Telay Time			12	18	
t_f	Fall Time			28	42	
$t_{d(off)}$	Turn-off Delay Time			12	18	