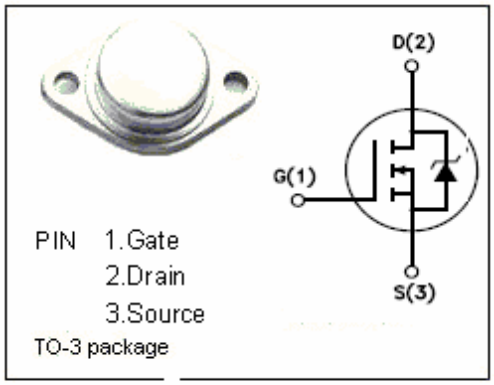
isc N-Channel MOSFET Transistor IRF420

DESCRIPTION

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

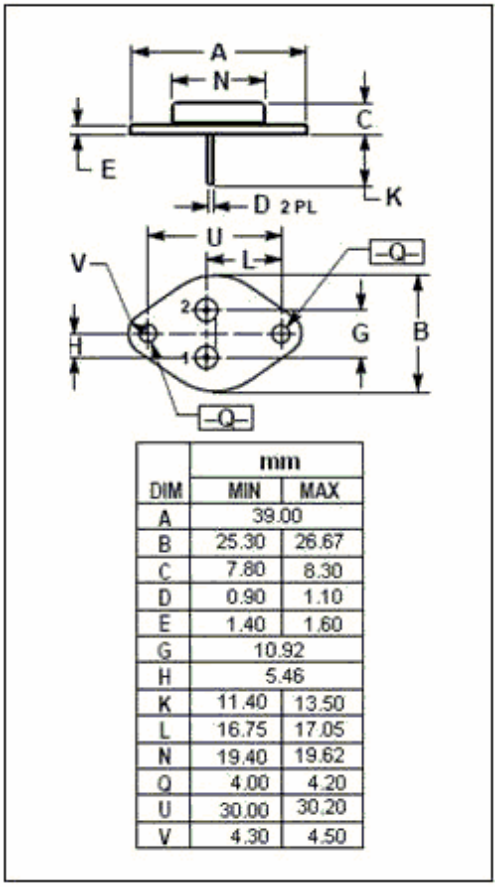


APPLICATIONS

- 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)	500	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	℃



DIM	mm MIN	MAX
A	39.00	
B	25.30	26.67
C	7.80	8.30
D	0.90	1.10
E	1.40	1.60
G	10.92	
H	5.46	
K	11.40	13.50
L	16.75	17.05
N	19.40	19.62
Q	4.00	4.20
U	30.00	30.20
V	4.30	4.50

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	2.5	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	30	℃/W

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• **ELECTRICAL CHARACTERISTICS (T_C=25℃)**

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=250μA	2		4	V
$R_{DS(ON)}$	Drain-Source On-stage Resistance	V_{GS}=10V; I_D=1.4A			3	Ω
I_{GSS}	Gate Source Leakage Current	V_{GS}=±20V;V_{DS}=0			±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=500V; V_{GS}=0			250	uA
V_{SD}	Diode Forward Voltage	I_F=2.5A; V_{GS}=0			1.4	V
Ciss	Input Capacitance	V_{DS}=25V; V_{GS}=0V; f_T=1MHz		300		pF
Crss	Reverse Transfer Capacitance			75		
Coss	Output Capacitance			20		
tr	Rise Time	I_D=2.5A; V_{DD}=250V; R_G=18Ω		10	15	ns
td(on)	Turn-on Telay Time			12	18	
tf	Fall Time			28	42	
td(off)	Turn-off Delay Time			12	18	