

isc N-Channel MOSFET Transistor

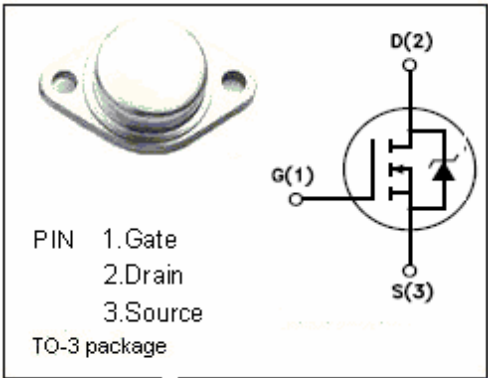
IRF450

DESCRIPTION

- 13A,500V
- $R_{DS(on)}=0.4\ \Omega$
- SOA is Power Dissipation Limited
- Linear Transfer Characteristics
- Related Literature

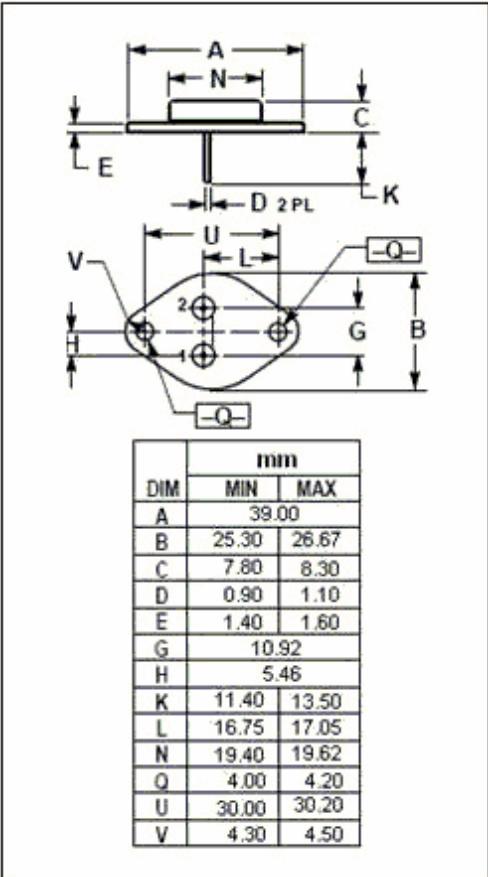
APPLICATIONS

- Designed for applications such as switching regulators, switching convertors ,motor drivers ,relay driver ,and drivers for high power bipolar switching transistors requiring high speed and low gate drive power.



ABSOLUTE MAXIMUM RATINGS($T_a=25^{\circ}\text{C}$)

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@ $TC=25^{\circ}\text{C}$	13	A
P_{tot}	Total Dissipation@ $TC=25^{\circ}\text{C}$	125	W
T_j	Max. Operating Junction Temperature	-55~150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}\text{C}$



THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance,Junction to Case	0.83	$^{\circ}\text{C/W}$
$R_{th\ j-A}$	Thermal Resistance,Junction to Ambient	30	$^{\circ}\text{C/W}$

isc N-Channel Mosfet Transistor**IRF450****• ELECTRICAL CHARACTERISTICS (T_C=25°C)**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	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 = 0.25mA	2		4	V
R _{DS(ON)}	Drain-Source On-stage Resistance	V _{GS} = 10V; I _D = 7.2A			0.4	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 = 13A; V _{GS} = 0			1.4	V
C _{iss}	Input Capacitance	V _{DS} =25V, V _{GS} =0V, F=1.0MHz		1800		pF
C _{oss}	Output Capacitance			400		pF
C _{rss}	Reverse Transfer Capacitance			100		pF

• SWITCHING CHARACTERISTICS (T_C=25°C)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
T _{d(on)}	Turn-on Delay Time	V _{DD} =250V, I _D =13A R _G =6.2Ω		20	27	ns
T _r	Rise Time			40	66	ns
T _{d(off)}	Turn-off Delay Time			72	100	ns
T _f	Fall Time			35	60	ns