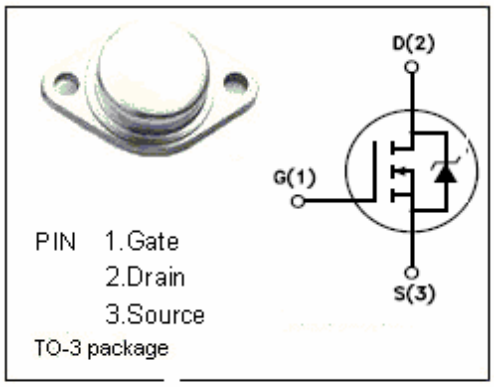
isc N-Channel MOSFET Transistor IRF453

DESCRIPTION

- 11A,450V
- Low $R_{DS(on)}$ at high voltage
- Improved inductive ruggedness
- Low input Characteristics
- Fast switching times
- Extended safe operating area



APPLICATIONS

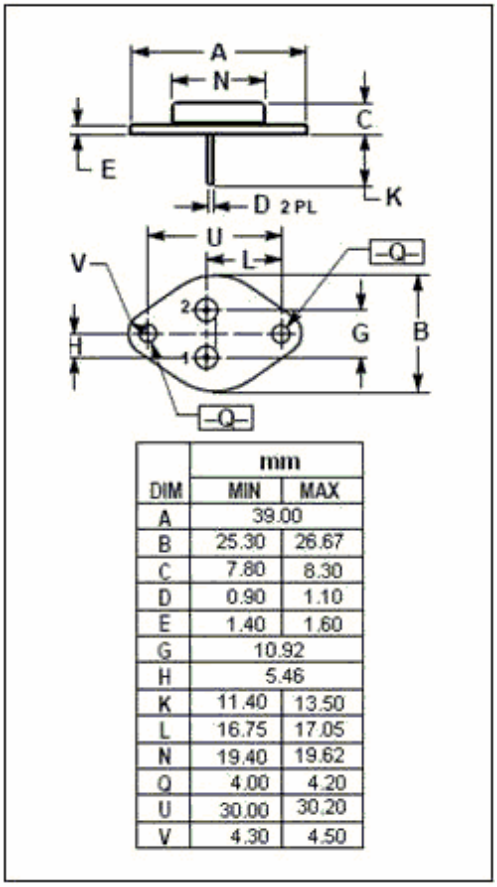
- Designed for applications such as switching regulators, switching convertors ,motor drivers ,relay driver ,and drivers for high power bipolar switching transistors requiring high speed and low gate drive power.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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℃	11	A
P_{tot}	Total Dissipation@TC=25℃	125	W
T_j	Max. Operating Junction Temperature	-55~150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

THERMAL CHARACTERISTICS

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



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

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• ELECTRICAL CHARACTERISTICS (T_C=25℃)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	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		4	V
$R_{DS(ON)}$	Drain-Source On-stage Resistance	V_{GS}= 10V; I_D= 7.2A			0.5	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			250	uA
V_{SD}	Diode Forward Voltage	I_F= 13A; V_{GS}= 0			1.4	V
Ciss	Input Capacitance	V_{DS}=25V,V_{GS}=0V, F=1.0MHz		1800		pF
Coss	Output Capacitance			400		pF
Crss	Reverse Transfer Capacitance			100		pF

• SWITCHING CHARACTERISTICS (T_C=25℃)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Td(on)	Turn-on Delay Time	V_{DD}=250V,I_D=13A R_G=6.2Ω		20	27	ns
Tr	Rise Time			40	66	ns
Td(off)	Turn-off Delay Time			72	100	ns
Tf	Fall Time			35	60	ns