

Isc N-Channel MOSFET Transistor

IRFI7446G

• FEATURES

- With TO-220F package
- Low input capacitance and gate charge
- Low gate input resistance
- Reduced switching and conduction losses
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

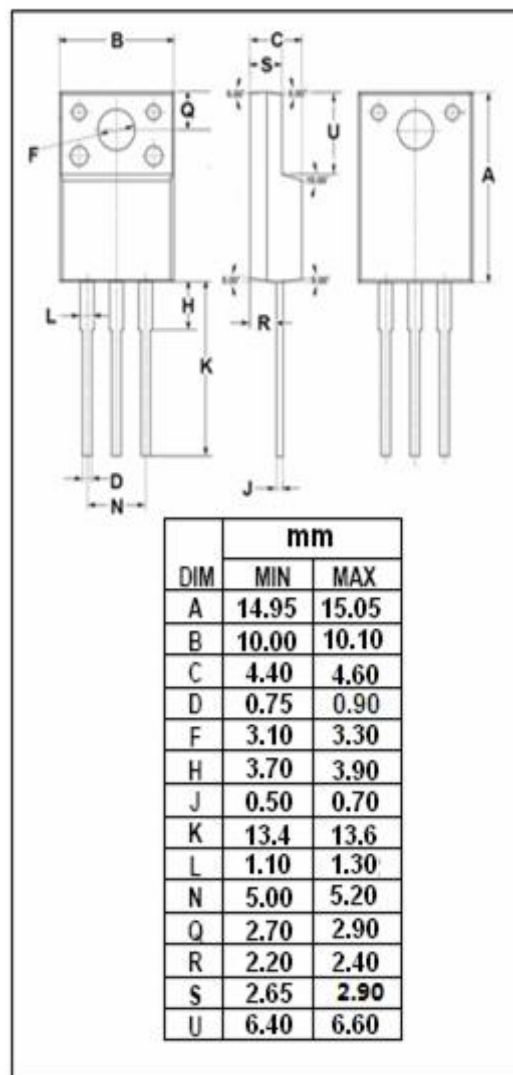
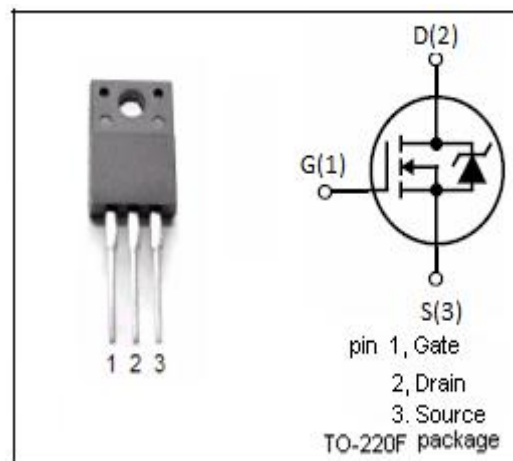
- Switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	40	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous @ $T_c=25^{\circ}\text{C}$ (V_{GS} at 10V) $T_c=100^{\circ}\text{C}$	80 57	A
I_{DM}	Drain Current-Single Pulsed	320	A
P_D	Total Dissipation @ $T_c=25^{\circ}\text{C}$	40.5	W
T_j	Max. Operating Junction Temperature	175	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~175	$^{\circ}\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(ch-c)}$	Channel-to-case thermal resistance	3.7	$^{\circ}\text{C/W}$
$R_{th(ch-a)}$	Channel-to-ambient thermal resistance	65	$^{\circ}\text{C/W}$



Isc N-Channel MOSFET Transistor**IRFI7446G****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V; I _D =0.25mA	40			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} ; I _D =0.1mA	2.2		3.9	V
R _{DS(on)}	Drain-Source On-Resistance	V _{GS} = 10V; I _D =48A		2.6	3.2	mΩ
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±20V; V _{DS} = 0V			±0.1	μA
I _{DSS}	Drain-Source Leakage Current	V _{DS} = 40V; V _{GS} = 0V; T _j =25°C V _{DS} = 40V; V _{GS} = 0V; T _j =125°C			1 150	μA
V _{SDF}	Diode forward voltage	I _{SD} =48A, V _{GS} = 0 V			1.3	V

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