

isc N-Channel MOSFET Transistor

IXTX46N50L

• FEATURES

- Drain Source Voltage-
: $V_{DS} = 500V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 160m\Omega (\text{Max}) @ V_{GS}=10V$
- Fast Switching
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

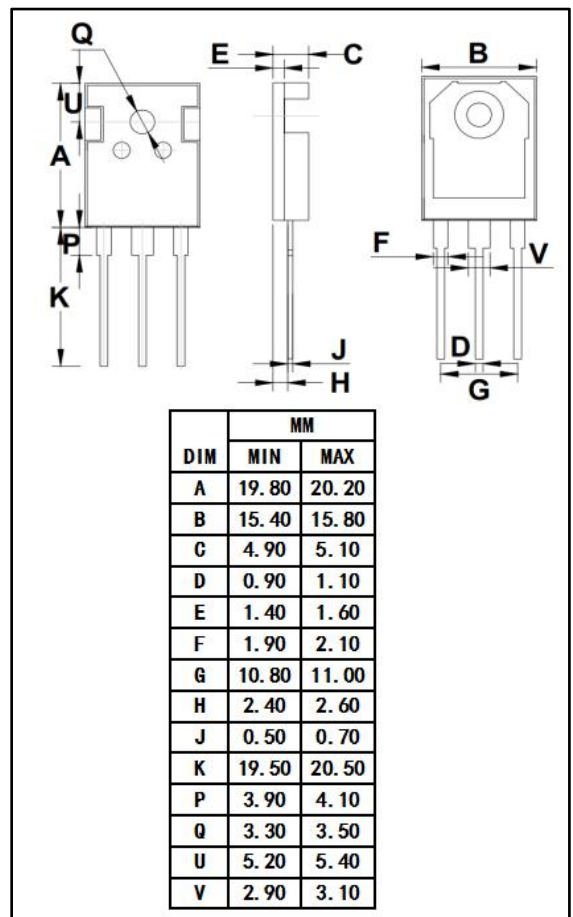
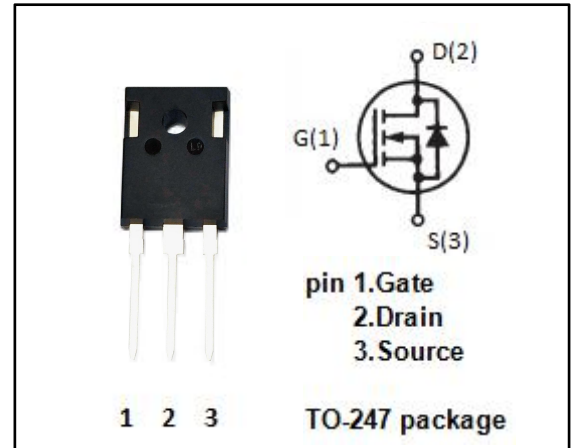
- Switch-Mode and Resonant-Mode Power Supplies
- DC-DC Converters
- AC and DC Motor Drives

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	500	V
V_{GS}	Gate-Source Voltage-Continuous	± 30	V
I_D	Drain Current-Continuous	46	A
I_{DM}	Drain Current-Single Plused	100	A
P_D	Total Dissipation @ $T_c=25^\circ\text{C}$	700	W
T_j	Max. Operating Junction Temperature	-55~150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~150	$^\circ\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.18	$^\circ\text{C/W}$



isc N-Channel MOSFET Transistor**IXTX46N50L****• ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=1\text{mA}$	500			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=3\text{mA}$	3		6	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=23\text{A}$			160	$\text{m}\Omega$
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 30\text{V}; V_{DS}=0$			± 200	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=500\text{V}; V_{GS}=0$ $V_{DS}=500\text{V}; V_{GS}=0; T_J=125^{\circ}\text{C}$			50 1000	μA
V_{SD}	Diode Forward On-voltage	$I_F=46\text{A}; V_{GS}=0$			1.5	V

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