

isc N-Channel MOSFET Transistor

IXTM21N50

• FEATURES

- Drain Source Voltage-
: $V_{DS} = 500V(\text{Min})$
- Static Drain-Source On-Resistance
: $R_{DS(on)} = 250m\Omega (\text{Max})$
- Fast Switching
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATIONS

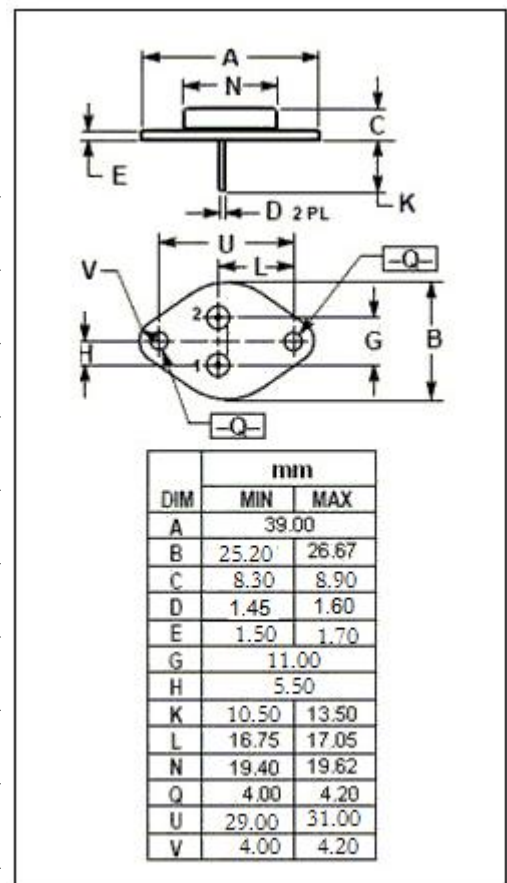
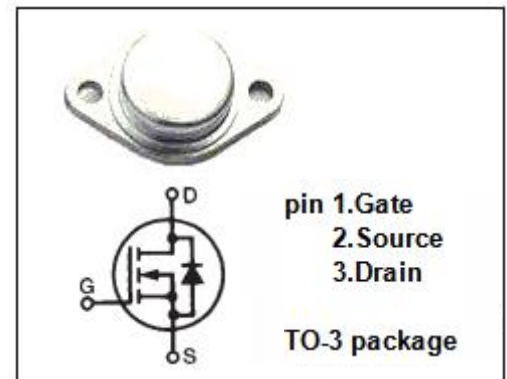
- Switch-Mode and Resonant-Mode Power Supplies
- DC-DC Converters
- AC and DC Motor Drives
- Robotics and Servo Controls

• 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	± 20	V
I_D	Drain Current-Continuous	21	A
I_{DM}	Drain Current-Single Plused	84	A
P_D	Total Dissipation @ $T_c=25^\circ\text{C}$	300	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_{thj-c}	Thermal Resistance, Junction to Case	0.42	$^\circ\text{C/W}$



isc N-Channel MOSFET Transistor**IXTM21N50****• 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	$V_{GS}=0$; $I_D=250\mu\text{A}$	500			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$; $I_D=250\mu\text{A}$	2		4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}$; $I_D=8\text{A}$			250	$\text{m}\Omega$
I_{GSS}	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}$; $V_{DS}=0$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=400\text{V}$; $V_{GS}=0$ $V_{DS}=400\text{V}$; $V_{GS}=0$; $T_J=125^{\circ}\text{C}$			200 1000	μA
V_{SD}	Diode Forward On-voltage	$I_F=21\text{A}$; $V_{GS}=0$			1.5	V

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