

## isc N-Channel MOSFET Transistor

## IXTQ50N20P

## • FEATURES

- Drain Source Voltage-  
:  $V_{DS} = 200V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 60m\Omega (\text{Max})$
- Fast Switching
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • APPLICATIONS

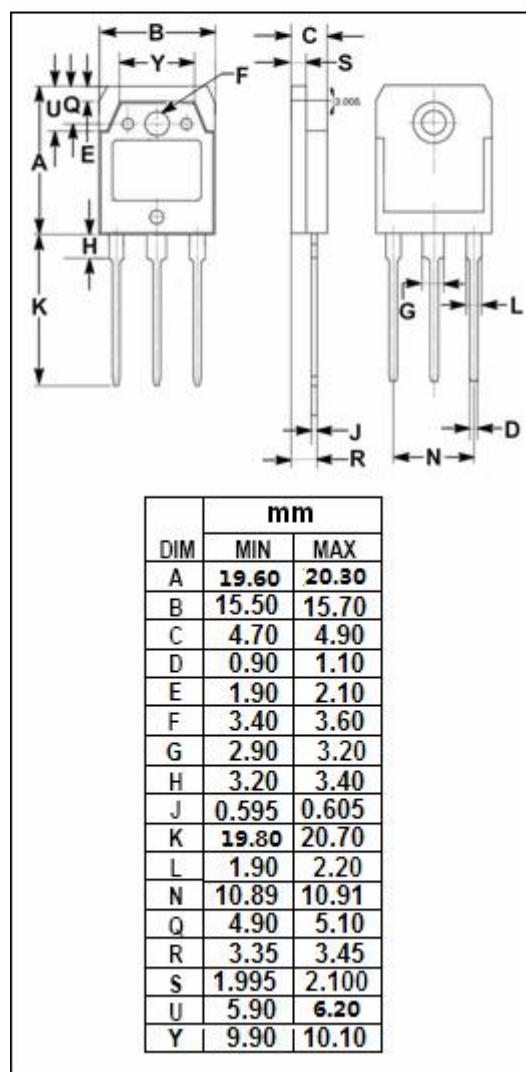
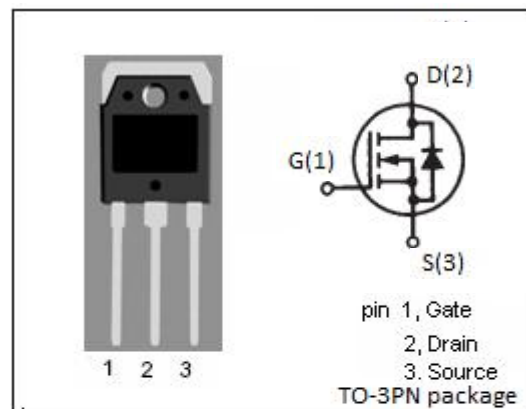
- Switch-Mode and Resonant-Mode Power Supplies
- DC-DC Converters
- AC and DC Motor Drives
- Robotics and Servo Controls

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	200	V
$V_{GS}$	Gate-Source Voltage-Continuous	$\pm 20$	V
$I_D$	Drain Current-Continuous	50	A
$I_{DM}$	Drain Current-Single Plused	120	A
$P_D$	Total Dissipation @ $T_c = 25^\circ\text{C}$	360	W
$T_j$	Max. Operating Junction Temperature	-55~175	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~175	$^\circ\text{C}$

## • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	0.42	$^\circ\text{C/W}$



**isc N-Channel MOSFET Transistor****IXTQ50N20P****• 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	$V_{GS}=0; I_D=250\mu\text{A}$	200			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=250\mu\text{A}$	2.5		5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=40\text{A}$			60	$\text{m}\Omega$
$I_{GSS}$	Gate-Body Leakage Current	$V_{GS}=\pm 20\text{V}; V_{DS}=0$			$\pm 100$	nA
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=200\text{V}; V_{GS}=0$ $V_{DS}=200\text{V}; V_{GS}=0; T_J=175^{\circ}\text{C}$			25 250	$\mu\text{A}$
$V_{SD}$	Diode Forward On-voltage	$I_F=50\text{A}; V_{GS}=0$			1.5	V

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