

# isc N-Channel MOSFET Transistor

# IXFK420N10T

### • FEATURES

- Drain Source Voltage-  
:  $V_{DSS} = 100V(\text{Min})$
- Static Drain-Source On-Resistance  
:  $R_{DS(on)} = 2.6m\Omega (\text{Max})@V_{GS}=10V$
- Fast Switching
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • APPLICATIONS

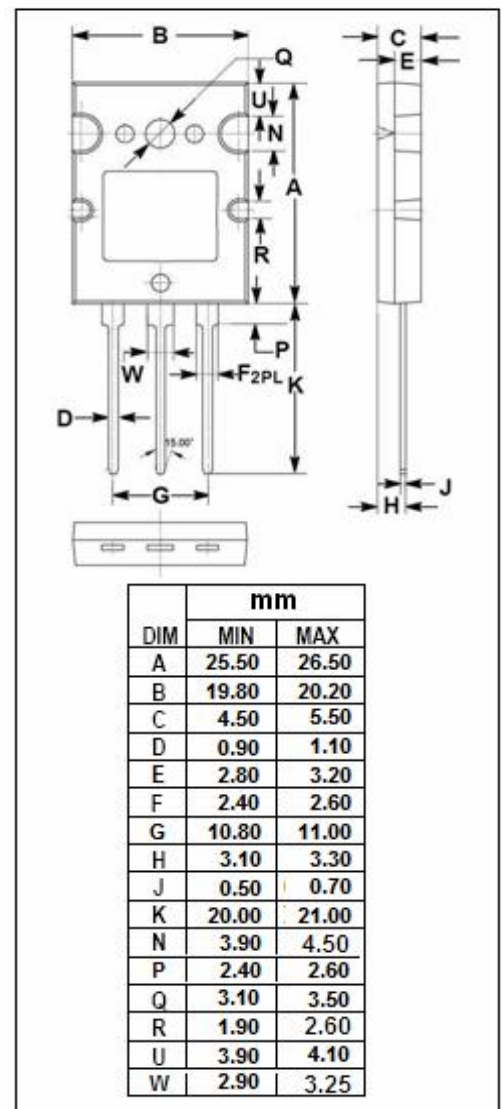
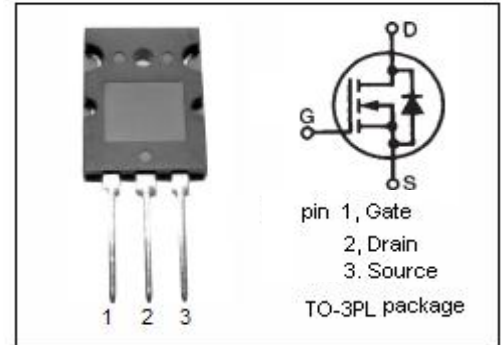
- Switch-Mode and Resonant-Mode Power Supplies
- DC-DC Converters
- AC and DC Motor Drives

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	100	V
$V_{GS}$	Gate-Source Voltage-Continuous	$\pm 20$	V
$I_D$	Drain Current-Continuous	420	A
$I_{DM}$	Drain Current-Single Plused	1000	A
$P_D$	Total Dissipation @ $T_C=25^\circ\text{C}$	1670	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	0.09	$^\circ\text{C/W}$



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## • ELECTRICAL CHARACTERISTICS

T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
V <sub>(BR)DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0; I <sub>D</sub> =3mA	100			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> ; I <sub>D</sub> =8mA	2.5		5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> = 10V; I <sub>D</sub> = 60A			2.6	mΩ
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> = ±20V; V <sub>DS</sub> = 0			±200	nA
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> =100V; V <sub>GS</sub> = 0 V <sub>DS</sub> =100V; V <sub>GS</sub> = 0; T <sub>J</sub> =150°C			50 5000	μA
V <sub>SD</sub>	Diode Forward On-voltage	I <sub>F</sub> = 60A; V <sub>GS</sub> = 0			1.2	V

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