

## isc N-Channel MOSFET Transistor

## IXTP12N65X2M

## • FEATURES

- High power dissipation
- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 300m\Omega @ V_{GS}=10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • APPLICATION

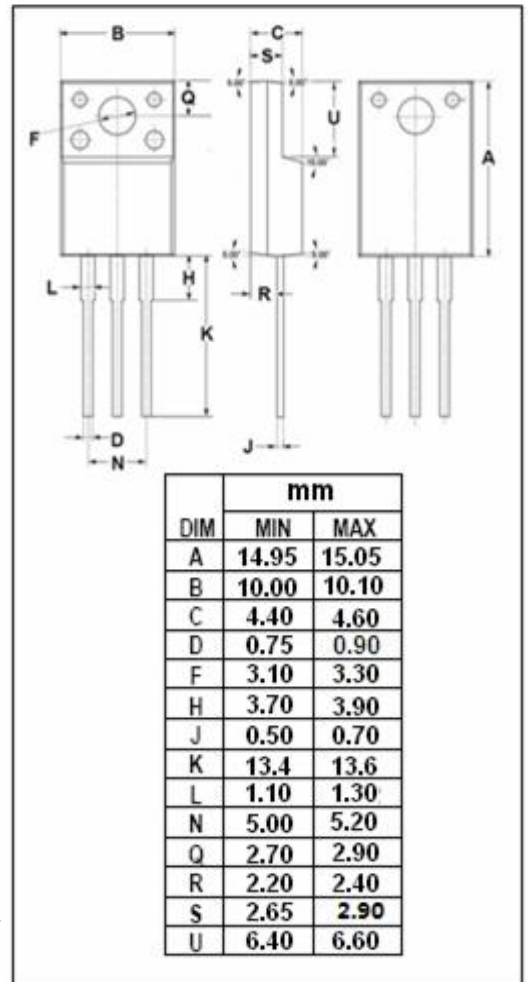
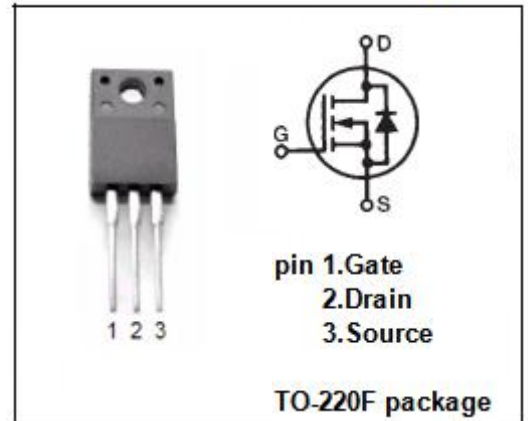
- DC/DC Converters
- AC and DC Motor Drives
- Switch-Mode and Resonant-Mode Power Supplies

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	650	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-Continuous	12	A
$I_{DM}$	Drain Current-Single Pulsed	24	A
$P_D$	Total Dissipation @ $T_c=25^\circ\text{C}$	180	W
$T_j$	Operating Junction Temperature	-55~150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$

## • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Junction-to-case thermal resistance	0.69	$^\circ\text{C/W}$





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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> = 250 μA	650			V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> = 250 μA	2.5		4.5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> = 6A			300	mΩ
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±30V; V <sub>DS</sub> =0V			±100	nA
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> = V <sub>DSS</sub> ; V <sub>GS</sub> = 0V			5	μA
		V <sub>DS</sub> = V <sub>DSS</sub> ; V <sub>GS</sub> = 0V; T <sub>J</sub> = 125°C			50	
V <sub>SD</sub>	Diode forward voltage	I <sub>F</sub> = 12A; V <sub>GS</sub> = 0V			1.4	V

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