

**isc N-Channel MOSFET Transistor**
**IXTP12N50P**
**• FEATURES**

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 0.5\Omega @ V_{GS}=10V$
- Fully characterized avalanche voltage and current
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**• APPLICATION**

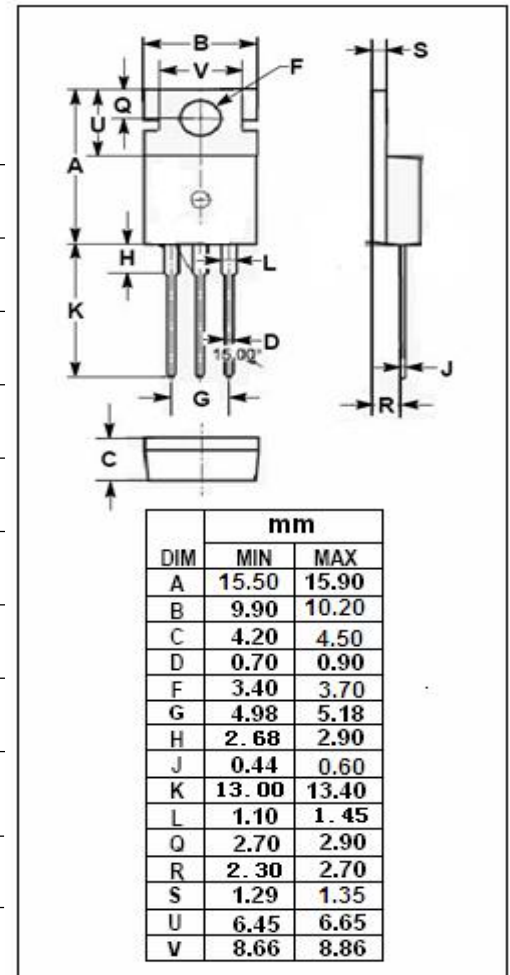
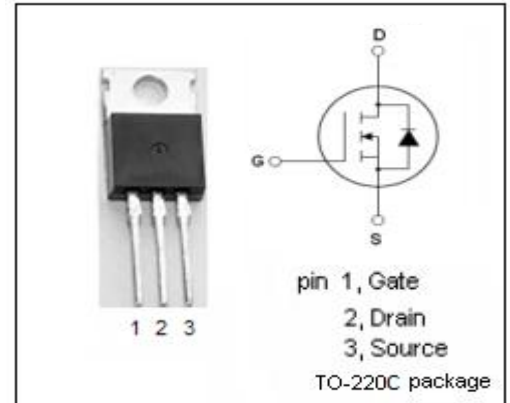
- DC/DC Converter
- Ideal for high-frequency switching and synchronous rectification

**• ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ C$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	500	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-Continuous	12	A
$I_{DM}$	Drain Current-Single Pulsed	30	A
$P_D$	Total Dissipation @ $T_c=25^\circ C$	200	W
$T_j$	Operating Junction Temperature	-55~150	$^\circ C$
$T_{stg}$	Storage Temperature	-55~150	$^\circ C$

**• THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Junction-to-case thermal resistance	0.625	$^\circ C/W$



## isc N-Channel MOSFET Transistor

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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V; I <sub>D</sub> = 250 μ A	500		V
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> = 250 μ A	3.0	5.5	V
R <sub>DS(on)</sub>	Drain-Source On-Resistance	V <sub>GS</sub> =10V; I <sub>D</sub> = 6A		0.5	Ω
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	μ A
		V <sub>DS</sub> = V <sub>DSS</sub> ; V <sub>GS</sub> = 0V; T <sub>J</sub> = 125°C		250	
V <sub>SD</sub>	Diode forward voltage	I <sub>F</sub> = 12A; V <sub>GS</sub> = 0V		1.5	V

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