

isc N-Channel MOSFET Transistor

IXTC13N50

• FEATURES

- Drain Source Voltage-
: $V_{DS} = 500V(\text{Min})$
- Static drain-source on-resistance
: $R_{DS(on)} \leq 400m\Omega @ V_{GS} = 10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• APPLICATION

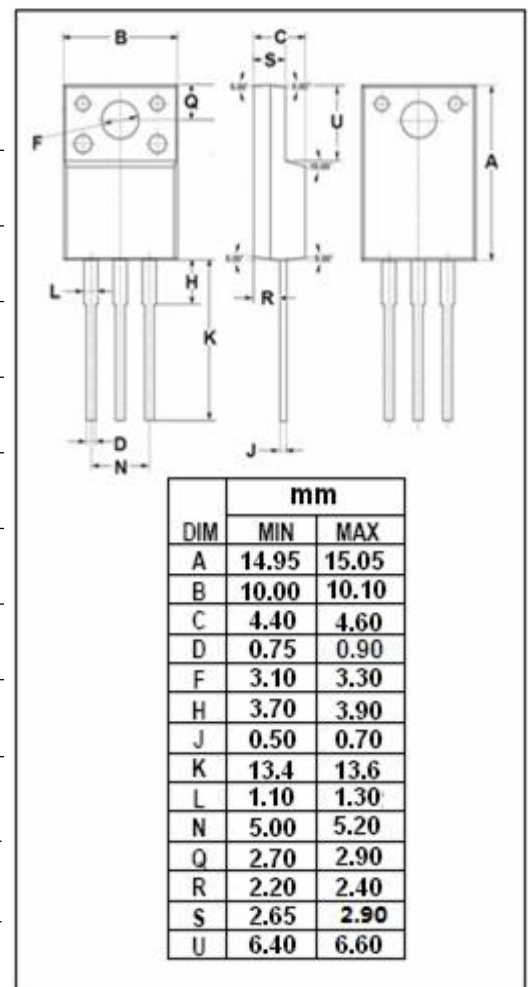
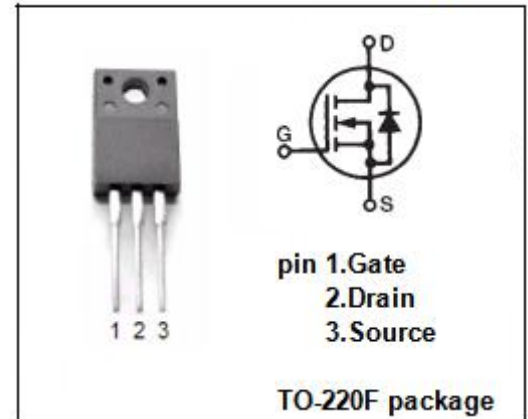
- DC/DC Converter
- Ideal for high-frequency switching and synchronous rectification

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	500	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous	12	A
I_{DM}	Drain Current-Single Pulsed	48	A
P_D	Total Dissipation @ $T_c = 25^\circ\text{C}$	140	W
T_j	Operating Junction Temperature	$-55 \sim 150$	$^\circ\text{C}$
T_{stg}	Storage Temperature	$-55 \sim 150$	$^\circ\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Junction-to-case thermal resistance	0.9	$^\circ\text{C/W}$



isc N-Channel MOSFET Transistor**IXTC13N50****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$; $I_D=250\ \mu A$	500		V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$; $I_D=250\ \mu A$	2	4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V$; $I_D=12A$		400	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$; $V_{DS}=0V$		± 100	nA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=400V$; $V_{GS}=0V$		200	μA
		$V_{DS}=400V$; $V_{GS}=0V$; $T_J=125^{\circ}\text{C}$		1000	
V_{SD}	Diode forward voltage	$I_F=13A$; $V_{GS}=0V$		1.5	V

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