

## isc N-Channel MOSFET Transistor

## IXTP90N15T

## • FEATURES

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 20m\Omega @ V_{GS}=10V$
- Fully characterized avalanche voltage and current
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## • APPLICATION

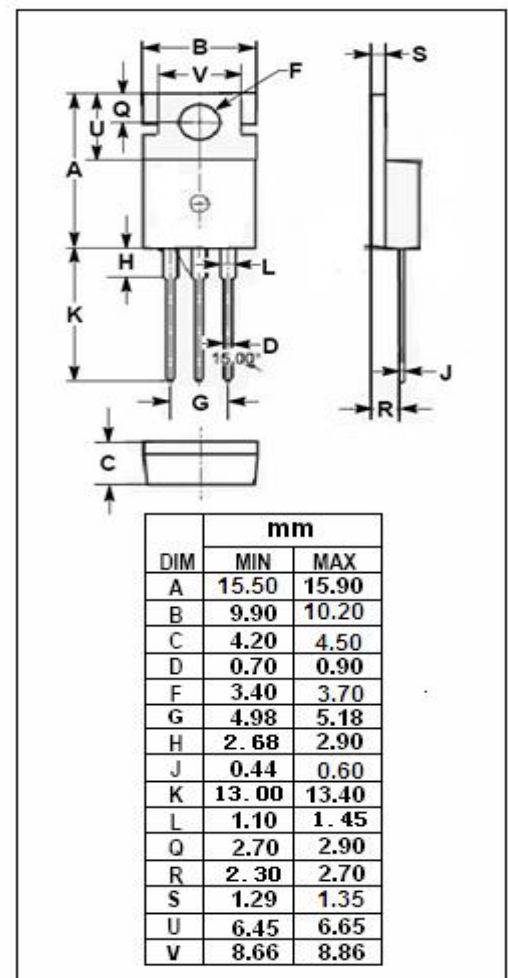
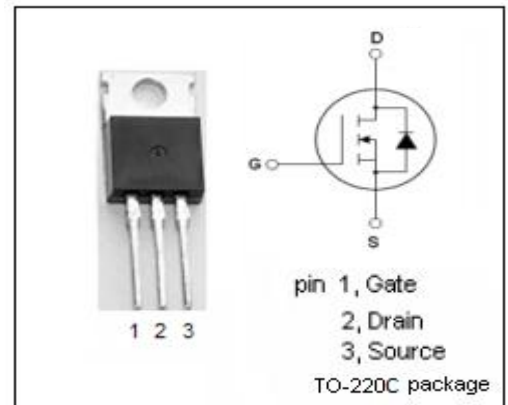
- DC/DC Converters
- High Speed Power Switching Applications

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DSS}$	Drain-Source Voltage	150	V
$V_{GS}$	Gate-Source Voltage	$\pm 30$	V
$I_D$	Drain Current-Continuous	90	A
$I_{DM}$	Drain Current-Single Pulsed	250	A
$P_D$	Total Dissipation @ $T_c=25^\circ C$	455	W
$T_j$	Operating Junction Temperature	-55~175	$^\circ C$
$T_{stg}$	Storage Temperature	-55~175	$^\circ C$

## • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Junction-to-case thermal resistance	0.33	$^\circ C/W$



**isc N-Channel MOSFET Transistor****IXTP90N15T****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V$ ; $I_D = 250\ \mu A$	150		V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$ ; $I_D = 1mA$	2.5	4.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V$ ; $I_D = 45A$		20	$m\Omega$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS} = \pm 20V$ ; $V_{DS}=0V$		$\pm 200$	nA
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=V_{DSS}$ ; $V_{GS}=0V$		5	$\mu A$
		$V_{DS}=V_{DSS}$ ; $V_{GS}=0V$ ; $T_J = 150^{\circ}\text{C}$		250	
$V_{SD}$	Diode forward voltage	$I_F = 50A$ ; $V_{GS} = 0V$		1.2	V

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