

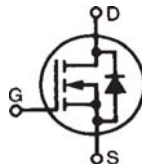
**High Voltage  
Power MOSFET**
**IXTT3N200P3HV  
IXTH3N200P3HV**

$$V_{DSS} = 2000V$$

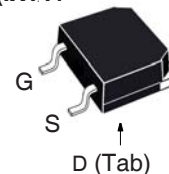
$$I_{D25} = 3A$$

$$R_{DS(on)} \leq 8\Omega$$

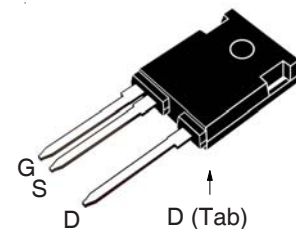
N-Channel Enhancement Mode



TO-268HV (IXTT)



TO-247HV (IXTH)


 G = Gate      D = Drain  
 S = Source    Tab = Drain

Symbol	Test Conditions	Maximum Ratings	
$V_{DSS}$	$T_J = 25^\circ\text{C}$ to $150^\circ\text{C}$	2000	V
$V_{DGR}$	$T_J = 25^\circ\text{C}$ to $150^\circ\text{C}$ , $R_{GS} = 1M\Omega$	2000	V
$V_{GSS}$	Continuous	$\pm 20$	V
$V_{GSM}$	Transient	$\pm 30$	V
$I_{D25}$	$T_C = 25^\circ\text{C}$	3.0	A
$I_{D110}$	$T_C = 110^\circ\text{C}$	2.6	A
$I_{DM}$	$T_C = 25^\circ\text{C}$ , Pulse Width Limited by $T_{JM}$	9.0	A
$P_D$	$T_C = 25^\circ\text{C}$	520	W
$T_J$		- 55 ... +150	$^\circ\text{C}$
$T_{JM}$		150	$^\circ\text{C}$
$T_{stg}$		- 55 ... +150	$^\circ\text{C}$
$T_L$	Maximum Lead Temperature for Soldering	300	$^\circ\text{C}$
$T_{SOLD}$	Plastic Body for 10s	260	$^\circ\text{C}$
$M_d$	Mounting Torque	1.13/10	Nm/lb.in
<b>Weight</b>	TO-268HV	4	g
	TO-247HV	6	g

Symbol	Test Conditions	Characteristic Values		
		Min.	Typ.	Max.
$BV_{DSS}$	$V_{GS} = 0V$ , $I_D = 250\mu A$	2000		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$ , $I_D = 250\mu A$	3.0		V
$I_{GSS}$	$V_{GS} = \pm 20V$ , $V_{DS} = 0V$			$\pm 100$ nA
$I_{DSS}$	$V_{DS} = V_{DSS}$ , $V_{GS} = 0V$			10 $\mu A$ 250 $\mu A$
				$T_J = 125^\circ\text{C}$
$R_{DS(on)}$	$V_{GS} = 10V$ , $I_D = 1.5A$ , Note 1			8 $\Omega$

**Features**

- High Blocking Voltage
- High Voltage Packages

**Advantages**

- Easy to Mount
- Space Savings
- High Power Density

**Applications**

- High Voltage Power Supplies
- Capacitor Discharge Applications
- Pulse Circuits
- Laser and X-Ray Generation Systems



Fig. 1. Output Characteristics @  $T_J = 25^\circ\text{C}$

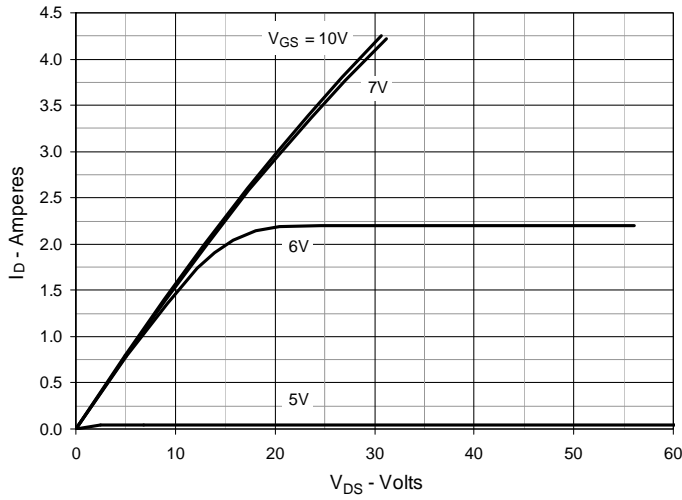


Fig. 2. Output Characteristics @  $T_J = 125^\circ\text{C}$

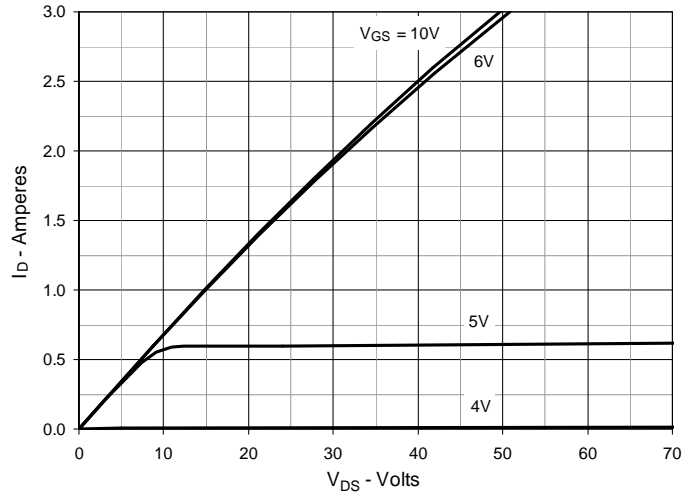


Fig. 3.  $R_{DS(on)}$  Normalized to  $I_D = 1.5\text{A}$  Value vs. Junction Temperature

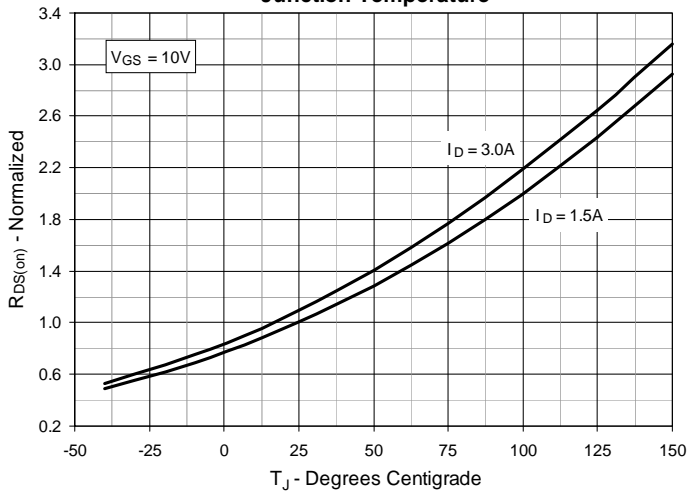


Fig. 4.  $R_{DS(on)}$  Normalized to  $I_D = 1.5\text{A}$  Value vs. Drain Current

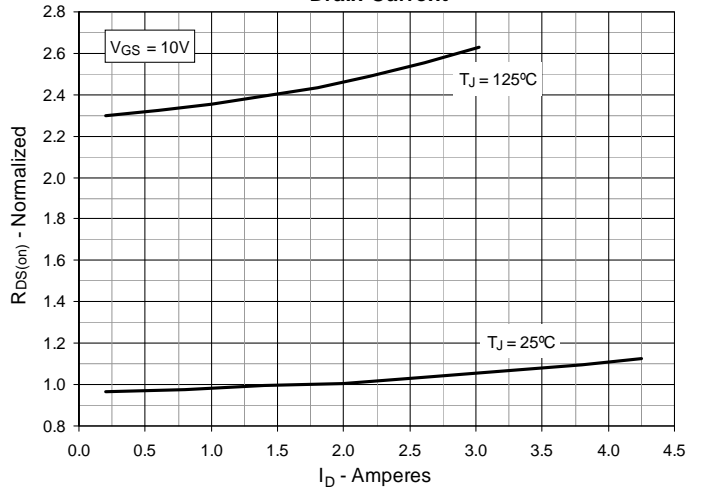


Fig. 5. Maximum Drain Current vs. Case Temperature

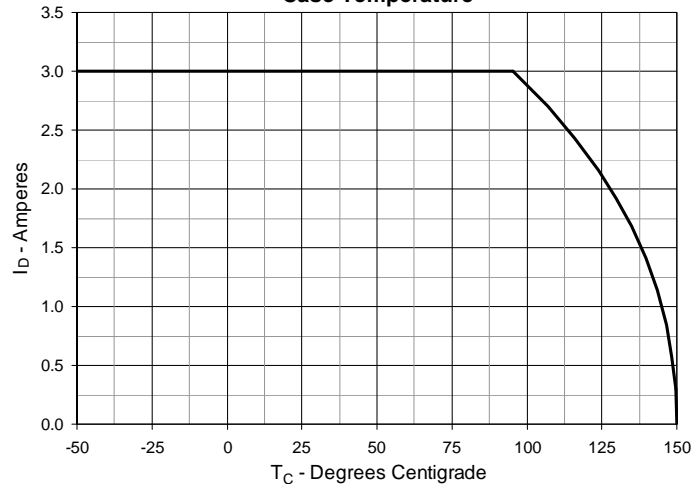
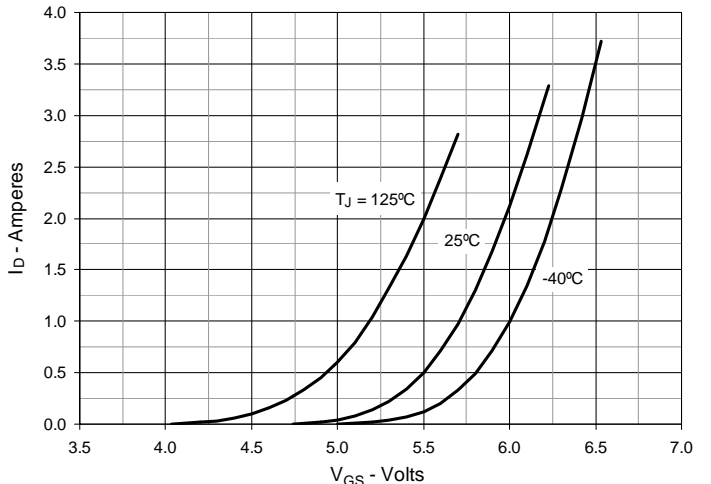
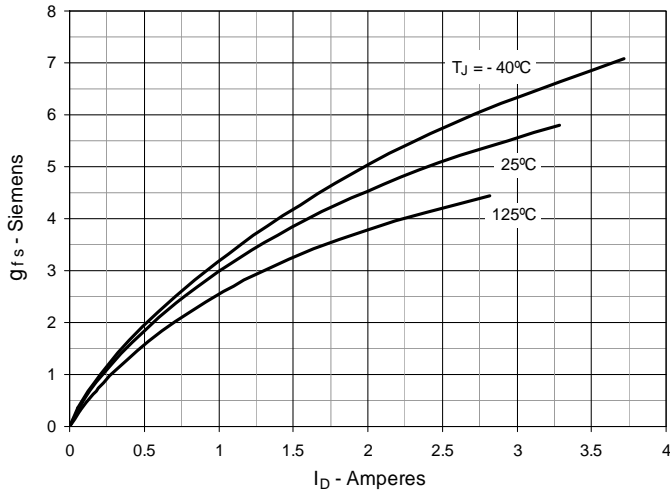


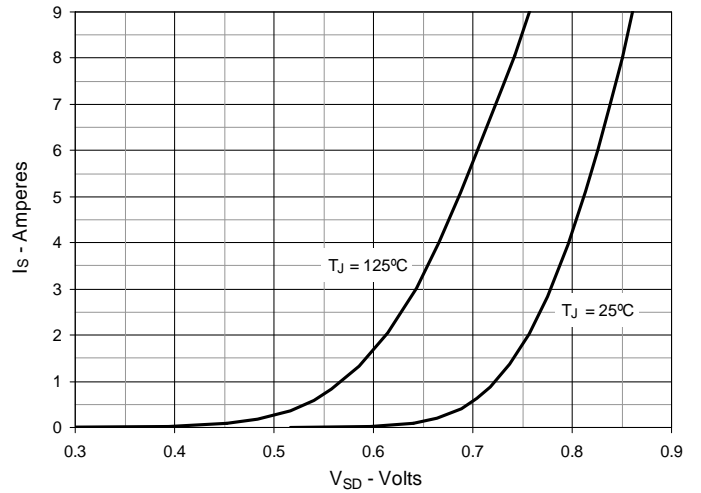
Fig. 6. Input Admittance



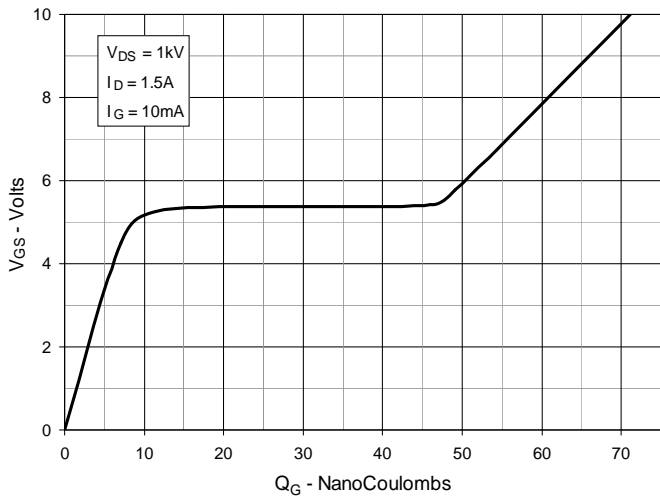
**Fig. 7. Transconductance**



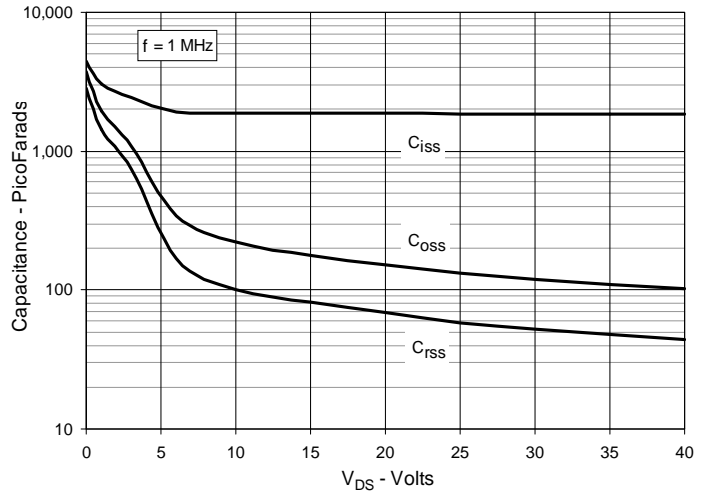
**Fig. 8. Forward Voltage Drop of Intrinsic Diode**



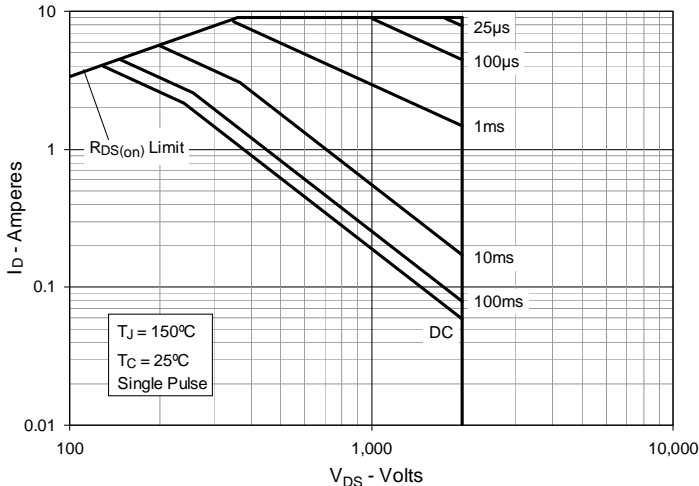
**Fig. 9. Gate Charge**



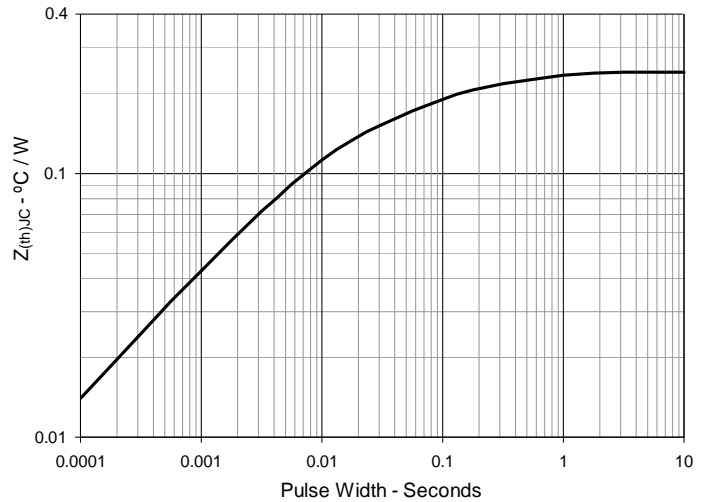
**Fig. 10. Capacitance**



**Fig. 11. Forward-Bias Safe Operating Area**



**Fig. 12 Maximum Transient Thermal Impedance**



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