



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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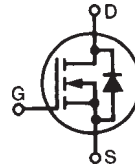


High Voltage Power MOSFET

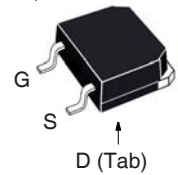
IXTT1N250HV

$$\begin{aligned} V_{DSS} &= 2500V \\ I_{D25} &= 1.5A \\ R_{DS(on)} &\leq 40\Omega \end{aligned}$$

N-Channel Enhancement Mode
Fast Intrinsic Diode



TO-268S



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

Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	$T_J = 25^\circ\text{C to } 150^\circ\text{C}$	2500	V
V_{DGR}	$T_J = 25^\circ\text{C to } 150^\circ\text{C}, R_{GS} = 1M\Omega$	2500	V
V_{GSS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	$T_C = 25^\circ\text{C}$	1.5	A
I_{DM}	$T_C = 25^\circ\text{C}$, Pulse Width Limited by T_{JM}	6	A
P_D	$T_C = 25^\circ\text{C}$	250	W
T_J		- 55 ... +150	$^\circ\text{C}$
T_{JM}		150	$^\circ\text{C}$
T_{stg}		- 55 ... +150	$^\circ\text{C}$
T_L	1.6mm (0.062 in.) From Case for 10s	300	$^\circ\text{C}$
T_{SOLD}	Plastic Body for 10s	260	$^\circ\text{C}$
Weight		4	g

Features

- High Blocking Voltage
- High Voltage Package
- Fast Intrinsic Diode
- Low Package Inductance

Advantages

- Easy to Mount
- Space Savings
- High Power Density

Applications

- High Voltage Power Supplies
- Capacitor Discharge
- Pulse Circuits

Symbol	Test Conditions ($T_J = 25^\circ\text{C}$, Unless Otherwise Specified)	Characteristic Values		
		Min.	Typ.	Max.
BV_{DSS}	$V_{GS} = 0V, I_D = 250\mu\text{A}$	2500		V
$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	2.0		4.0 V
I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100 nA
I_{DSS}	$V_{DS} = 0.8 \cdot V_{DSS}, V_{GS} = 0V$ $T_J = 125^\circ\text{C}$		25	25 μA μA
$R_{DS(on)}$	$V_{GS} = 10V, I_D = 0.5 \cdot I_{D25}$, Note 1			40 Ω

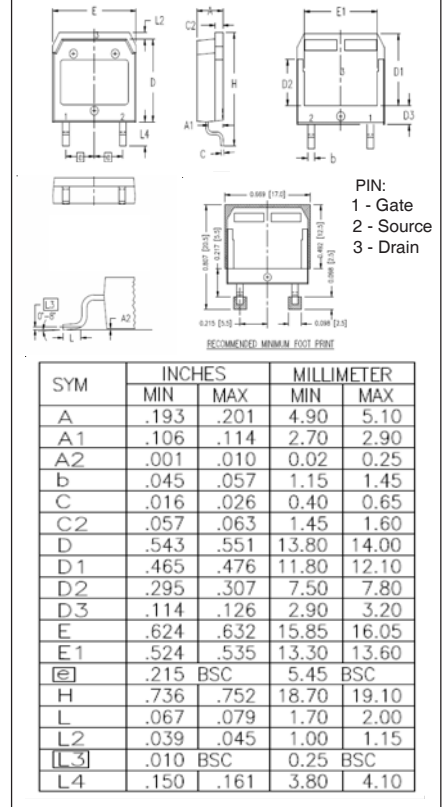
Symbol	Test Conditions ($T_J = 25^\circ\text{C}$, Unless Otherwise Specified)	Characteristic Values		
		Min.	Typ.	Max.
g_{fs}	$V_{DS} = 50\text{V}$, $I_D = 0.5\text{A}$, Note 1	1.0	1.8	mS
C_{iss}	$V_{GS} = 0\text{V}$, $V_{DS} = 25\text{V}$, $f = 1\text{MHz}$		1660	pF
C_{oss}			77	pF
C_{rss}			23	pF
$t_{d(on)}$	Resistive Switching Times $V_{GS} = 10\text{V}$, $V_{DS} = 0.5 \cdot V_{DSS}$, $I_D = 1\text{A}$ $R_G = 5\Omega$ (External)		69	ns
t_r			25	ns
$t_{d(off)}$			132	ns
t_f			39	ns
$Q_{g(on)}$	$V_{GS} = 10\text{V}$, $V_{DS} = 600\text{V}$, $I_D = 0.5\text{A}$		41	nC
Q_{gs}			8	nC
Q_{gd}			16	nC
R_{thJC}			0.50	$^\circ\text{C/W}$
R_{thCS}				$^\circ\text{C/W}$

Source-Drain Diode

Symbol	Test Conditions ($T_J = 25^\circ\text{C}$, Unless Otherwise Specified)	Characteristic Values		
		Min.	Typ.	Max.
I_S	$V_{GS} = 0\text{V}$			1.5 A
I_{SM}	Repetitive, Pulse Width Limited by T_{JM}			6 A
V_{SD}	$I_F = 1\text{A}$, $V_{GS} = 0\text{V}$, Note 1			1.5 V
t_{rr}	$I_F = 1\text{A}$, $-di/dt = 100\text{A}/\mu\text{s}$, $V_R = 200\text{V}$		2.5	μs

Note 1. Pulse test, $t \leq 300\mu\text{s}$, duty cycle, $d \leq 2\%$.

TO-268 (VHV) Outline



ADVANCE TECHNICAL INFORMATION

The product presented herein is under development. The Technical Specifications offered are derived from a subjective evaluation of the design, based upon prior knowledge and experience, and constitute a "considered reflection" of the anticipated result. IXYS reserves the right to change limits, test conditions, and dimensions without notice.

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IXYS MOSFETs and IGBTs are covered by one or more of the following U.S. patents:

4,835,592	4,931,844	5,049,961	5,237,481	6,162,665	6,404,065 B1	6,683,344	6,727,585	7,005,734 B2	7,157,338 B2
4,860,072	5,017,508	5,063,307	5,381,025	6,259,123 B1	6,534,343	6,710,405 B2	6,759,692	7,063,975 B2	
4,881,106	5,034,796	5,187,117	5,486,715	6,306,728 B1	6,583,505	6,710,463	6,771,478 B2	7,071,537	

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

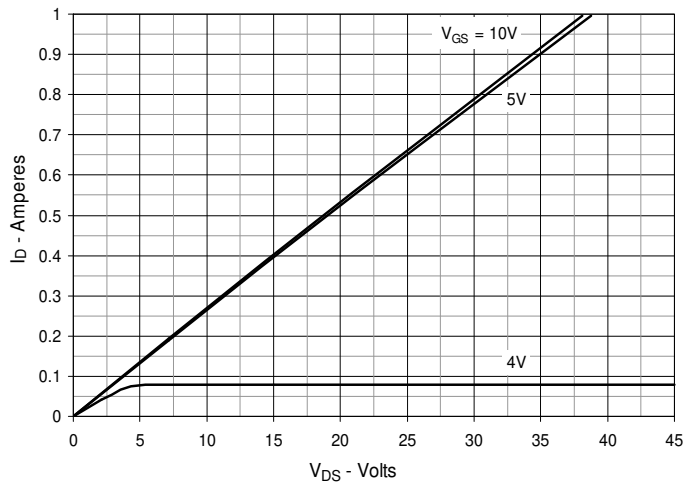


Fig. 2. Output Characteristics @ $T_J = 125^\circ\text{C}$

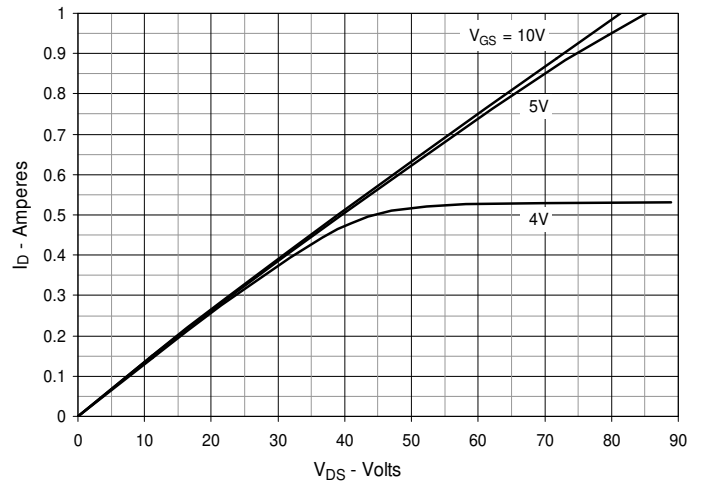


Fig. 4. $R_{DS(on)}$ Normalized to $I_D = 0.5\text{A}$ Value vs. Junction Temperature

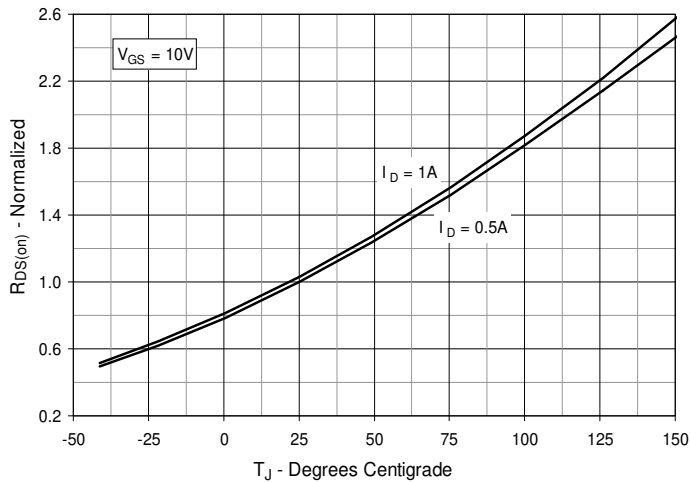


Fig. 3. $R_{DS(on)}$ Normalized to $I_D = 0.5\text{A}$ Value vs. Drain Current

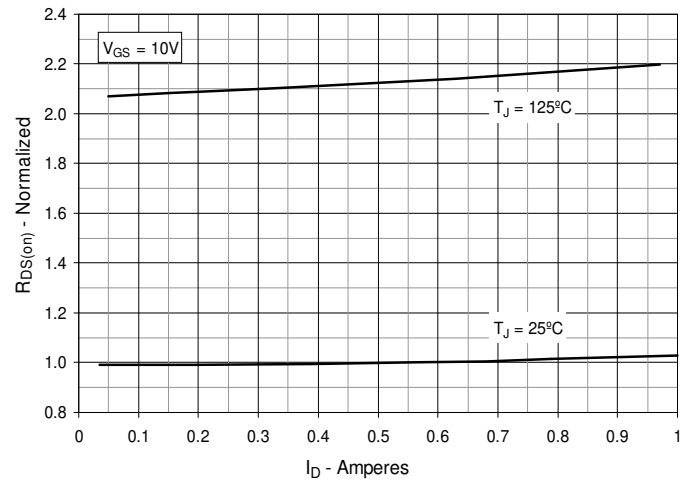


Fig. 5. Maximum Drain Current vs. Case Temperature

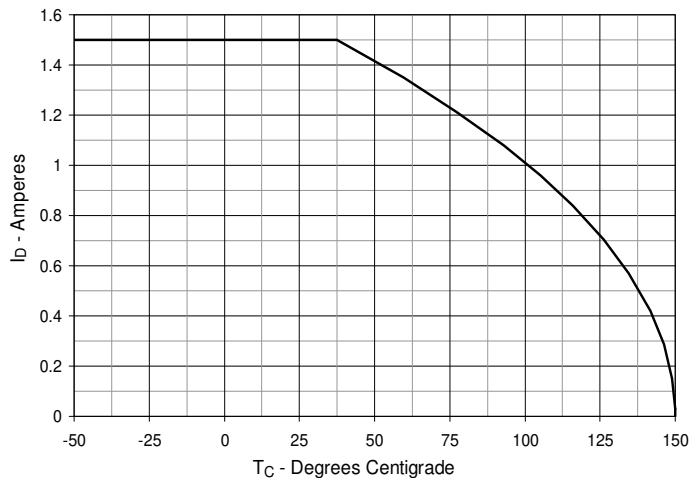


Fig. 6. Input Admittance

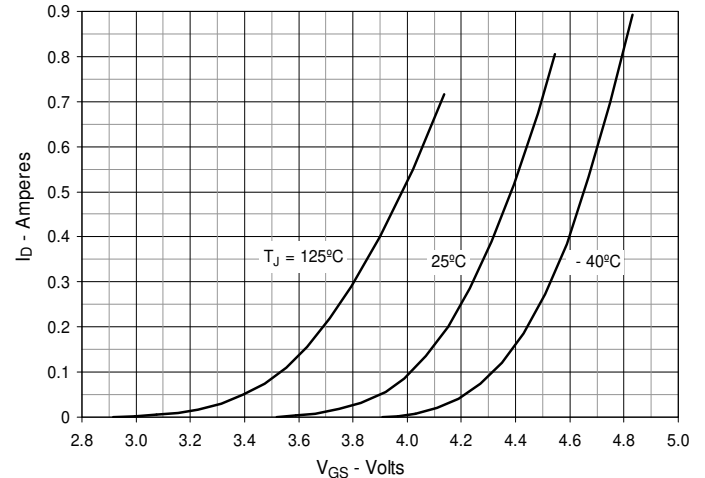


Fig. 7. Transconductance

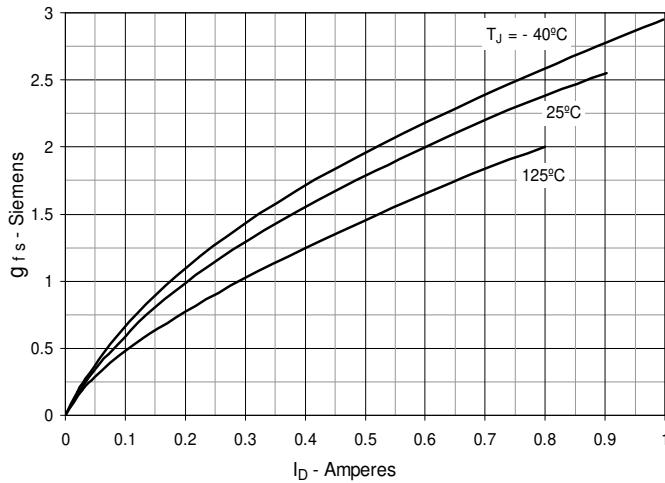


Fig. 8. Forward Voltage Drop of Intrinsic Diode

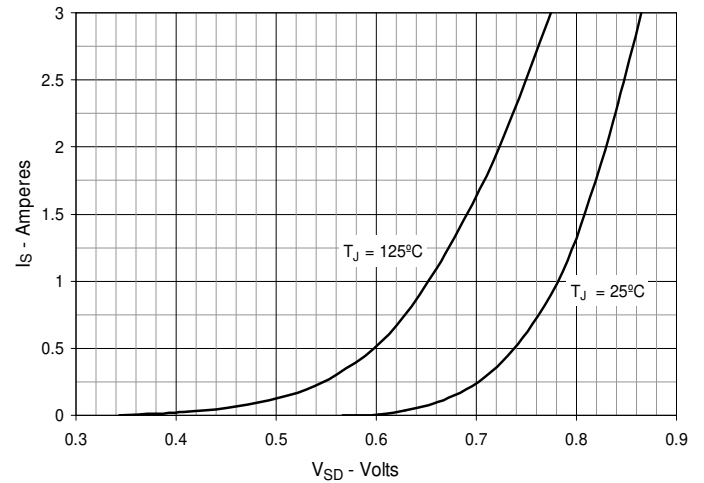


Fig. 9. Gate Charge

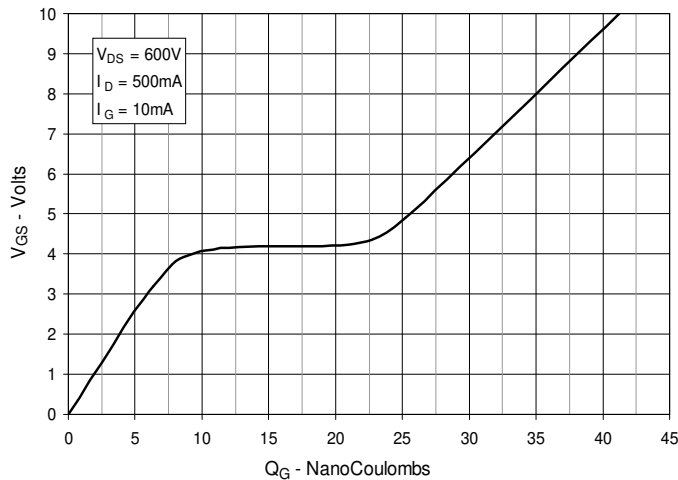


Fig. 10. Capacitance

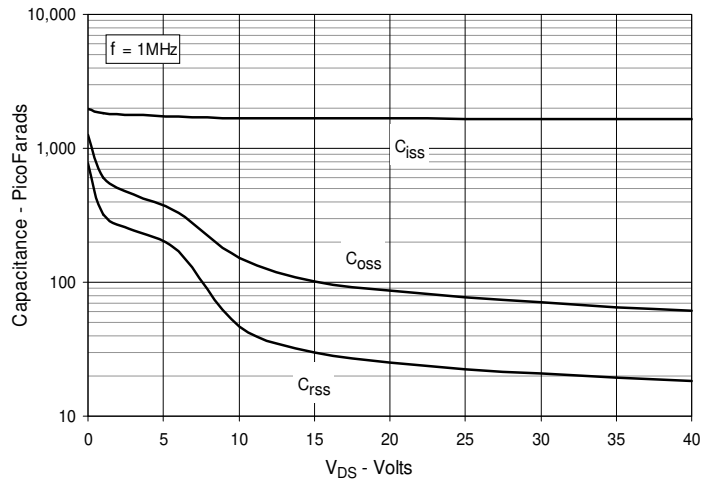


Fig. 11. Forward-Bias Safe Operating Area @ $T_C = 25^\circ\text{C}$

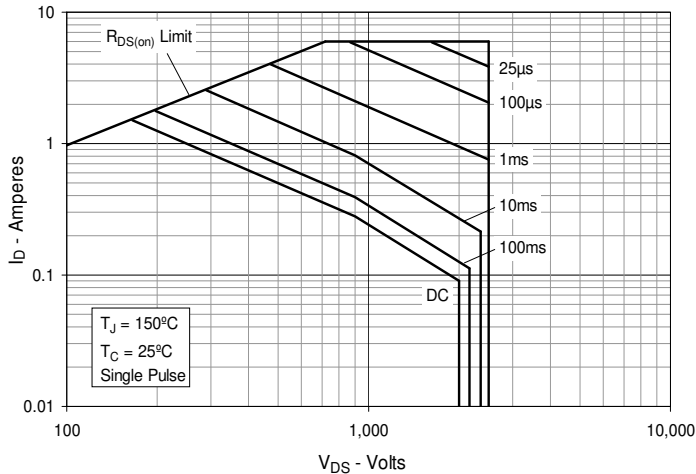


Fig. 12. Forward-Bias Safe Operating Area @ $T_C = 75^\circ\text{C}$

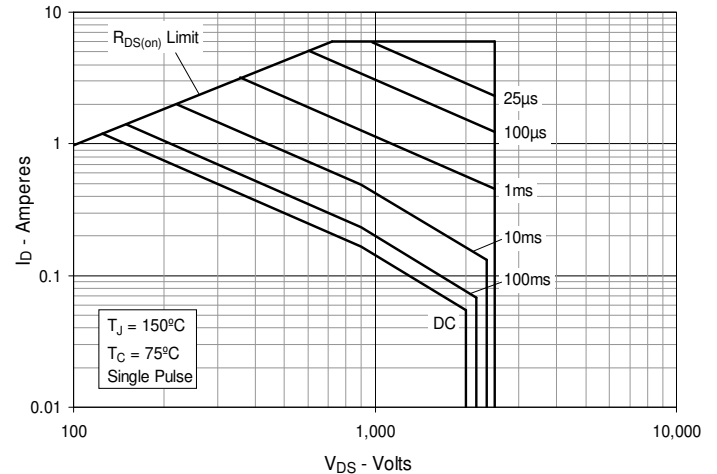


Fig. 13. Maximum Transient Thermal Impedance

