

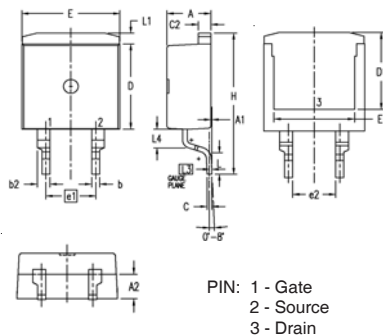
Symbol	Test Conditions	Characteristic Values		
$(T_J = 25^{\circ}\text{C}, \text{ Unless Otherwise Specified})$		Min.	Typ.	Max.
g_{fs}	$V_{DS} = 20\text{V}, I_D = 500\text{mA}, \text{ Note 1}$	0.55	0.93	S
C_{iss}	$V_{GS} = 0\text{V}, V_{DS} = 25\text{V}, f = 1\text{MHz}$		260	pF
C_{oss}			22	pF
C_{rss}			8	pF
$t_{d(on)}$	Resistive Switching Times $V_{GS} = 10\text{V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 1\text{A}$ $R_G = 47\Omega \text{ (External)}$		11	ns
t_r			19	ns
$t_{d(off)}$			40	ns
t_f			28	ns
$Q_{g(on)}$	$V_{GS} = 10\text{V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 1\text{A}$		7.8	nC
Q_{gs}			1.4	nC
Q_{gd}			4.1	nC
R_{thJC}	(TO-220)			3.1 $^{\circ}\text{C/W}$
R_{thCS}		0.50		$^{\circ}\text{C/W}$

Source-Drain Diode

Symbol	Test Conditions	Characteristic Values		
$(T_J = 25^{\circ}\text{C}, \text{ Unless Otherwise Specified})$		Min.	Typ.	Max.
I_S	$V_{GS} = 0\text{V}$			750 mA
I_{SM}	Repetitive, Pulse Width Limited by T_{JM}			3 A
V_{SD}	$I_F = I_S, V_{GS} = 0\text{V}, \text{ Note 1}$			1.5 V
t_{rr}	$I_F = I_S, -di/dt = 100\text{A}/\mu\text{s}$ $V_R = 100\text{V}, V_{GS} = 0\text{V}$		710	ns

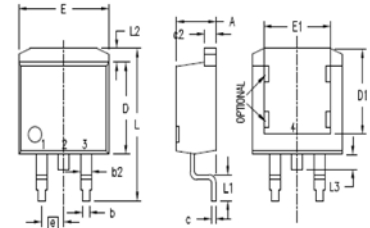
Note 1: Pulse test, $t \leq 300\mu\text{s}$, duty cycle, $d \leq 2\%$.

TO-263HV Outline



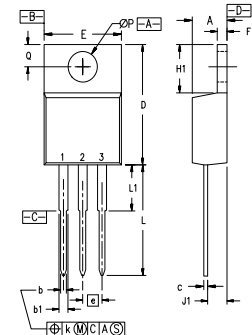
SYM	INCHES		MILLIMETER	
	MIN	MAX	MIN	MAX
A	.170	.185	4.30	4.70
A1	.000	.008	0.00	0.20
A2	.091	.098	2.30	2.50
b	.028	.035	0.70	0.90
b2	.046	.054	1.18	1.38
C	.018	.024	0.45	0.60
C2	.049	.055	1.25	1.40
D	.354	.370	9.00	9.40
D1	.311	.327	7.90	8.30
E	.386	.402	9.80	10.20
E1	.307	.323	7.80	8.20
e1	.200	BSC	5.08	BSC
(e2)	.163	.174	4.13	4.43
H	.591	.614	15.00	15.60
L	.079	.102	2.00	2.60
L1	.039	.055	1.00	1.40
L3	.010	BSC	0.254	BSC
(L4)	.071	.087	1.80	2.20

TO-263AA Outline



SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.160	.190	4.06	4.83
A1	.080	.110	2.03	2.79
b	.020	.039	0.51	0.99
b2	.045	.055	1.14	1.40
c	.016	.029	0.40	0.74
c2	.045	.055	1.14	1.40
D	.340	.390	8.64	9.65
D1	.315	.350	8.00	8.89
E	.380	.410	9.65	10.41
E1	.245	.320	6.22	8.13
e	.100	BSC	2.54	BSC
L	.575	.625	14.61	15.88
L1	.090	.110	2.29	2.79
L2	.040	.055	1.02	1.40
L3	.050	.070	1.27	1.78
L4	0	.005	0	0.13

TO-220AB Outline



SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.170	.190	4.32	4.83
b	.025	.040	0.64	1.02
b1	.045	.065	1.15	1.65
c	.014	.022	0.35	0.56
D	.580	.630	14.73	16.00
E	.390	.420	9.91	10.66
e	.100	BSC	2.54	BSC
F	.045	.055	1.14	1.40
H1	.230	.270	5.85	6.85
J1	.090	.110	2.29	2.79
k	0	.015	0	0.38
L	.500	.550	12.70	13.97
L1	.110	.230	2.79	5.84
ØP	.139	.161	3.53	4.08
Q	.100	.125	2.54	3.18

IXYS reserves the right to change limits, test conditions, and dimensions.

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	7,157,338B2
	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 @ $T_J = 25^\circ\text{C}$

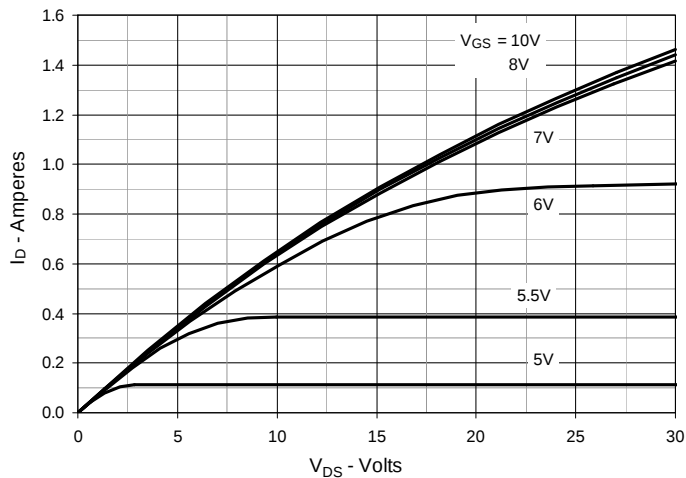


Fig. 2. Output Characteristics @ $T_J = 125^\circ\text{C}$

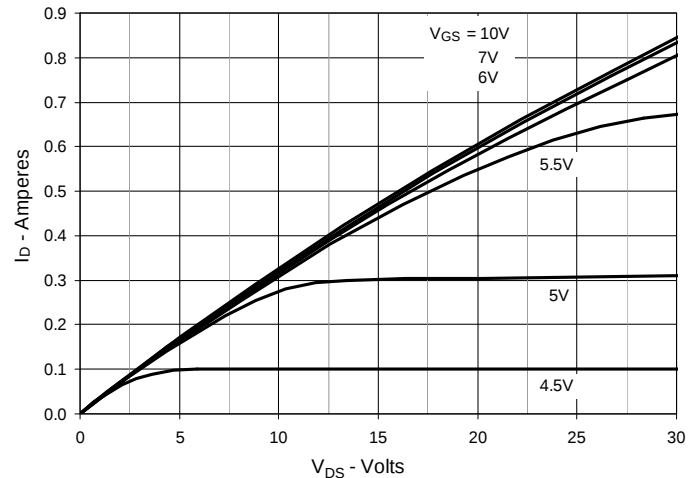


Fig. 3. $R_{DS(on)}$ Normalized to $I_D = 375\text{mA}$ Value vs. Junction Temperature

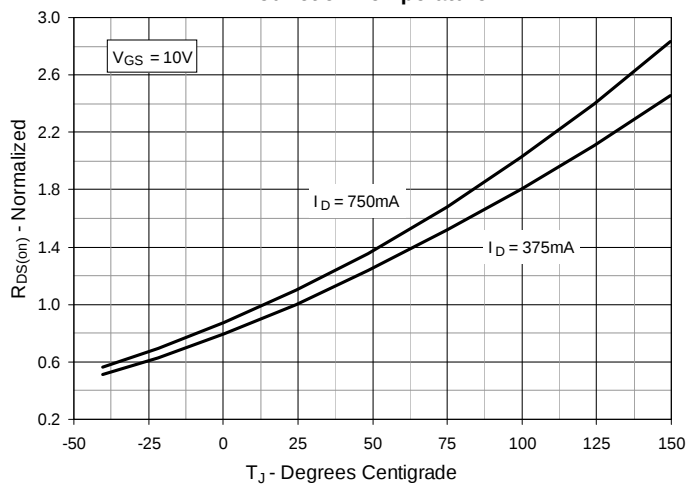


Fig. 4. $R_{DS(on)}$ Normalized to $I_D = 375\text{mA}$ Value vs. Drain Current

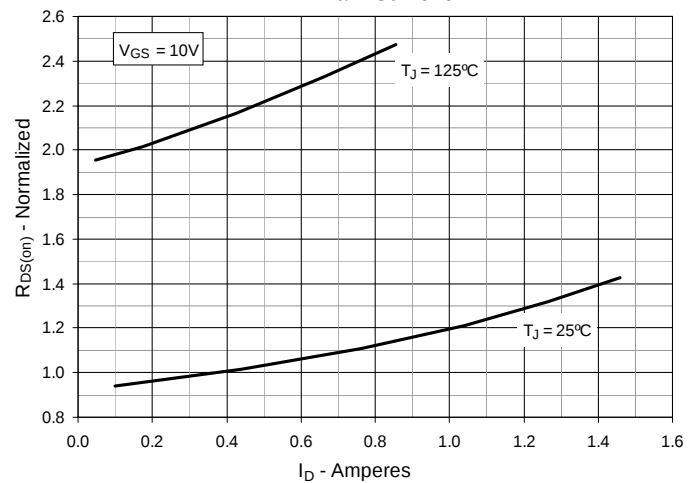


Fig. 5. Maximum Drain Current vs. Case Temperature

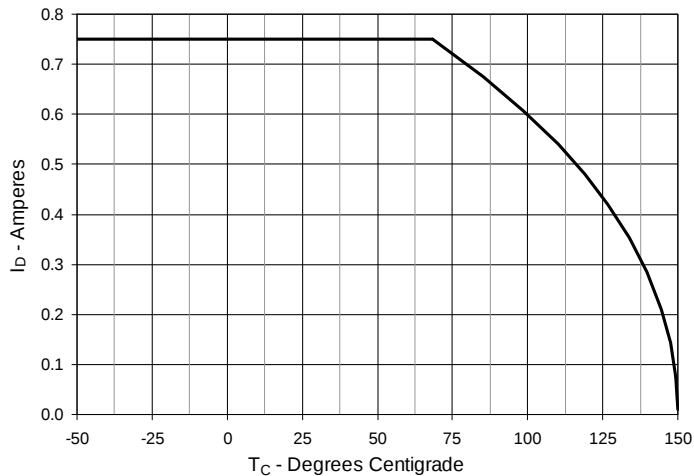


Fig. 6. Input Admittance

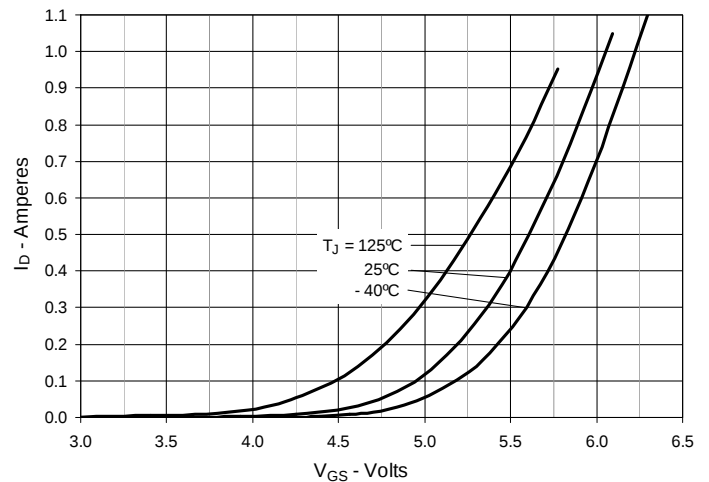


Fig. 7. Transconductance

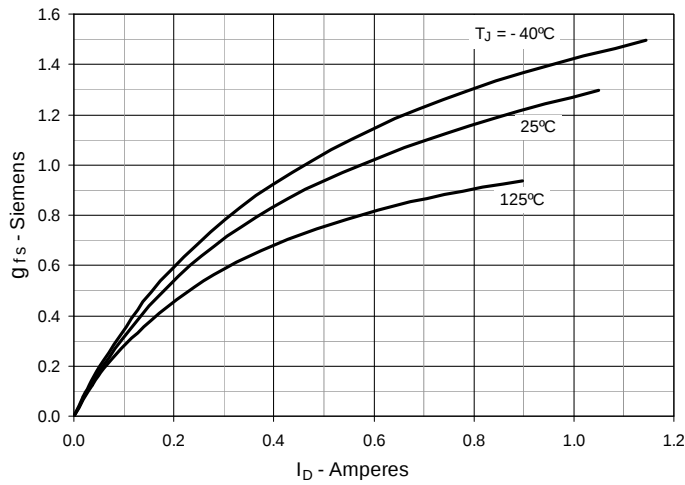


Fig. 8. Forward Voltage Drop of Intrinsic Diode

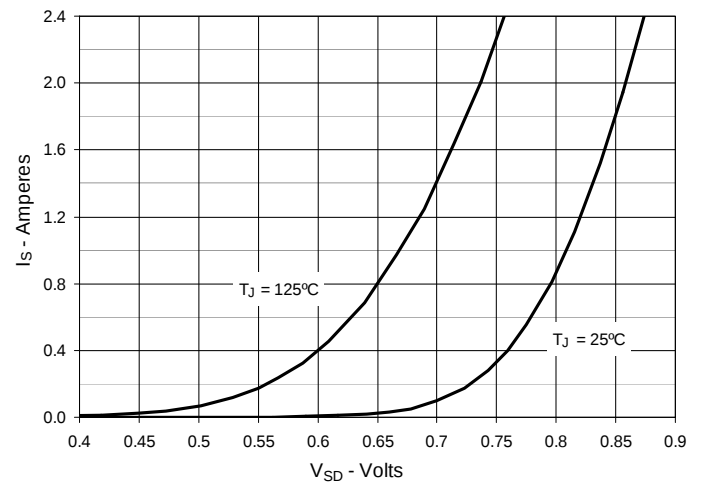


Fig. 9. Gate Charge

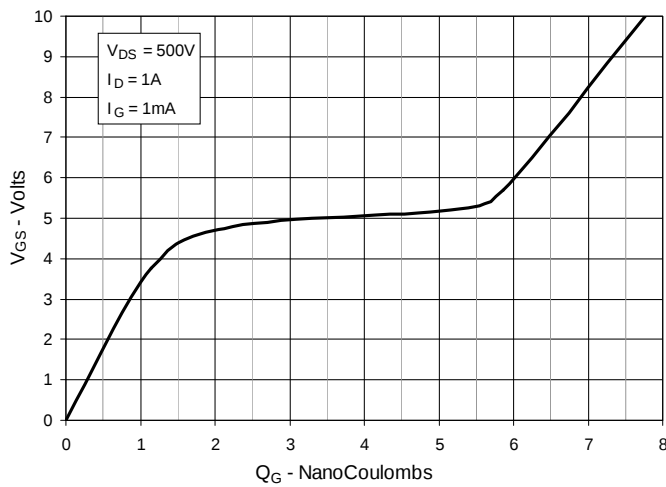


Fig. 10. Capacitance

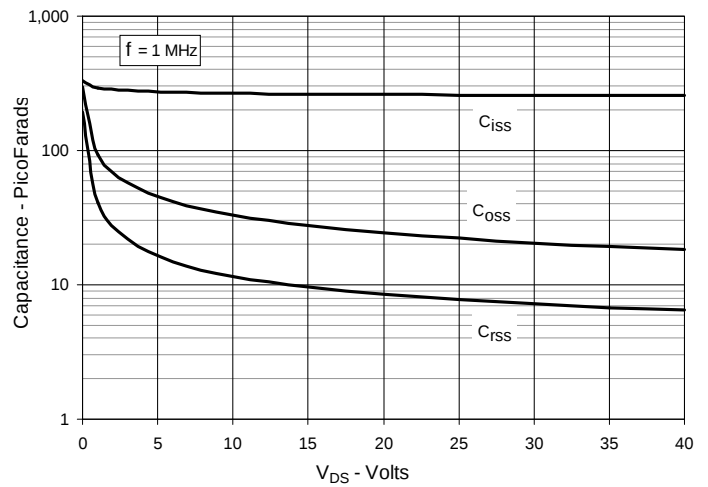


Fig. 11. Forward-Bias Safe Operating Area @ $T_C = 25^\circ\text{C}$

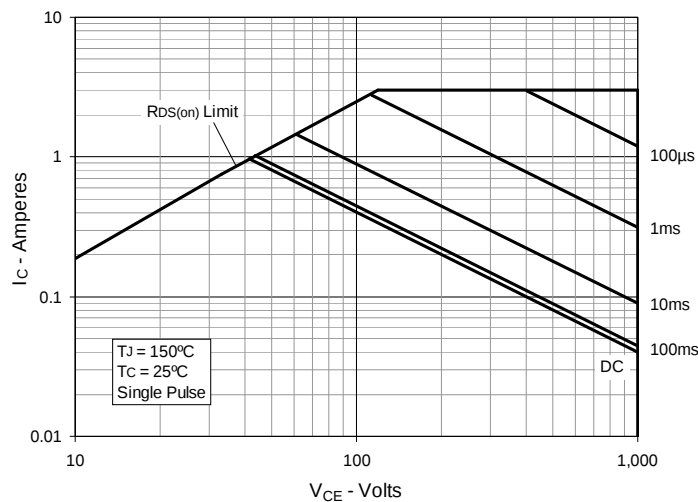


Fig. 12. Forward-Bias Safe Operating Area @ $T_C = 75^\circ\text{C}$

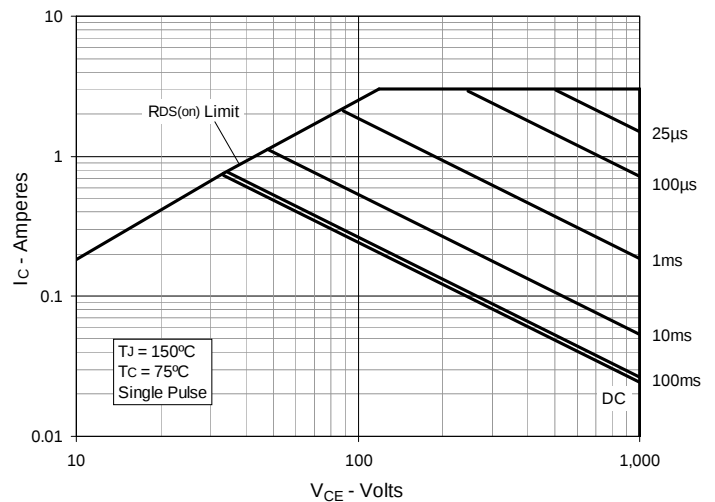
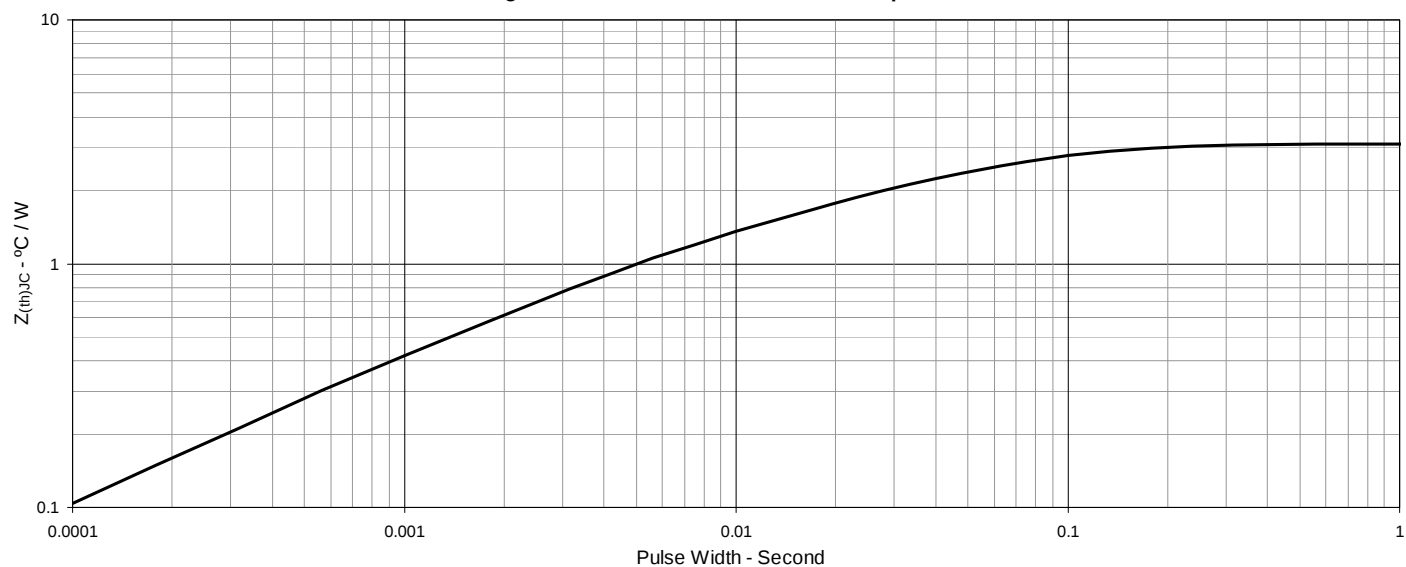


Fig. 13. Maximum Transient Thermal Impedance





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