



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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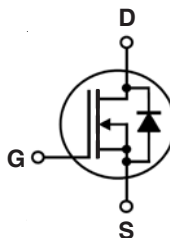


Depletion Mode MOSFET

IXTA3N100D2
IXTP3N100D2

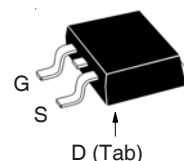
$$\begin{aligned} V_{DSX} &= 1000V \\ I_{D(on)} &\geq 3A \\ R_{DS(on)} &\leq 6\Omega \end{aligned}$$

N-Channel

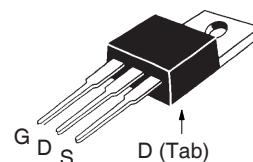


Symbol	Test Conditions	Maximum Ratings	
V_{DSX}	$T_J = 25^\circ\text{C to } 150^\circ\text{C}$	1000	V
V_{GSX}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
P_D	$T_C = 25^\circ\text{C}$	125	W
T_J		- 55 ... +150	$^\circ\text{C}$
T_{JM}		150	$^\circ\text{C}$
T_{stg}		- 55 ... +150	$^\circ\text{C}$
T_L	Maximum Lead Temperature for Soldering	300	$^\circ\text{C}$
T_{SOLD}	1.6 mm (0.062in.) from Case for 10s	260	$^\circ\text{C}$
M_d	Mounting Torque (TO-220)	1.13 / 10	Nm/lb.in.
Weight	TO-263	2.5	g
	TO-220	3.0	g

TO-263 AA (IXTA)



TO-220AB (IXTP)



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

Features

- Normally ON Mode
- International Standard Packages
- Molding Epoxies Meet UL 94 V-0 Flammability Classification

Advantages

- Easy to Mount
- Space Savings
- High Power Density

Applications

- Audio Amplifiers
- Start-Up Circuits
- Protection Circuits
- Ramp Generators
- Current Regulators
- Active Loads

Symbol	Test Conditions ($T_J = 25^\circ\text{C}$, Unless Otherwise Specified)	Characteristic Values		
		Min.	Typ.	Max.
BV_{DSX}	$V_{GS} = -5V, I_D = 250\mu\text{A}$	1000		V
$V_{GS(off)}$	$V_{DS} = 25V, I_D = 250\mu\text{A}$	- 2.5		- 4.5 V
I_{GSX}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100 nA
$I_{DSX(off)}$	$V_{DS} = V_{DSX}, V_{GS} = -5V$ $T_J = 125^\circ\text{C}$			5 μA 50 μA
$R_{DS(on)}$	$V_{GS} = 0V, I_D = 1.5A, \text{ Note 1}$			6 Ω
$I_{D(on)}$	$V_{GS} = 0V, V_{DS} = 50V, \text{ Note 1}$	3		A

Symbol	Test Conditions	Characteristic Values		
	(T _J = 25°C, Unless Otherwise Specified)	Min.	Typ.	Max.
g_{fs}	V _{DS} = 30V, I _D = 1.5A, Note 1	1.2	2.0	S
C_{iss}	V _{GS} = -10V, V _{DS} = 25V, f = 1MHz		1020	pF
C_{oss}			68	pF
C_{rss}			17	pF
t_{d(on)}	Resistive Switching Times V _{GS} = ± 5V, V _{DS} = 500V, I _D = 1.5A R _G = 3.3Ω (External)		27	ns
t_r			67	ns
t_{d(off)}			34	ns
t_f			40	ns
Q_{g(on)}	V _{GS} = 5V, V _{DS} = 500V, I _D = 1.5A		37.5	nC
Q_{gs}			4.4	nC
Q_{gd}			21.2	nC
R_{thJC}	TO-220		0.50	1.0 °C/W
R_{thCS}				°C/W

Safe-Operating-Area Specification

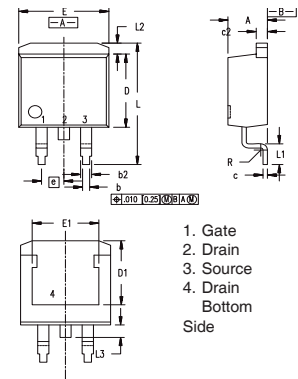
Symbol	Test Conditions	Characteristic Values		
		Min.	Typ.	Max.
SOA	V _{DS} = 800V, I _D = 94mA, T _C = 75°C, T _p = 5s	75		W

Source-Drain Diode

Symbol	Test Conditions	Characteristic Values		
	(T _J = 25°C, Unless Otherwise Specified)	Min.	Typ.	Max.
V_{SD}	I _F = 3A, V _{GS} = -10V, Note 1		0.8	1.3 V
t_{rr}	I _F = 3A, -di/dt = 100A/μs V _R = 100V, V _{GS} = -10V		970	ns
I_{RM}			12.7	A
Q_{RM}			6.16	μC

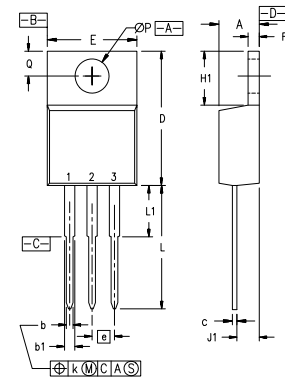
Note 1. Pulse test, t ≤ 300μs, duty cycle, d ≤ 2%.

TO-263 Outline



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.06	4.83	.160	.190
b	0.51	0.99	.020	.039
b2	1.14	1.40	.045	.055
c	0.40	0.74	.016	.029
c2	1.14	1.40	.045	.055
D	8.64	9.65	.340	.380
D1	8.00	8.89	.280	.320
E	9.65	10.41	.380	.405
E1	6.22	8.13	.270	.320
e	2.54	BSC	.100	BSC
L	14.61	15.88	.575	.625
L1	2.29	2.79	.090	.110
L2	1.02	1.40	.040	.055
L3	1.27	1.78	.050	.070
L4	0	0.13	0	.005

TO-220 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 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
by one or more of the following U.S. patents: 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 @ $T_J = 25^\circ\text{C}$

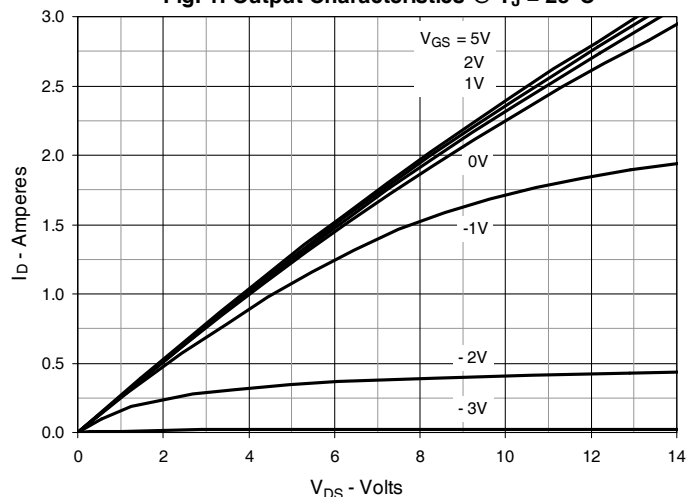


Fig. 2. Extended Output Characteristics @ $T_J = 25^\circ\text{C}$

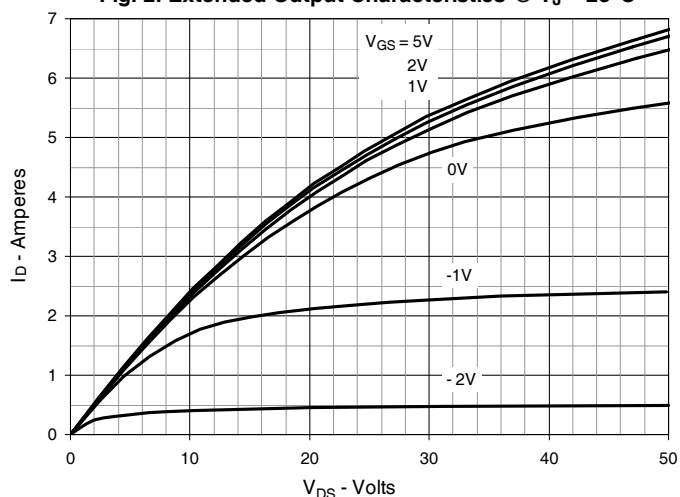


Fig. 3. Output Characteristics @ $T_J = 125^\circ\text{C}$

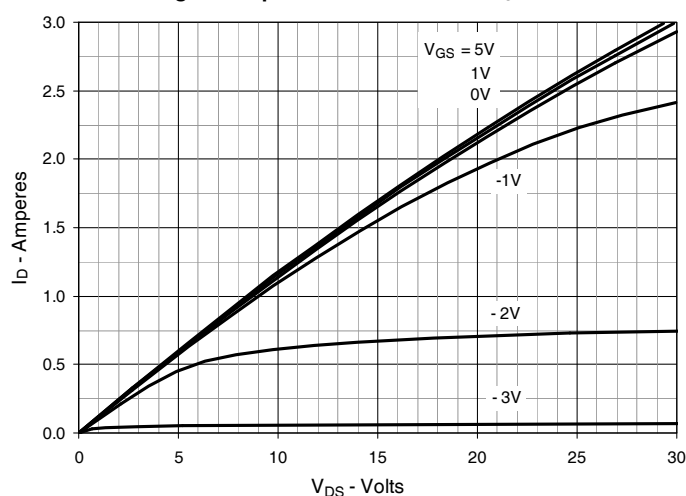


Fig. 4. Drain Current @ $T_J = 25^\circ\text{C}$

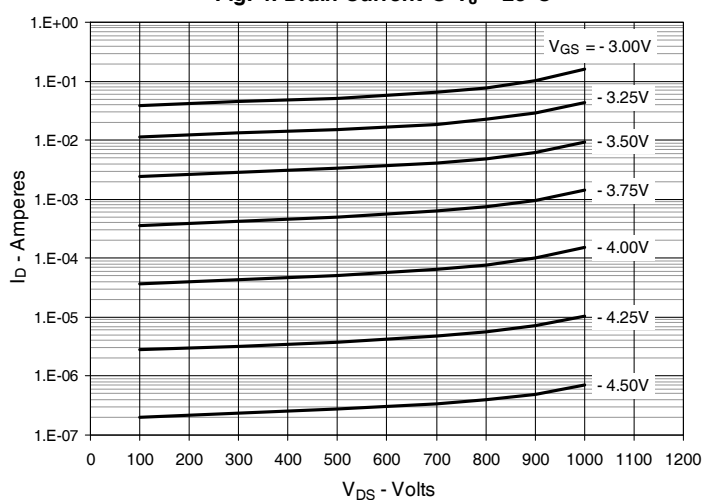


Fig. 5. Drain Current @ $T_J = 100^\circ\text{C}$

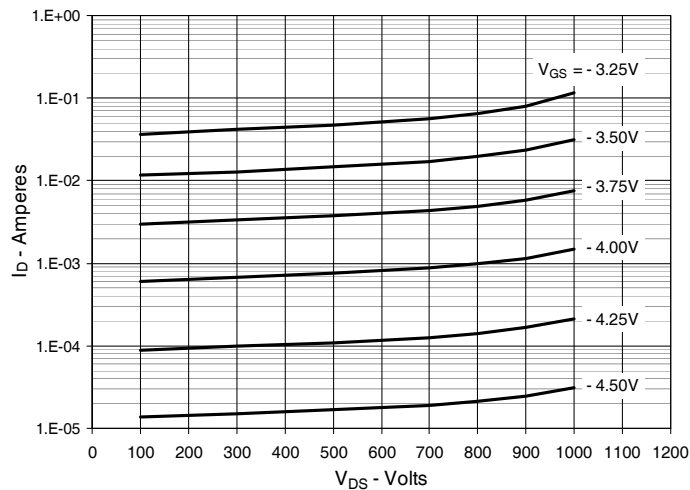


Fig. 6. Dynamic Resistance vs. Gate Voltage

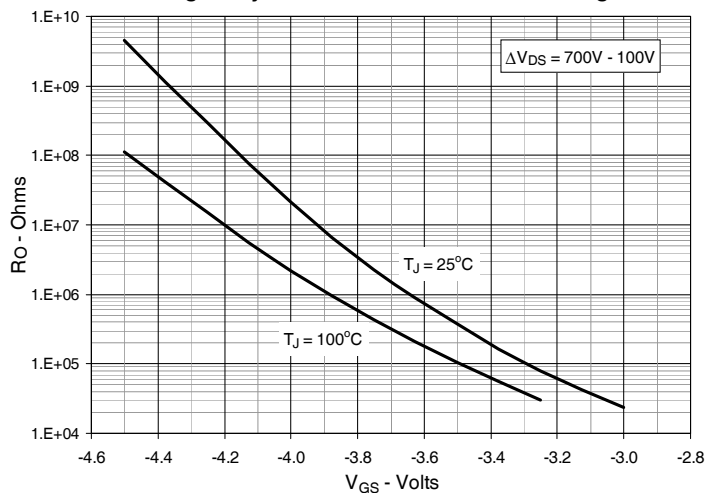


Fig. 7. Normalized $R_{DS(on)}$ vs. Junction Temperature

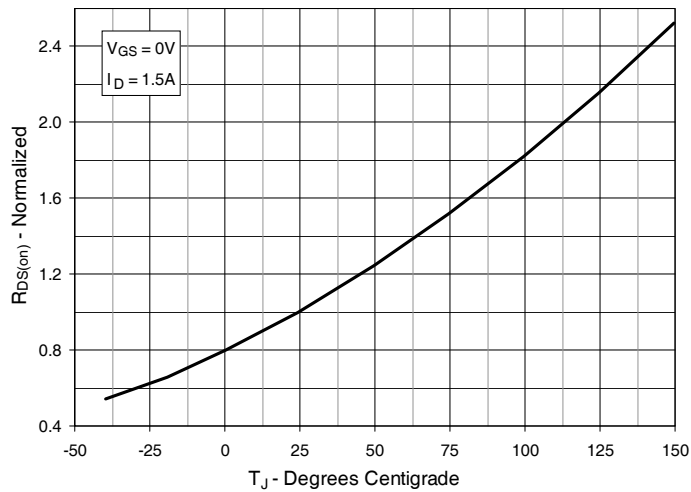


Fig. 8. $R_{DS(on)}$ Normalized to $I_D = 1.5A$ Value vs. Drain Current

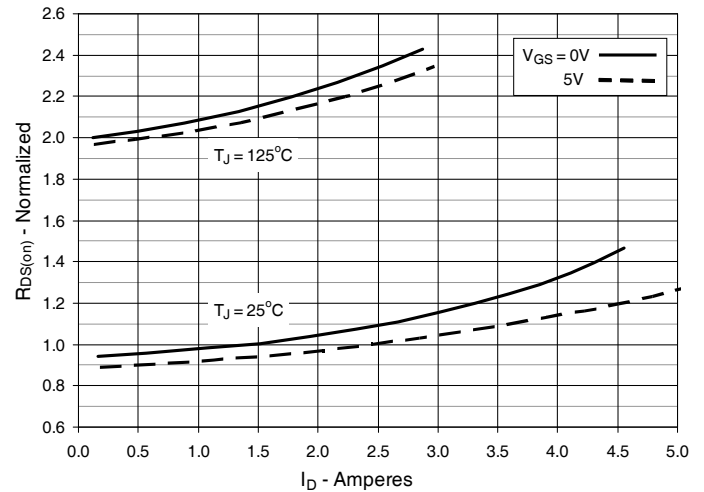


Fig. 9. Input Admittance

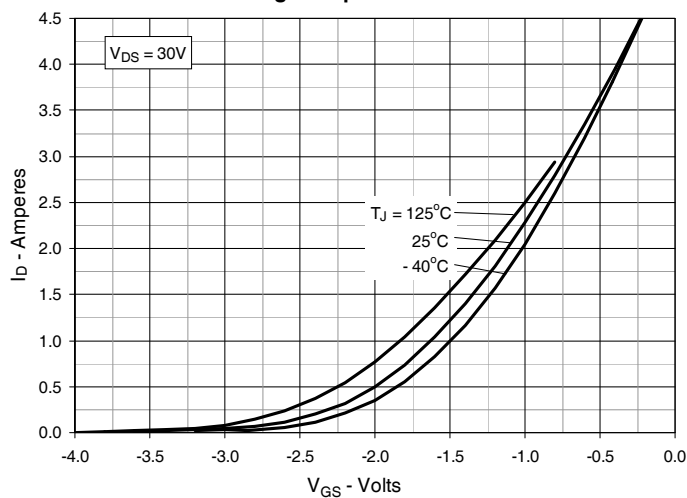


Fig. 10. Transconductance

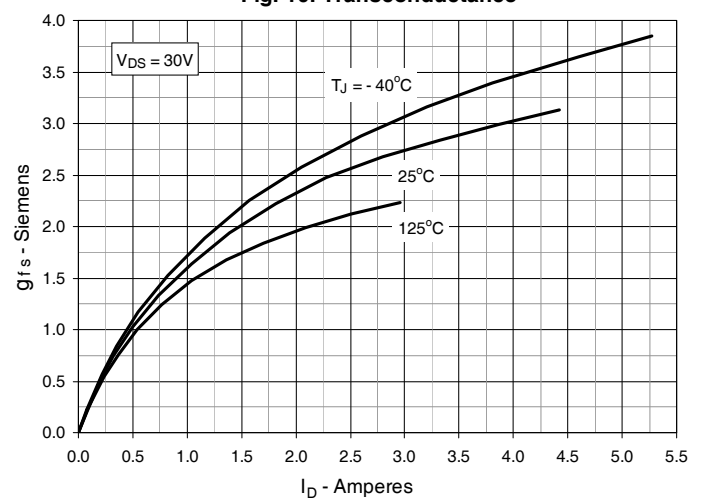


Fig. 11. Breakdown and Threshold Voltages vs. Junction Temperature

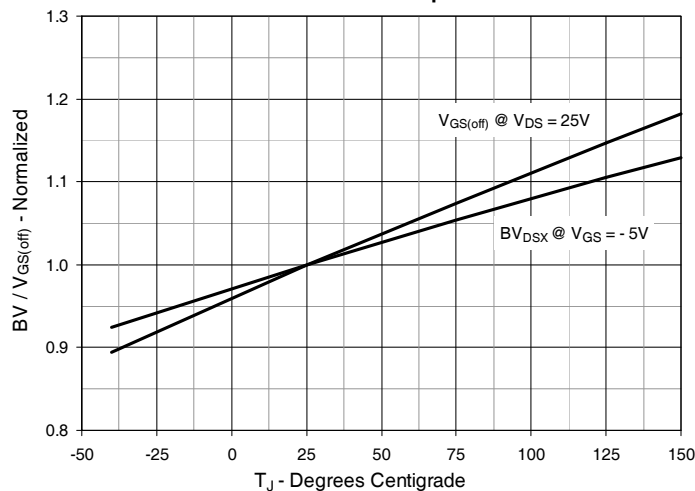


Fig. 12. Forward Voltage Drop of Intrinsic Diode

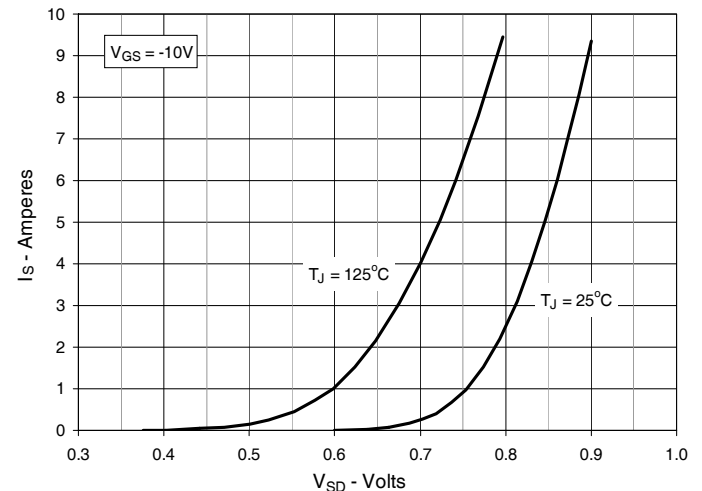


Fig. 13. Capacitance

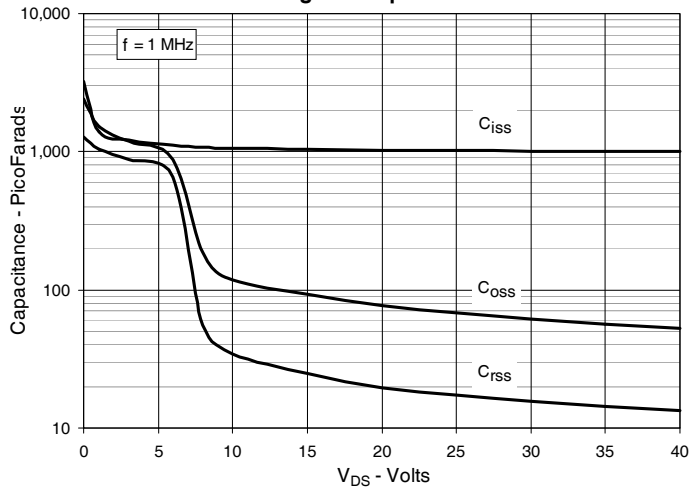


Fig. 14. Gate Charge

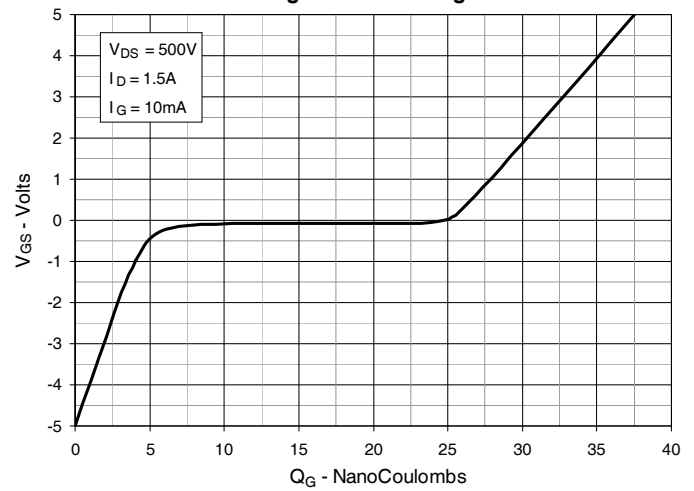


Fig. 15. Forward-Bias Safe Operating Area
@ $T_C = 25^\circ C$

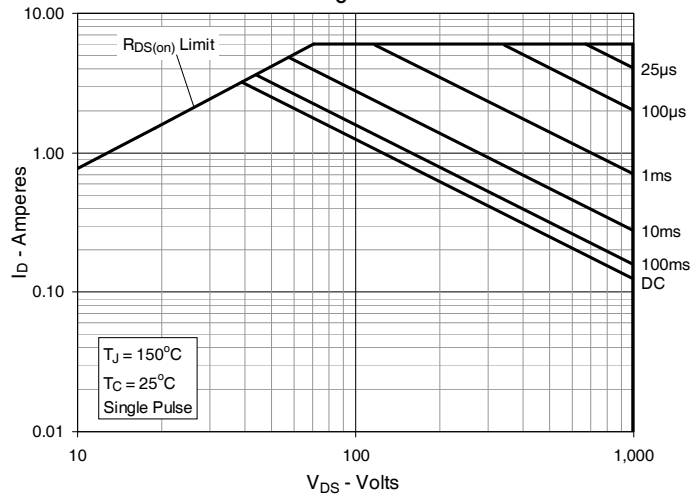


Fig. 16. Forward-Bias Safe Operating Area
@ $T_C = 75^\circ C$

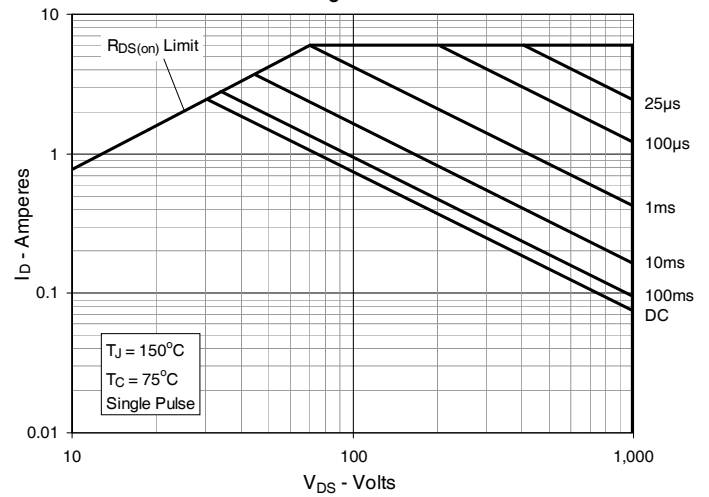


Fig. 17. Maximum Transient Thermal Impedance

