

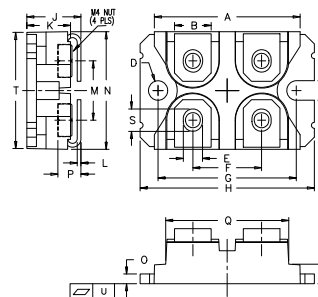
Symbol	Test Conditions ($T_J = 25^{\circ}\text{C}$ Unless Otherwise Specified)	Characteristic Values		
		Min.	Typ.	Max.
g_{fs}	$V_{DS} = 10\text{V}, I_D = 60\text{A}$, Note 1	68	110	S
C_{iss}	$V_{GS} = 0\text{V}, V_{DS} = 25\text{V}, f = 1\text{MHz}$		18.6	nF
C_{oss}			1710	pF
C_{rss}			12	pF
R_{Gi}	Gate Input Resistance		1.16	Ω
$t_{d(on)}$	Resistive Switching Times $V_{GS} = 10\text{V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 66\text{A}$ $R_G = 1\Omega$ (External)		42	ns
t_r			18	ns
$t_{d(off)}$			90	ns
t_f			15	ns
$Q_{g(on)}$	$V_{GS} = 10\text{V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 66\text{A}$		267	nC
Q_{gs}			95	nC
Q_{gd}			63	nC
R_{thJC}				0.083°C/W
R_{thCS}		0.05		$^{\circ}\text{C/W}$

Source-Drain Diode

Symbol	Test Conditions ($T_J = 25^{\circ}\text{C}$ Unless Otherwise Specified)	Characteristic Values		
		Min.	Typ.	Max.
I_s	$V_{GS} = 0\text{V}$			132 A
I_{SM}	Repetitive, Pulse Width Limited by T_{JM}			530 A
V_{SD}	$I_F = 100\text{A}, V_{GS} = 0\text{V}$, Note 1			1.5 V
t_{rr}	$I_F = 66\text{A}, -di/dt = 100\text{A}/\mu\text{s}$ $V_R = 100\text{V}, V_{GS} = 0\text{V}$			250 ns
Q_{RM}			1.9	μC
I_{RM}			16.4	A

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

SOT-227B (IXFN) Outline



(M4 screws (4x) supplied)

SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	1.240	1.255	31.50	31.88
B	.307	.323	7.80	8.20
C	.161	.169	4.09	4.29
D	.161	.169	4.09	4.29
E	.161	.169	4.09	4.29
F	.587	.595	14.91	15.11
G	1.186	1.193	30.12	30.30
H	1.496	1.505	38.00	38.23
J	.460	.481	11.68	12.22
K	.351	.378	8.92	9.60
L	.030	.033	0.76	0.84
M	.496	.506	12.60	12.85
N	.990	1.001	25.15	25.42
O	.078	.084	1.98	2.13
P	.195	.235	4.95	5.97
Q	1.045	1.059	26.54	26.90
R	.155	.174	3.94	4.42
S	.186	.191	4.72	4.85
T	.968	.987	24.59	25.07
U	-.002	.004	-0.05	0.1

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	

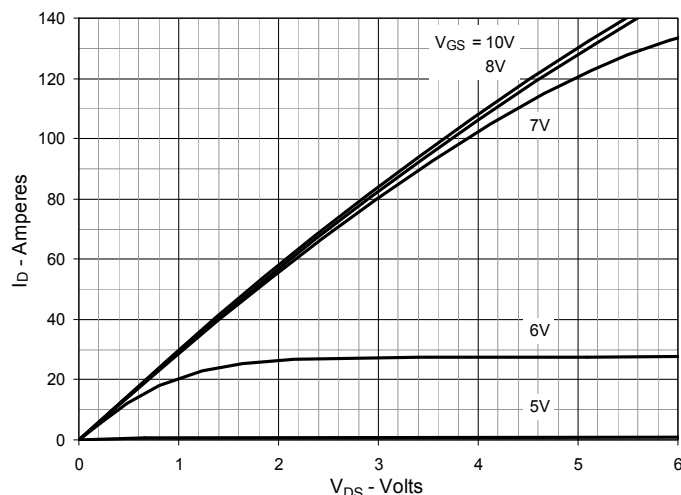
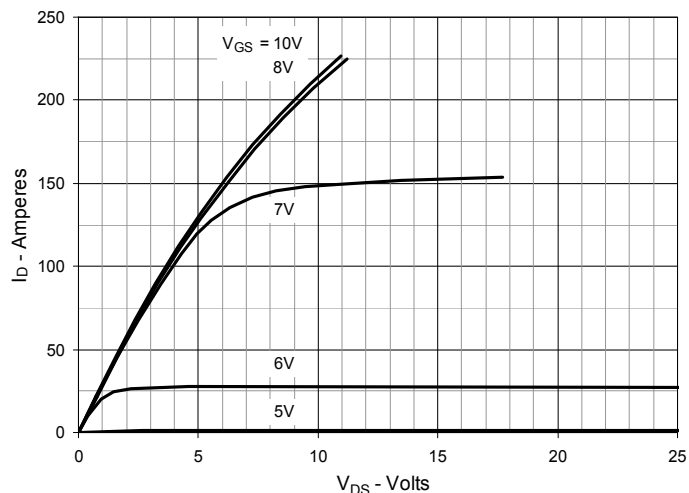
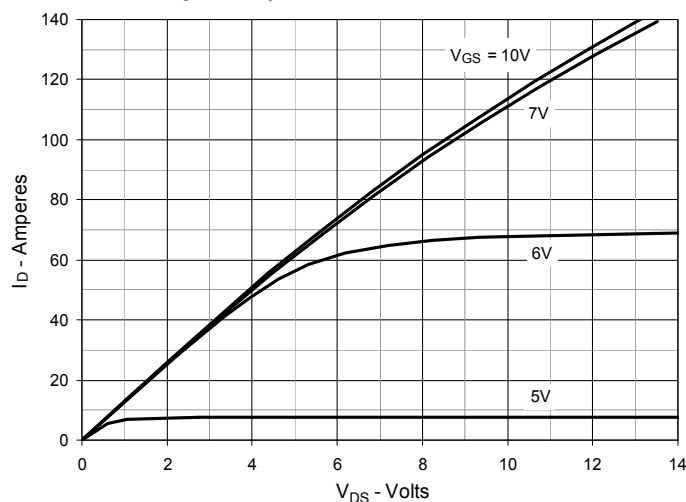
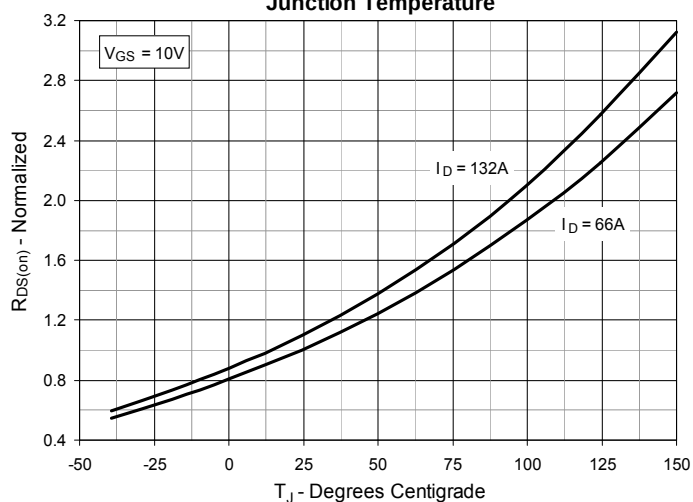
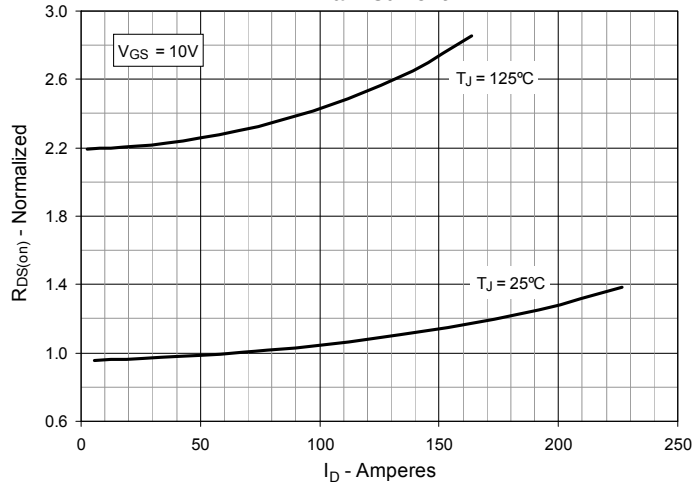
Fig. 1. Output Characteristics @ $T_J = 25^\circ\text{C}$ Fig. 2. Extended Output Characteristics @ $T_J = 25^\circ\text{C}$ Fig. 3. Output Characteristics @ $T_J = 125^\circ\text{C}$ Fig. 4. $R_{DS(on)}$ Normalized to $I_D = 66\text{A}$ Value vs. Junction TemperatureFig. 5. $R_{DS(on)}$ Normalized to $I_D = 66\text{A}$ Value vs. Drain Current

Fig. 6. Maximum Drain Current vs. Case Temperature

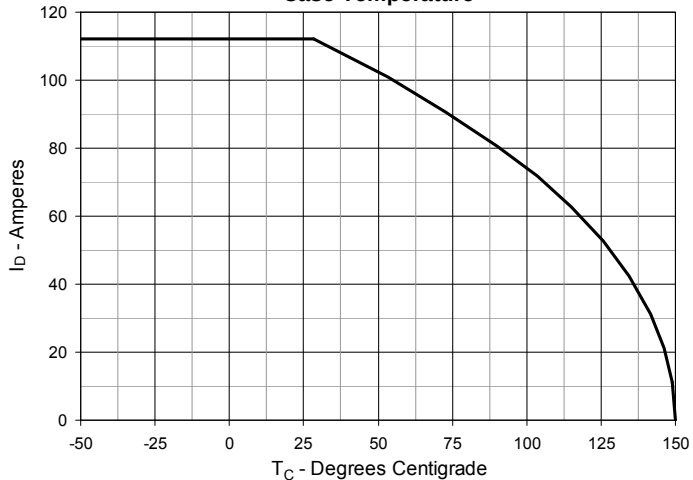


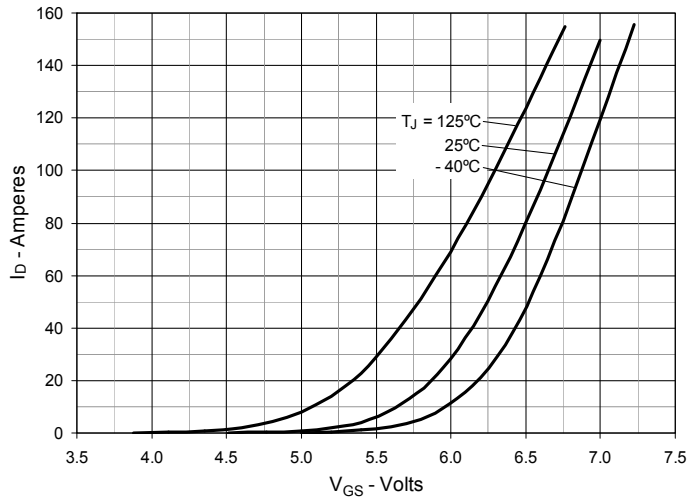
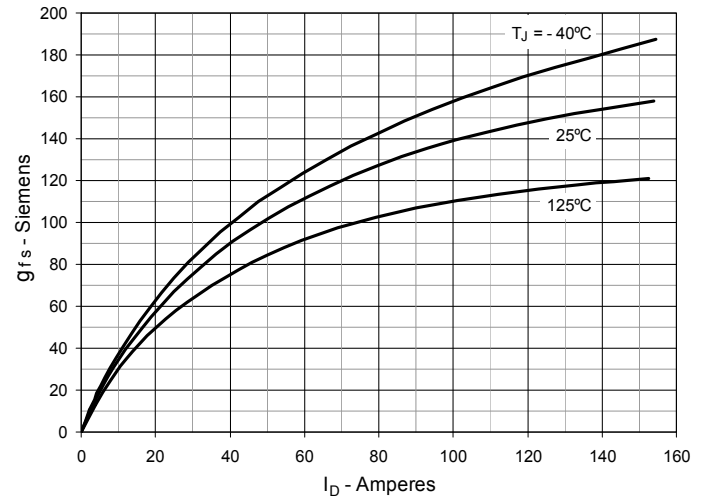
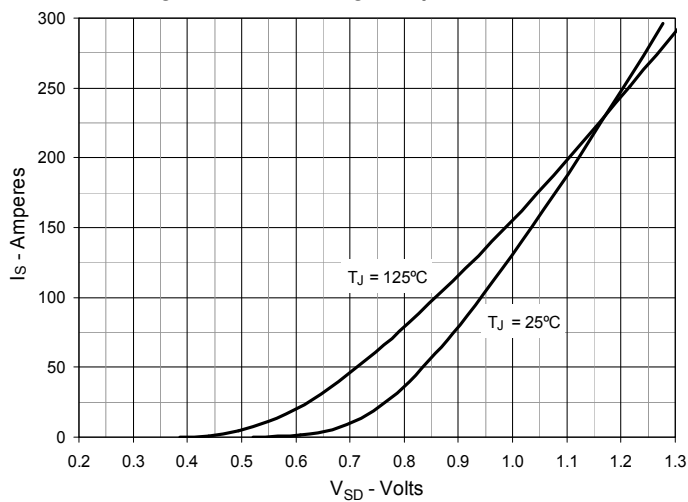
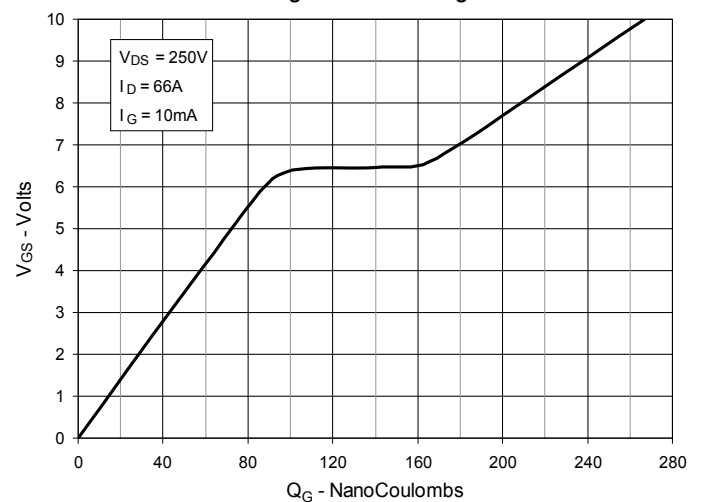
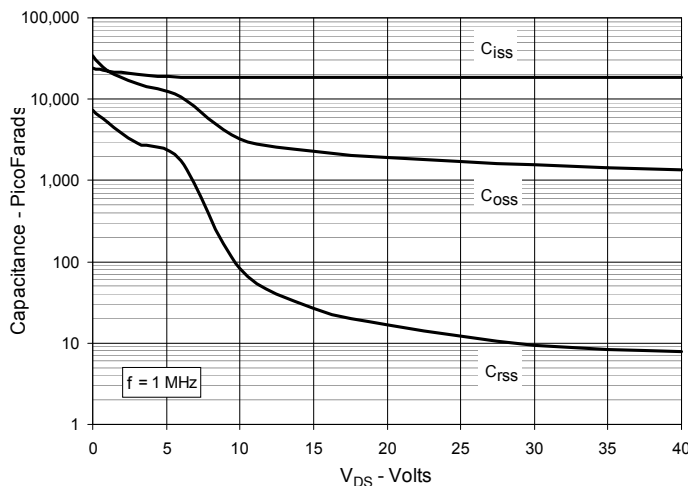
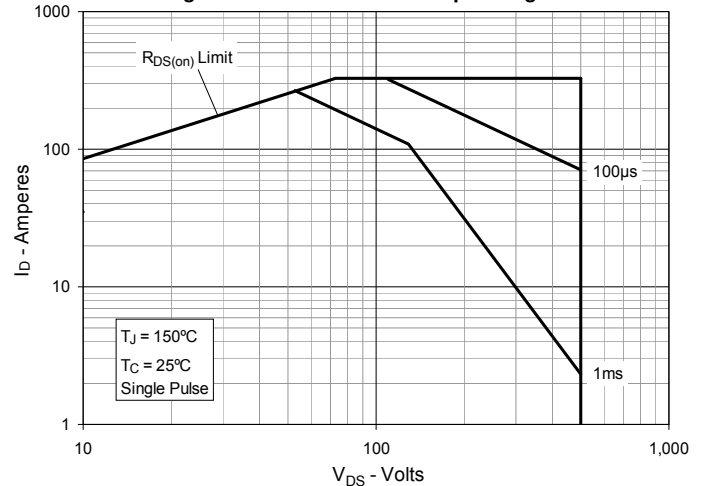
Fig. 7. Input Admittance

Fig. 8. Transconductance

Fig. 9. Forward Voltage Drop of Intrinsic Diode

Fig. 10. Gate Charge

Fig. 11. Capacitance

Fig. 12. Forward-Bias Safe Operating Area


Fig. 13. Resistive Turn-on Rise Time vs. Junction Temperature

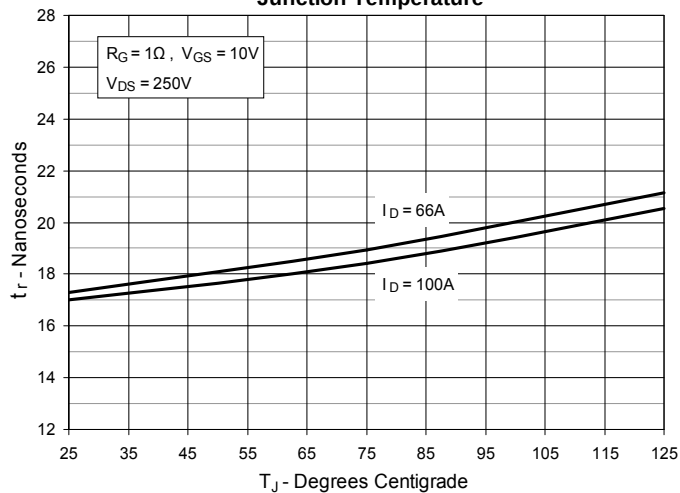


Fig. 14. Resistive Turn-on Rise Time vs. Drain Current

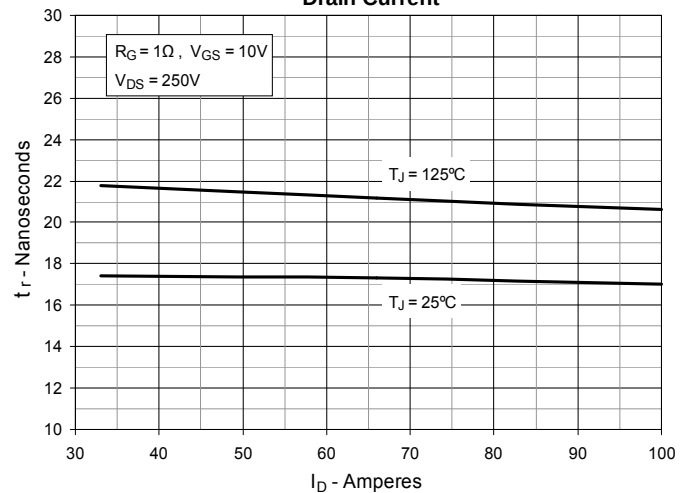


Fig. 15. Resistive Turn-on Switching Times vs. Gate Resistance

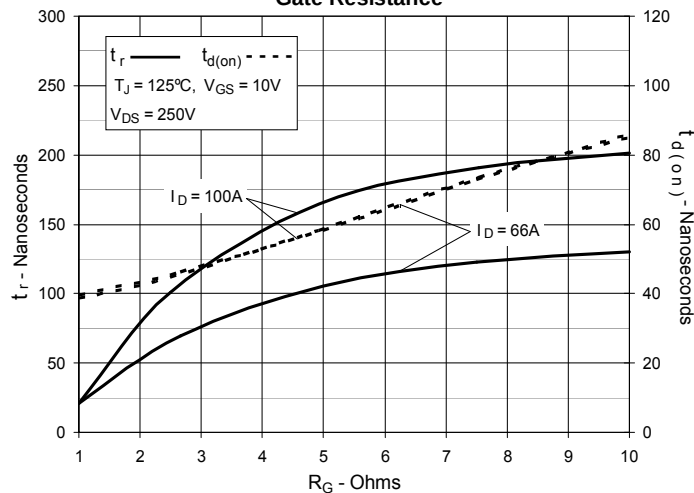


Fig. 16. Resistive Turn-off Switching Times vs. Junction Temperature

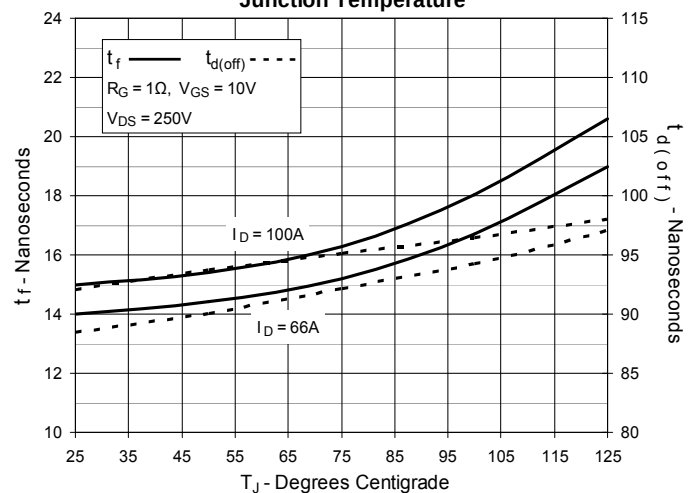


Fig. 17. Resistive Turn-off Switching Times vs. Drain Current

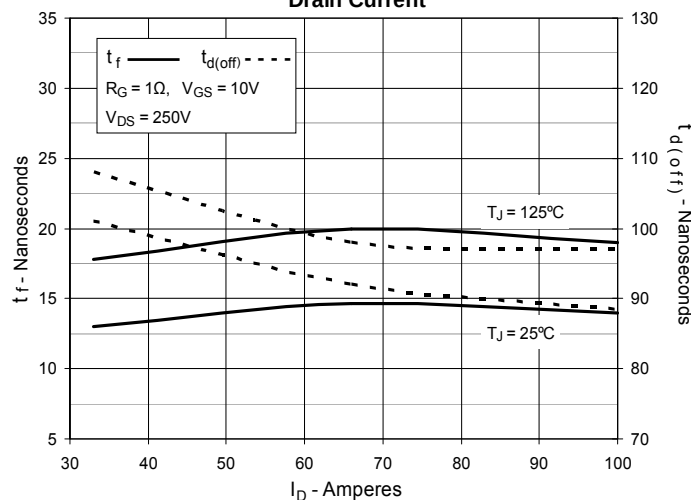


Fig. 18. Resistive Turn-off Switching Times vs. Gate Resistance

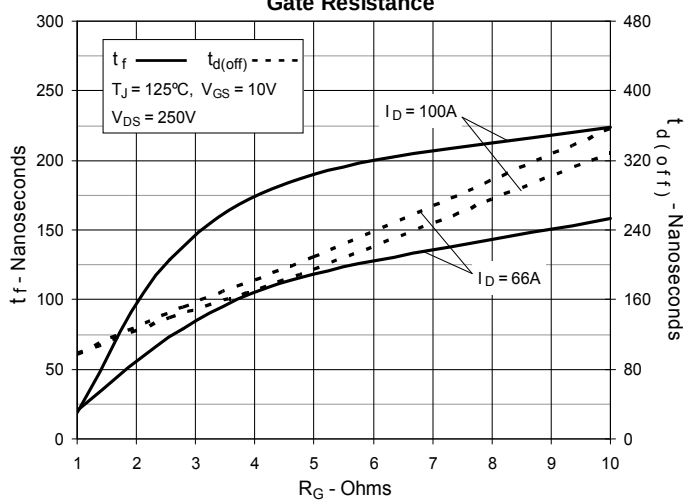
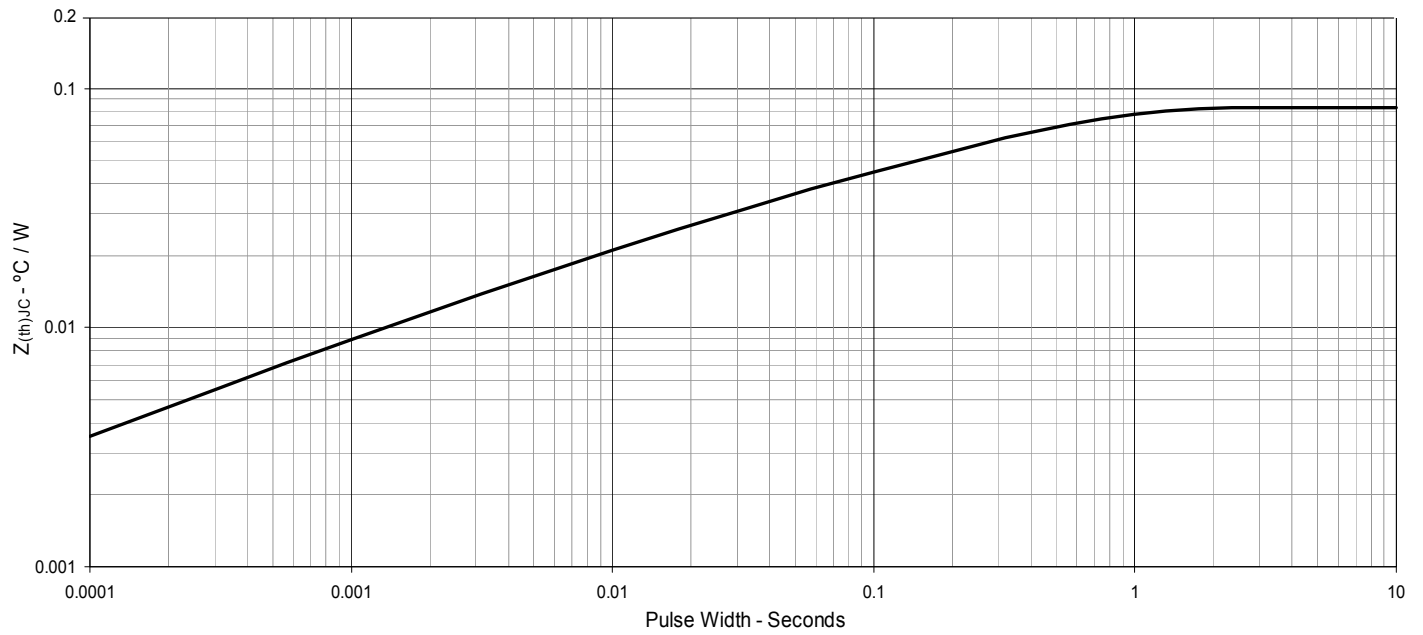


Fig. 19. Maximum Transient Thermal Impedance





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