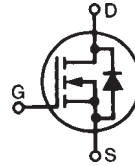


TrenchT2™ Power MOSFET

IXTA260N055T2-7

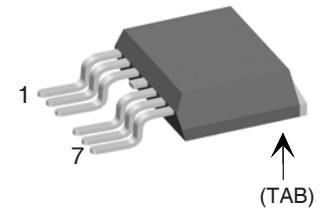
$$\begin{aligned} V_{DSS} &= 55V \\ I_{D25} &= 260A \\ R_{DS(on)} &\leq 3.3m\Omega \end{aligned}$$

N-Channel Enhancement Mode
Avalanche Rated



TO-263 (7-lead)

Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	$T_J = 25^\circ\text{C}$ to 175°C	55	V
V_{DGR}	$T_J = 25^\circ\text{C}$ to 175°C , $R_{GS} = 1M\Omega$	55	V
V_{GSM}	Transient	± 20	V
I_{D25}	$T_C = 25^\circ\text{C}$	260	A
I_{LRMS}	Lead Current Limit, RMS	160	A
I_{DM}	$T_C = 25^\circ\text{C}$, pulse width limited by T_{JM}	780	A
I_A	$T_C = 25^\circ\text{C}$	100	A
E_{AS}	$T_C = 25^\circ\text{C}$	600	mJ
P_D	$T_C = 25^\circ\text{C}$	480	W
T_J		-55 ... +175	$^\circ\text{C}$
T_{JM}		175	$^\circ\text{C}$
T_{stg}		-55 ... +175	$^\circ\text{C}$
T_L	1.6mm (0.062in.) from case for 10s	300	$^\circ\text{C}$
T_{sold}	Plastic body for 10 seconds	260	$^\circ\text{C}$
Weight		3	g



Pins: 1 - Gate
2, 3 - Source
5, 6, 7 - Source
TAB (8) - Drain

Features

- International standard package
- 175°C Operating Temperature
- High current handling capability
- Avalanche rated
- Low $R_{DS(on)}$

Advantages

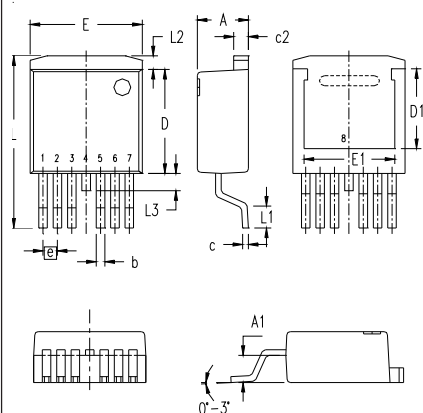
- Easy to mount

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	55	94	S
C_{iss}	$V_{GS} = 0\text{V}$, $V_{DS} = 25\text{V}$, $f = 1\text{MHz}$		10.8	nF
C_{oss}			1460	pF
C_{rss}			215	pF
$t_{d(on)}$	Resistive Switching Times $V_{GS} = 10\text{V}$, $V_{DS} = 0.5 \cdot V_{DSS}$, $I_D = 100\text{A}$ $R_G = 2\Omega$ (External)		20	ns
t_r			27	ns
$t_{d(off)}$			36	ns
t_f			24	ns
$Q_{g(on)}$	$V_{GS} = 10\text{V}$, $V_{DS} = 0.5 \cdot V_{DSS}$, $I_D = 0.5 \cdot I_{D25}$		140	nC
Q_{gs}			52	nC
Q_{gd}			32	nC
R_{thJC}				0.31 $^\circ\text{C/W}$

Source-Drain Diode

Symbol	Test Conditions ($T_J = 25^\circ\text{C}$, unless otherwise specified)	Characteristic Values		
		Min.	Typ.	Max.
I_S	$V_{GS} = 0\text{V}$			260 A
I_{SM}	Repetitive, Pulse width limited by T_{JM}			1000 A
V_{SD}	$I_F = 100\text{A}$, $V_{GS} = 0\text{V}$, Note 1			1.3 V
t_{rr}	$I_F = 130\text{A}$, $V_{GS} = 0\text{V}$ $-di/dt = 100\text{A}/\mu\text{s}$ $V_R = 27\text{V}$		60	ns
I_{RM}			3.4	A
Q_{RM}			102	nC

TO-263 (7-lead) (IXTA..7) Outline



Pins: 1 - Gate
2, 3 - Source
4 - Drain
5, 6, 7 - Source
Tab (8) - Drain

Fig. 1. Output Characteristics
@ 25°C

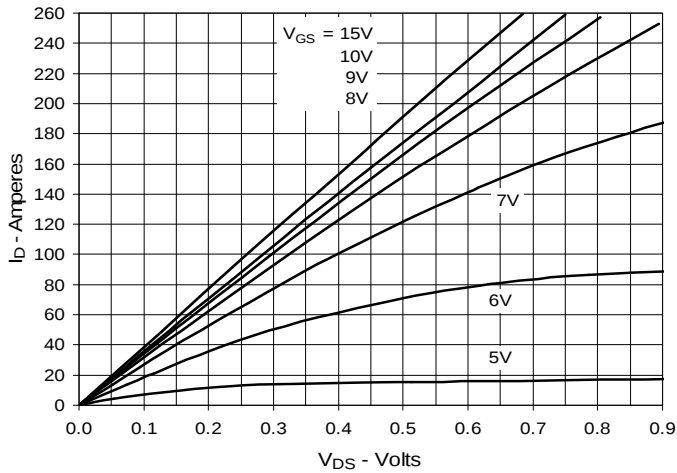


Fig. 2. Extended Output Characteristics
@ 25°C

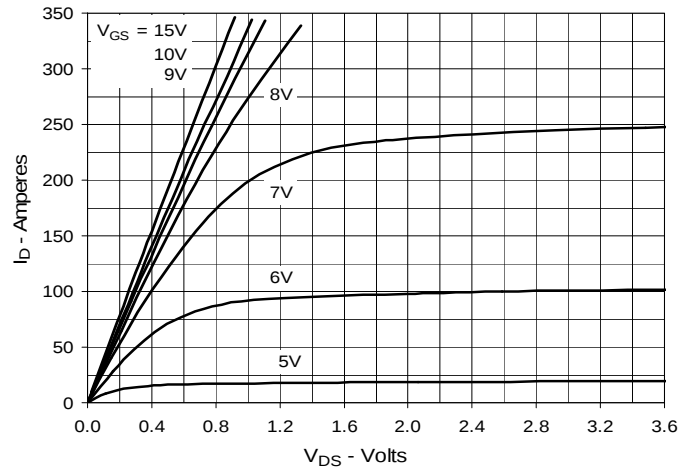


Fig. 3. Output Characteristics
@ 150°C

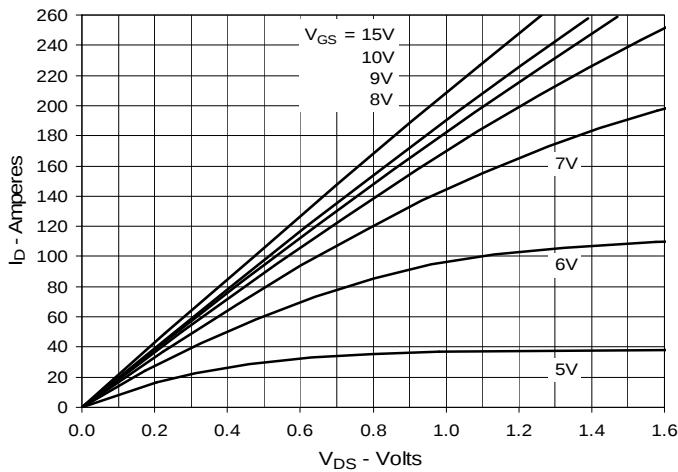


Fig. 4. $R_{DS(on)}$ Normalized to $I_D = 130A$ Value
vs. Junction Temperature

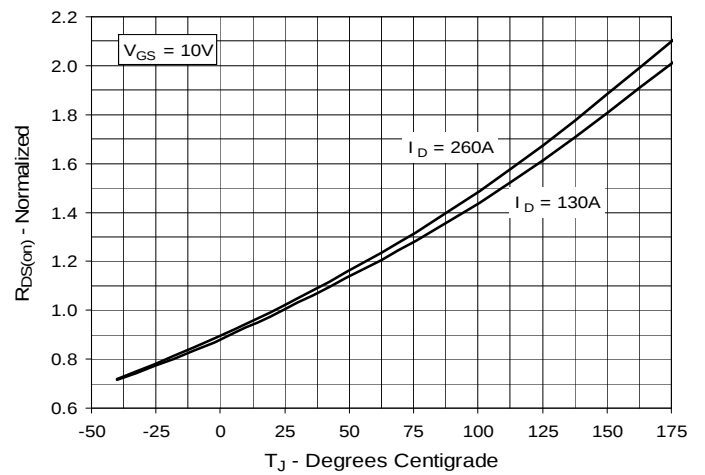


Fig. 5. $R_{DS(on)}$ Normalized to $I_D = 130A$ Value
vs. Drain Current

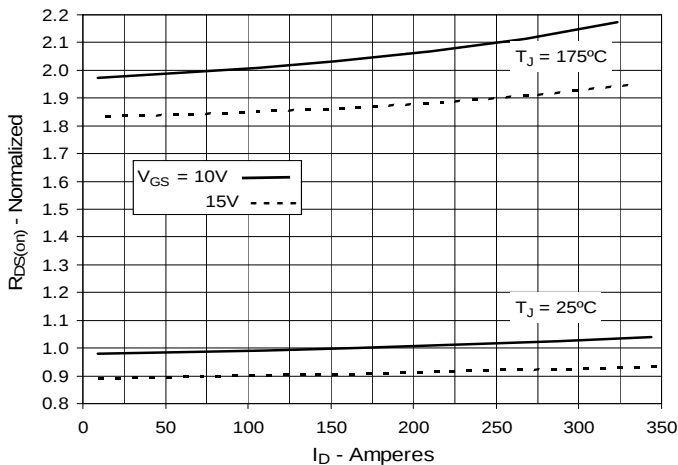


Fig. 6. Drain Current vs. Case Temperature

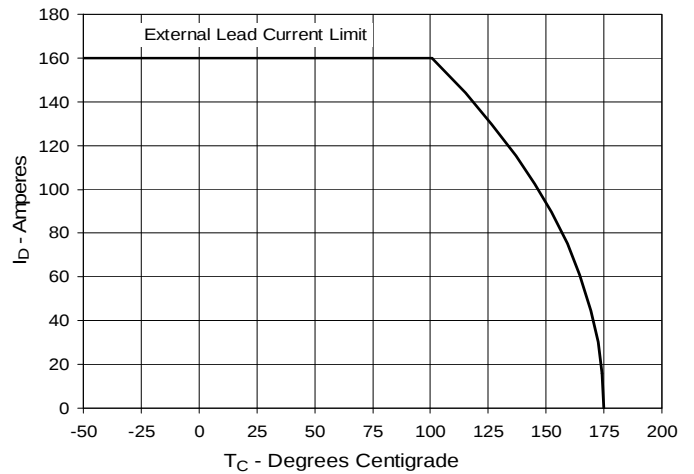


Fig. 7. Input Admittance

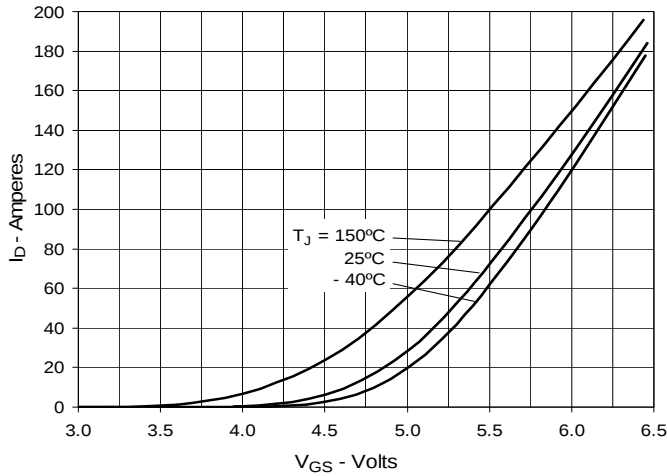


Fig. 8. Transconductance

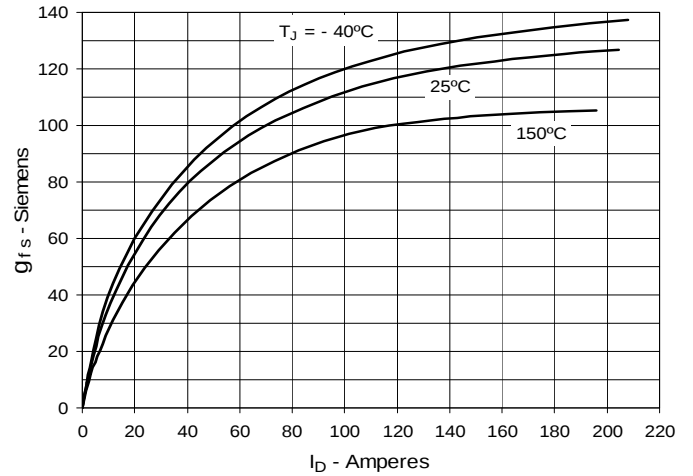


Fig. 9. Forward Voltage Drop of Intrinsic Diode

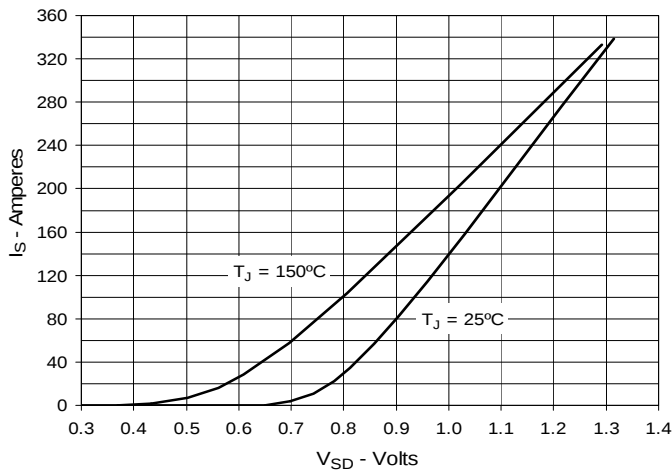


Fig. 10. Gate Charge

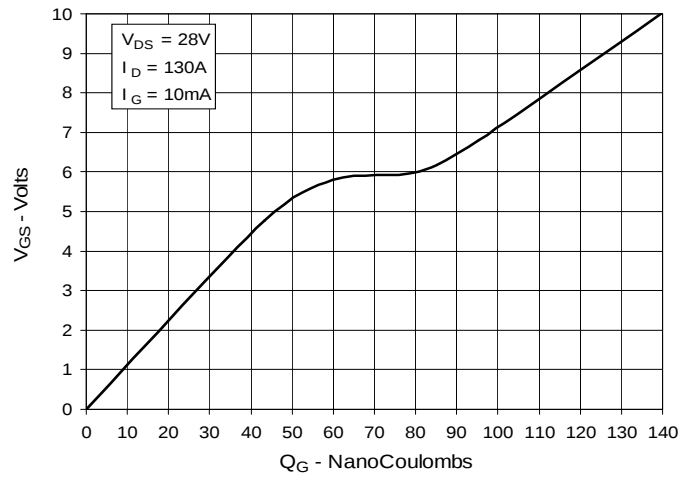


Fig. 11. Capacitance

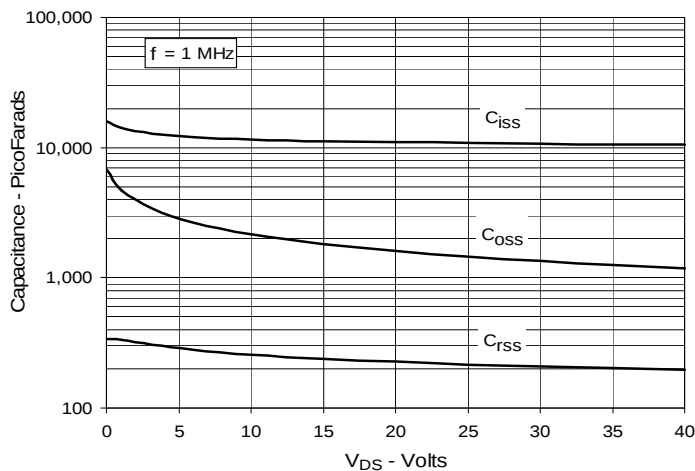
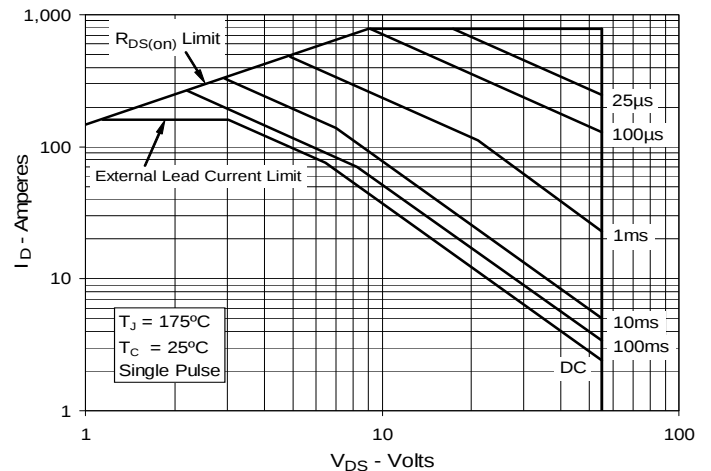
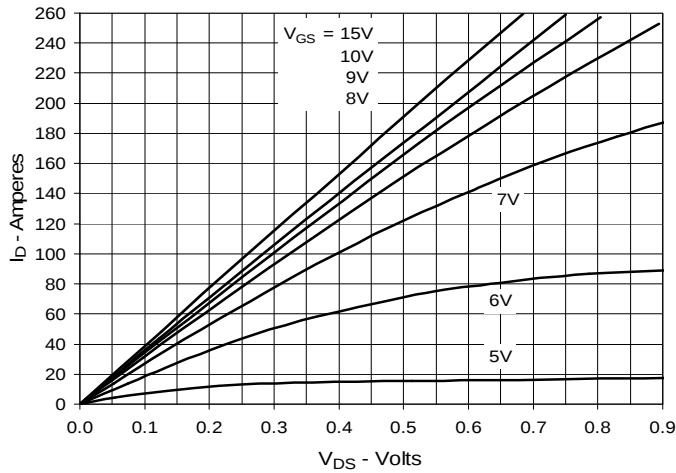


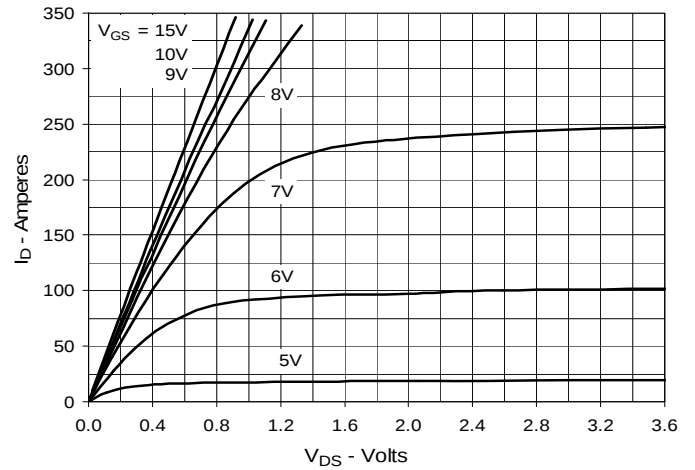
Fig. 12. Forward-Bias Safe Operating Area



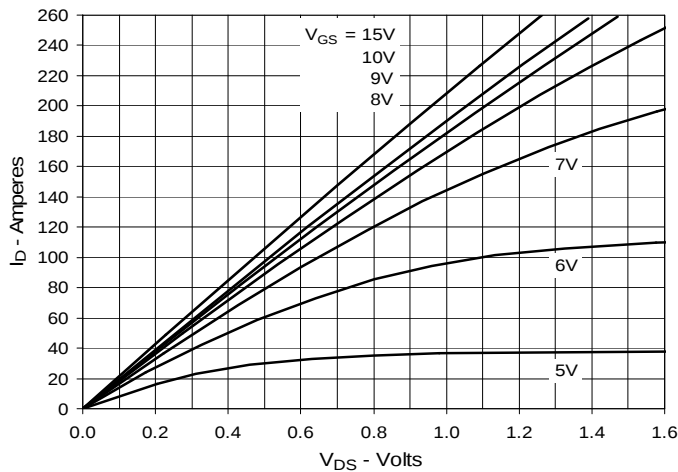
**Fig. 1. Output Characteristics
@ 25°C**



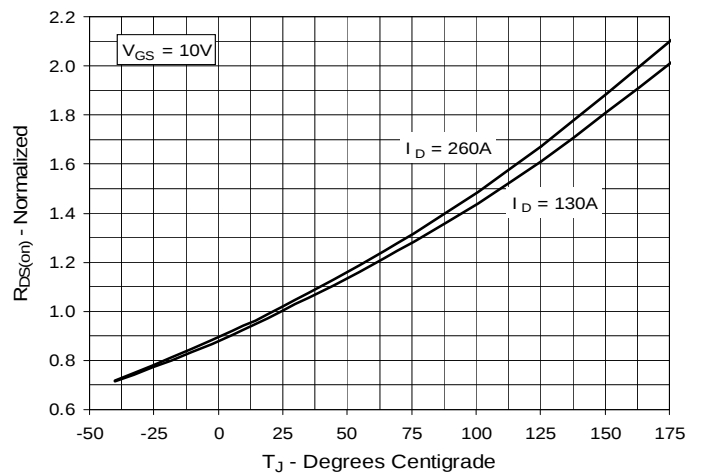
**Fig. 2. Extended Output Characteristics
@ 25°C**



**Fig. 3. Output Characteristics
@ 150°C**



**Fig. 4. $R_{DS(on)}$ Normalized to $I_D = 130A$ Value
vs. Junction Temperature**



**Fig. 5. $R_{DS(on)}$ Normalized to $I_D = 130A$ Value
vs. Drain Current**

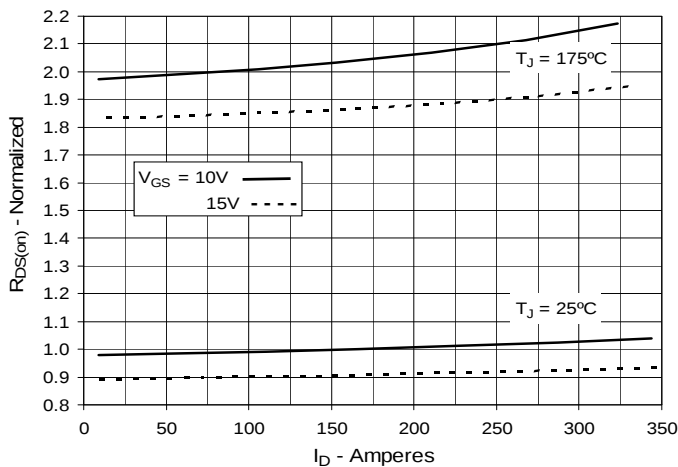


Fig. 6. Drain Current vs. Case Temperature

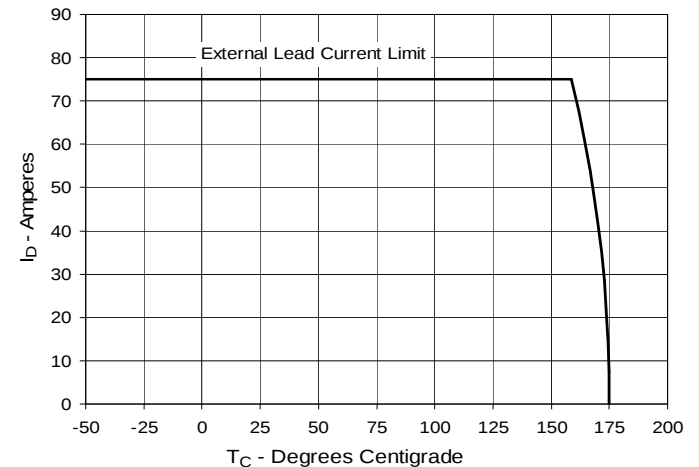
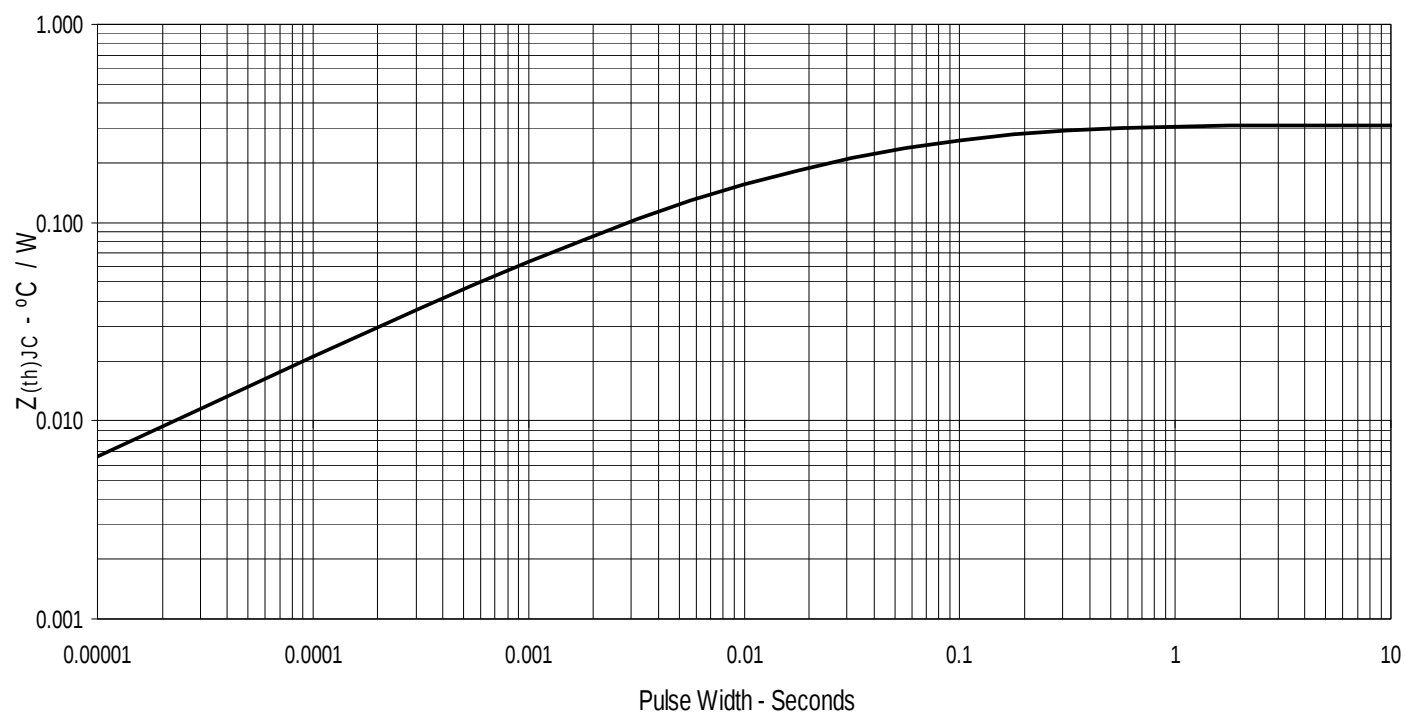


Fig. 19. Maximum Transient Thermal Impedance





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