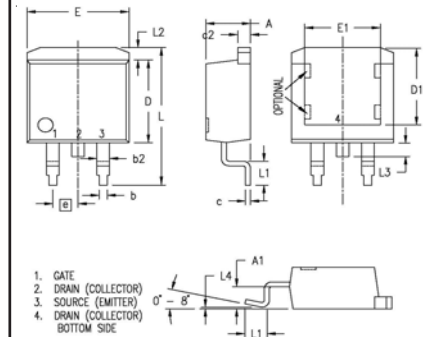


Symbol	Test Conditions	Characteristic Values		
		Min.	Typ.	Max.
$(T_J = 25^\circ\text{C unless otherwise specified})$				
g_{fs}	$V_{DS} = 10\text{V}, I_D = 60\text{A}, \text{Note 1}$	55	93	S
C_{iss}	$V_{GS} = 0\text{V}, V_{DS} = 25\text{V}, f = 1\text{MHz}$		5080	pF
C_{oss}			635	pF
C_{rss}			95	pF
$t_{d(on)}$	Resistive Switching Times $V_{GS} = 10\text{V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 25\text{A}$ $R_G = 5\Omega \text{ (External)}$		30	ns
t_r			47	ns
$t_{d(off)}$			44	ns
t_f			28	ns
$Q_{g(on)}$	$V_{GS} = 10\text{V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 25\text{A}$		104	nC
Q_{gs}			30	nC
Q_{gd}			29	nC
R_{thJC}	TO-220			0.42 $^\circ\text{C/W}$
R_{thCH}			0.50	$^\circ\text{C/W}$

Source-Drain Diode

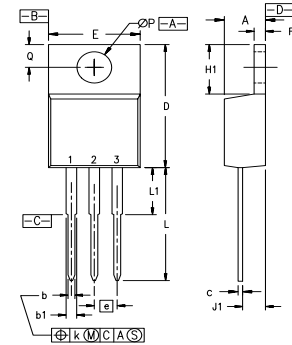
Symbol	Test Conditions	Characteristic Values		
		Min.	Typ.	Max.
$T_J = 25^\circ\text{C unless otherwise specified}$				
I_S	$V_{GS} = 0\text{V}$			130 A
I_{SM}	Pulse width limited by T_{JM}			350 A
V_{SD}	$I_F = 25\text{A}, V_{GS} = 0\text{V}, \text{Note 1}$			1.0 V
t_{rr}	$I_F = 0.5 \cdot I_S, -di/dt = 100\text{A}/\mu\text{s}$ $V_R = 0.5 \cdot V_{DSS}, V_{GS} = 0\text{V}$		67	ns
I_{RM}			4.7	A
Q_{rr}			160	nC

- Notes: 1. Pulse test, $t \leq 300 \mu\text{s}$; duty cycle, $d \leq 2\%$.
 2. On through-hole packages, $R_{DS(on)}$ Kelvin test contact location must be 5 mm or less from the package body.

TO-263 (IXTA) Outline


Pins: 1 - Gate 2 - Drain
 3 - Source 4, TAB - Drain

Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.06	4.83	.160	.190
A1	2.03	2.79	.080	.110
b	0.51	0.99	.020	.039
b2	1.14	1.40	.045	.055
c	0.46	0.74	.018	.029
c2	1.14	1.40	.045	.055
D	8.64	9.65	.340	.380
D1	7.11	8.13	.280	.320
E	9.65	10.29	.380	.405
E1	6.86	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	0.38	0	.015
R	0.46	0.74	.018	.029

TO-220 (IXTP) Outline


Pins: 1 - Gate 2 - Drain
 3 - Source 4, TAB - Drain

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
	4,850,072	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 @ 25°C

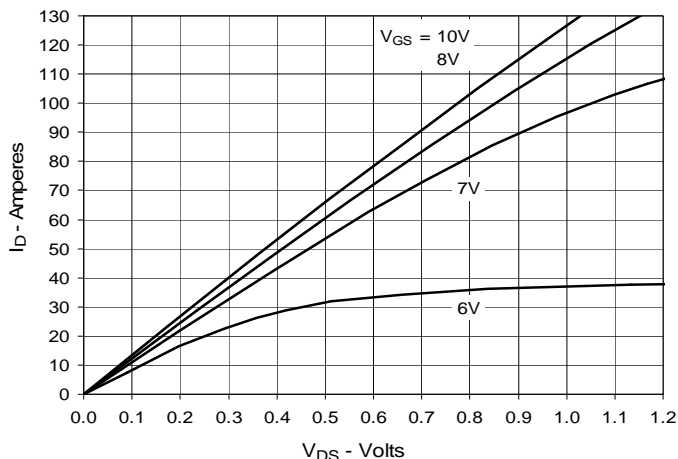


Fig. 2. Extended Output Characteristics @ 25°C

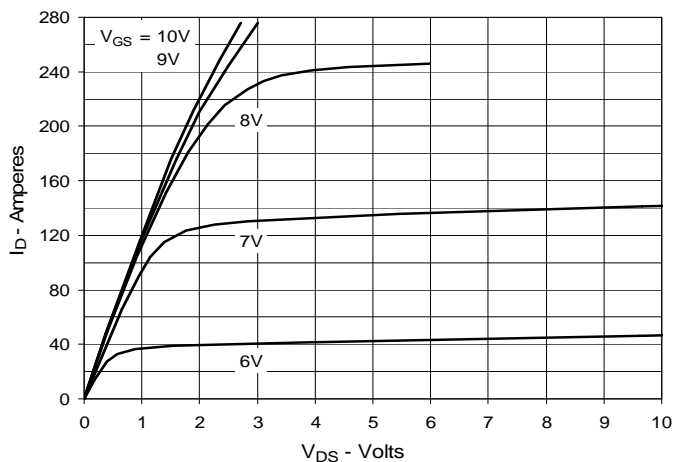


Fig. 3. Output Characteristics @ 150°C

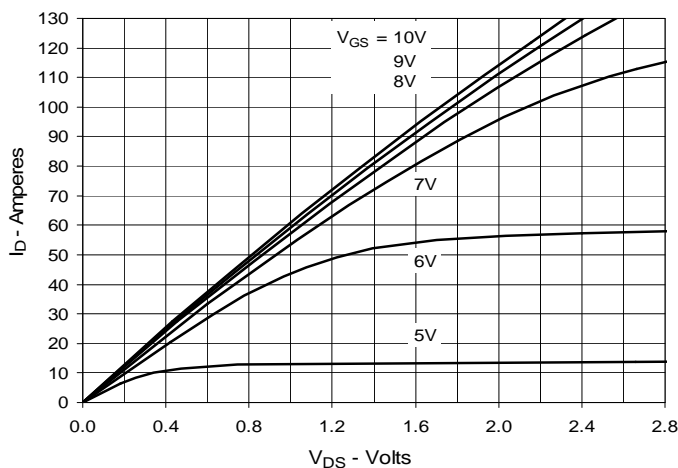


Fig. 4. $R_{DS(on)}$ Normalized to $I_D = 65A$ Value vs. Junction Temperature

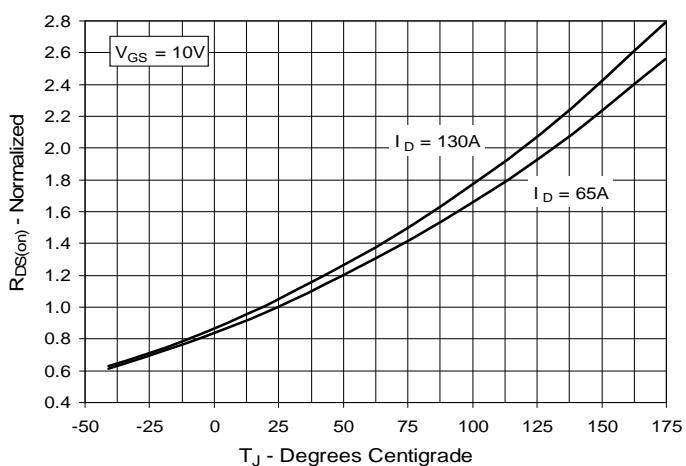


Fig. 5. $R_{DS(on)}$ Normalized to $I_D = 65A$ Value vs. Drain Current

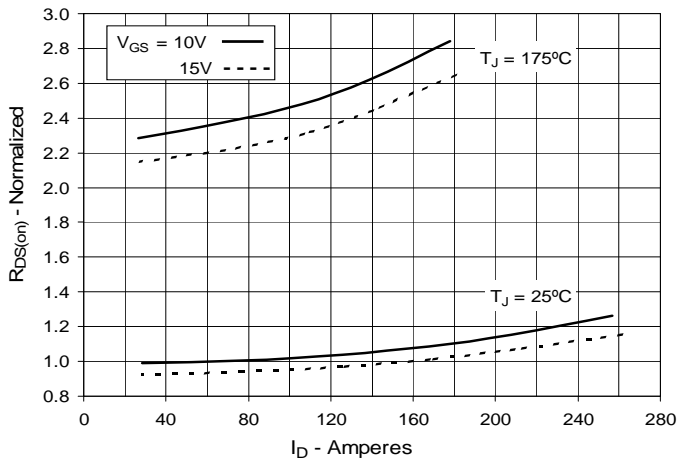


Fig. 6. Drain Current vs. Case Temperature

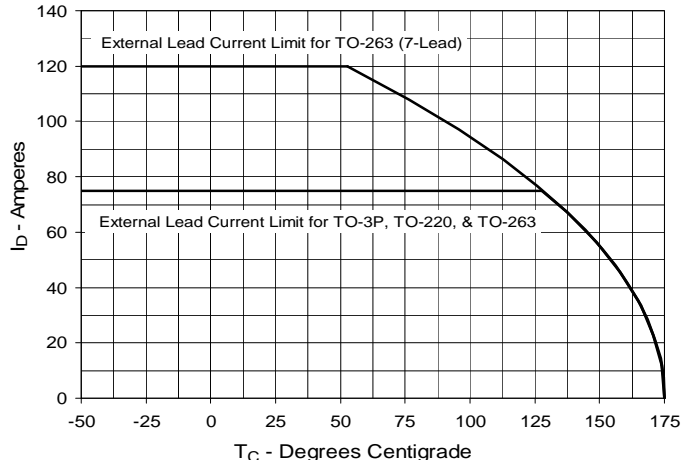


Fig. 7. Input Admittance

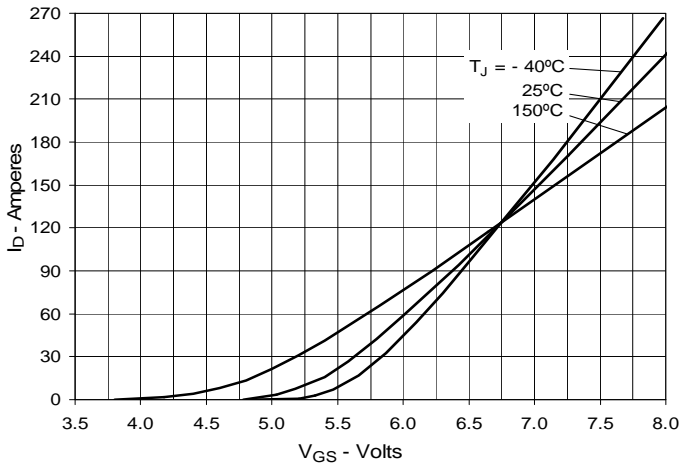


Fig. 8. Transconductance

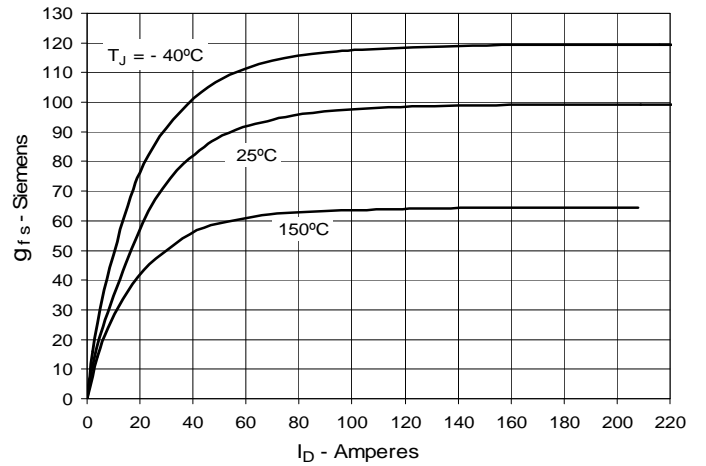


Fig. 9. Forward Voltage Drop of Intrinsic Diode

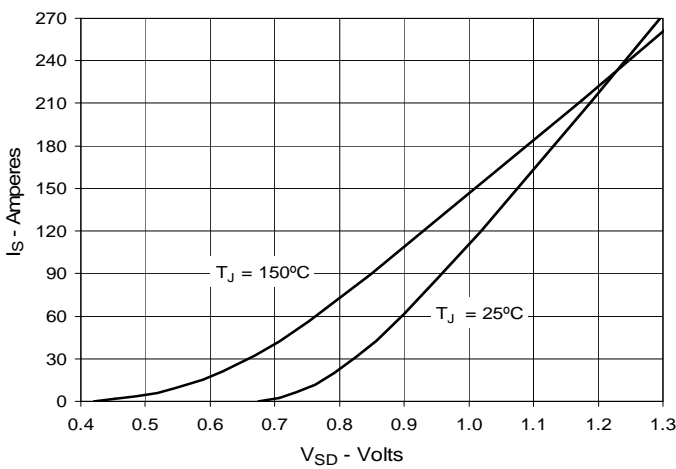


Fig. 10. Gate Charge

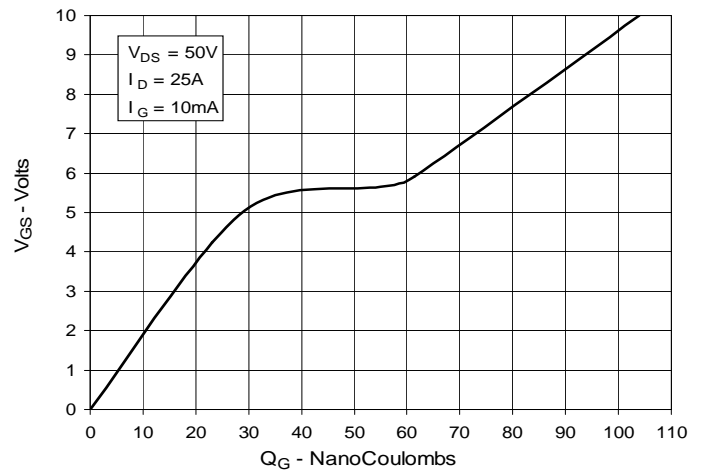


Fig. 11. Capacitance

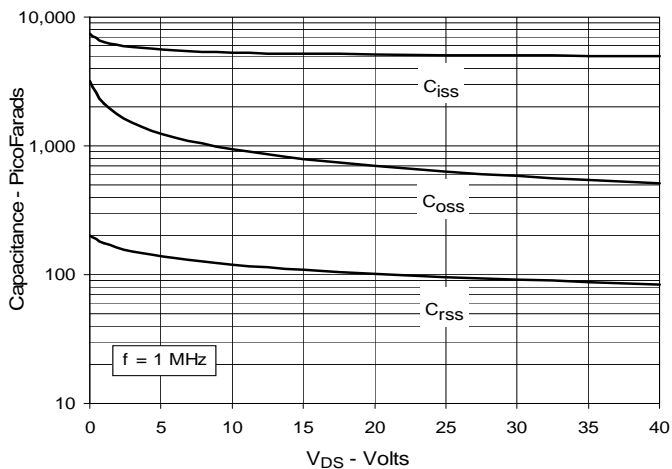


Fig. 12. Maximum Transient Thermal Impedance

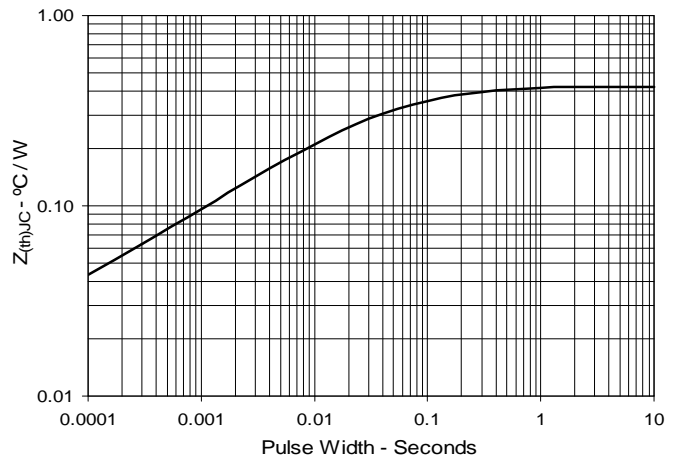


Fig. 13. Resistive Turn-on Rise Time vs. Junction Temperature

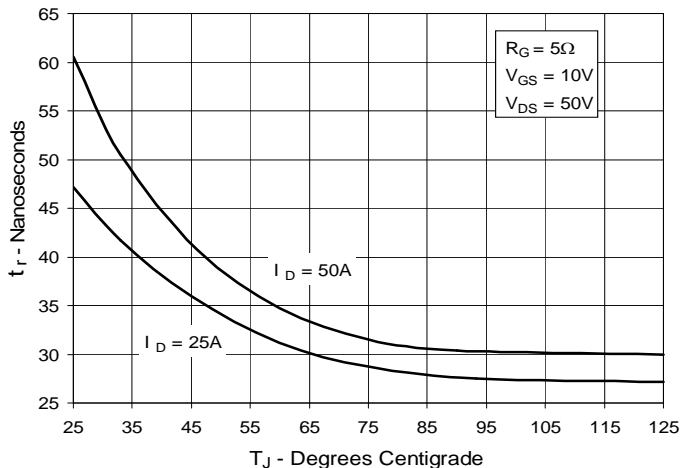


Fig. 14. Resistive Turn-on Rise Time vs. Drain Current

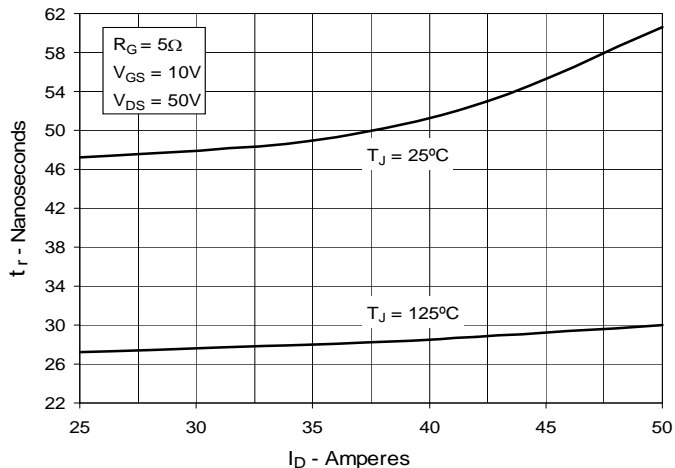


Fig. 15. Resistive Turn-on Switching Times vs. Gate Resistance

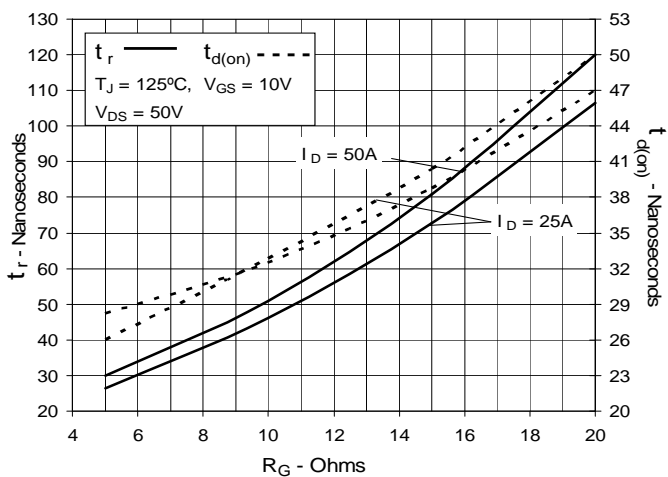


Fig. 16. Resistive Turn-off Switching Times vs. Junction Temperature

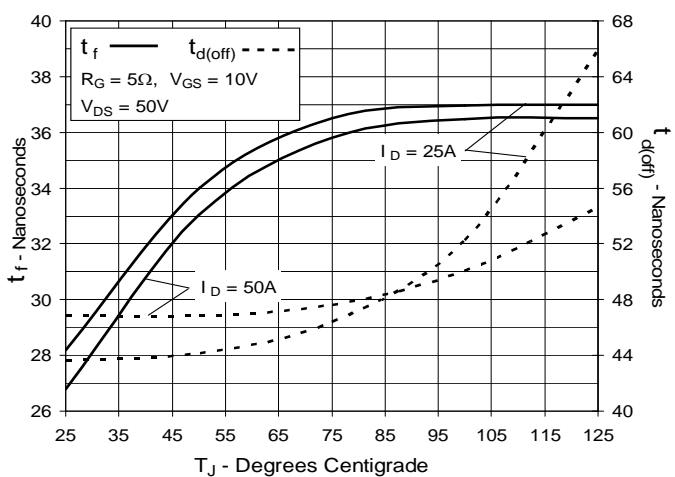


Fig. 17. Resistive Turn-off Switching Times vs. Drain Current

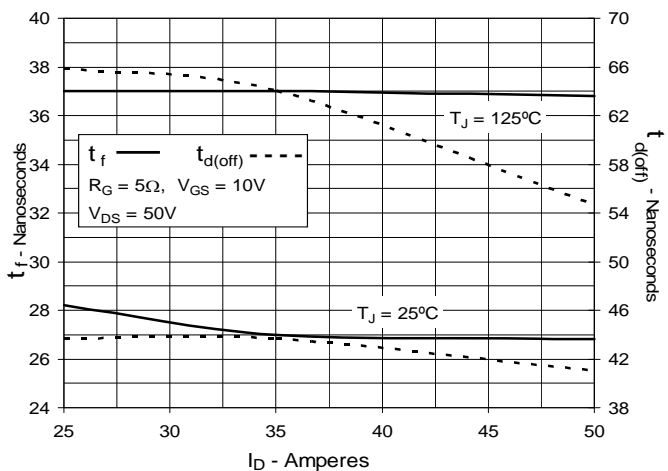
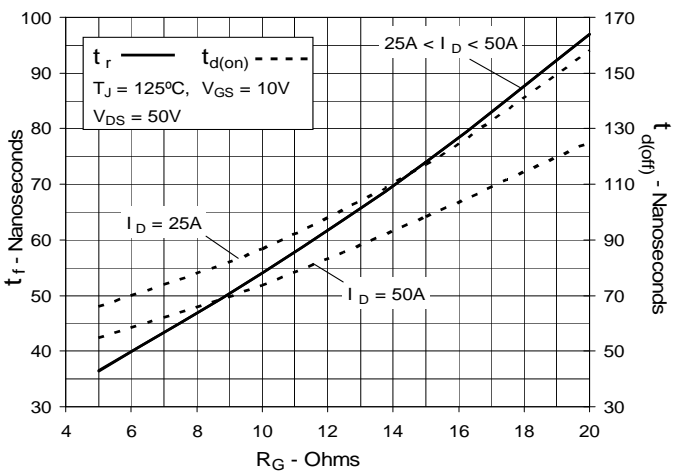


Fig. 18. Resistive Turn-off Switching Times vs. Gate Resistance





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