



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!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

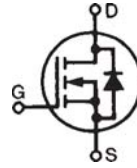


TrenchMV™ Power MOSFET

IXTA80N10T IXTP80N10T

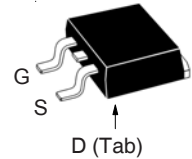
$V_{DSS} = 100V$
 $I_{D25} = 80A$
 $R_{DS(on)} \leq 14m\Omega$

N-Channel Enhancement Mode
 Avalanche Rated
 Fast Intrinsic Diode

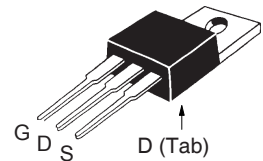


Symbol	Test Conditions	Maximum Ratings	
V_{DSS}	$T_J = 25^\circ C$ to $175^\circ C$	100	V
V_{DGR}	$T_J = 25^\circ C$ to $175^\circ C$, $R_{GS} = 1M\Omega$	100	V
V_{GSS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	$T_C = 25^\circ C$	80	A
I_{DM}	$T_C = 25^\circ C$, Pulse Width Limited by T_{JM}	220	A
I_A	$T_C = 25^\circ C$	25	A
E_{AS}	$T_C = 25^\circ C$	400	mJ
P_D	$T_C = 25^\circ C$	230	W
dV/dt	$I_S \leq I_{DM}$, $V_{DD} \leq V_{DSS}$, $T_J \leq 175^\circ C$	10	V/ns
T_J		-55 ... +175	$^\circ C$
T_{JM}		175	$^\circ C$
T_{stg}		-55 ... +175	$^\circ C$
T_L	1.6mm (0.062 in.) from Case for 10s	300	$^\circ C$
T_{SOLD}	Plastic Body for 10s	260	$^\circ C$
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

- International Standard Packages
- 175°C Operating Temperature
- Avalanche Rated
- High Current Handling Capability
- Fast Intrinsic Diode
- Low $R_{DS(on)}$

Advantages

- Easy to Mount
- Space Savings
- High Power Density

Applications

- Automotive
 - Motor Drives
 - DC/DC Conversion
 - 42V Power Bus
 - ABS Systems
- DC/DC Converters and Off-Line UPS
- Primary Switch for 24V and 48V Systems
- High Current Switching Applications
- Distributed Power Architectures and VRMs
- Electronic Valve Train Systems

Symbol	Test Conditions ($T_J = 25^\circ C$ Unless Otherwise Specified)	Characteristic Values		
		Min.	Typ.	Max.
BV_{DSS}	$V_{GS} = 0V$, $I_D = 250\mu A$	105		V
$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 100\mu A$	2.5		5.0 V
I_{GSS}	$V_{GS} = \pm 20V$, $V_{DS} = 0V$			± 200 nA
I_{DSS}	$V_{DS} = 105V$, $V_{GS} = 0V$ $T_J = 150^\circ C$			5 μA 150 μA
$R_{DS(on)}$	$V_{GS} = 10V$, $I_D = 25A$, Note 1 & 2			14 m Ω

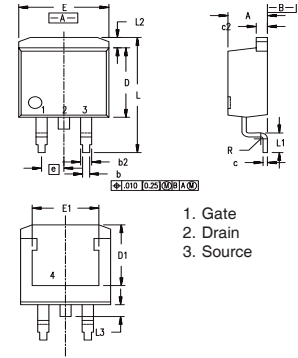
Symbol	Test Conditions ($T_J = 25^\circ\text{C}$ Unless Otherwise Specified)	Characteristic Values		
		Min.	Typ.	Max.
g_{fs}	$V_{DS} = 10\text{V}, I_D = 0.5 \cdot I_{D25}, \text{Note 1}$	33	55	S
C_{iss}	$V_{GS} = 0\text{V}, V_{DS} = 25\text{V}, f = 1\text{MHz}$		3040	pF
C_{oss}			420	pF
C_{rss}			90	pF
$t_{d(on)}$	Resistive Switching Times $V_{GS} = 10\text{V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 10\text{A}$ $R_G = 15\Omega$ (External)		31	ns
t_r			54	ns
$t_{d(off)}$			40	ns
t_f			48	ns
$Q_{g(on)}$	$V_{GS} = 10\text{V}, V_{DS} = 0.5 \cdot V_{DSS}, I_D = 25\text{A}$		60	nC
Q_{gs}			21	nC
Q_{gd}			15	nC
R_{thJC}			0.65	$^\circ\text{C/W}$
R_{thCS}		0.50		$^\circ\text{C/W}$

Source-Drain Diode

Symbol	Test Conditions ($T_J = 25^\circ\text{C}$, Unless Otherwise Specified)	Characteristic Values		
		Min.	Typ.	Max.
I_s	$V_{GS} = 0\text{V}$			80 A
I_{SM}	Repetitive, Pulse Width Limited by T_{JM}			220 A
V_{SD}	$I_F = 25\text{A}, V_{GS} = 0\text{V}, \text{Note 1}$			1.1 V
t_{rr}	$I_F = 25\text{A}, -di/dt = 100\text{A}/\mu\text{s}$ $V_R = 50\text{V}, V_{GS} = 0\text{V}$		100	ns

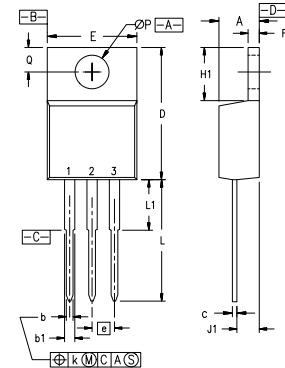
- Notes
1. Pulse test, $t \leq 300\mu\text{s}$, duty cycle, $d \leq 2\%$.
 2. On through-hole packages $R_{DS(on)}$ Kelvin test contact location must be 5 mm or less from the package body.

TO-263 (IXTA) Outline



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 (IXTP) Outline



- Pins: 1 - Gate 2 - Drain
3 - Source 4 - 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 @ $T_J = 25^\circ\text{C}$

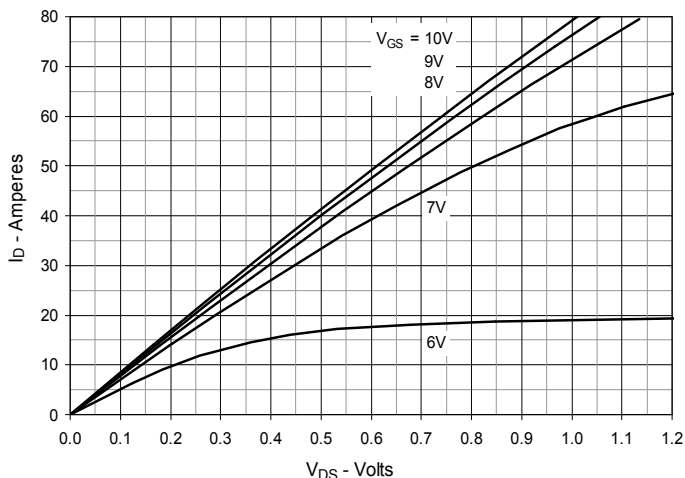


Fig. 2. Extended Output Characteristics @ $T_J = 25^\circ\text{C}$

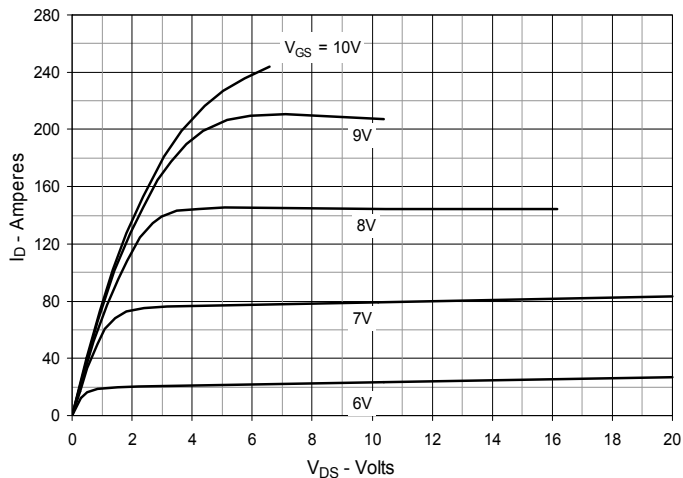


Fig. 3. Output Characteristics @ $T_J = 150^\circ\text{C}$

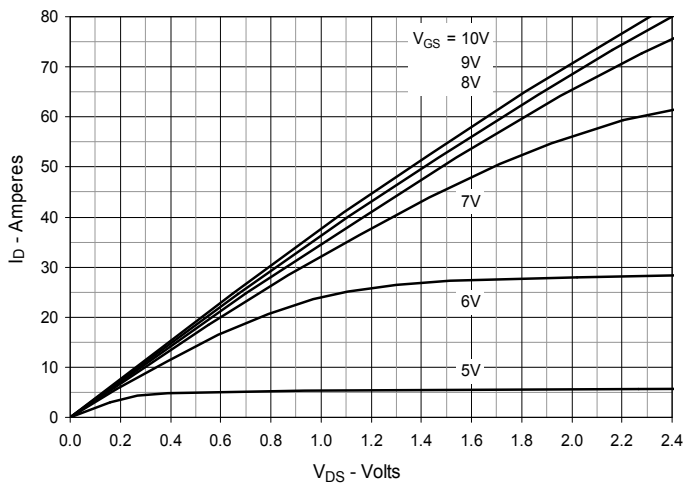


Fig. 4. $R_{DS(on)}$ Normalized to $I_D = 40\text{A}$ Value vs. Junction Temperature

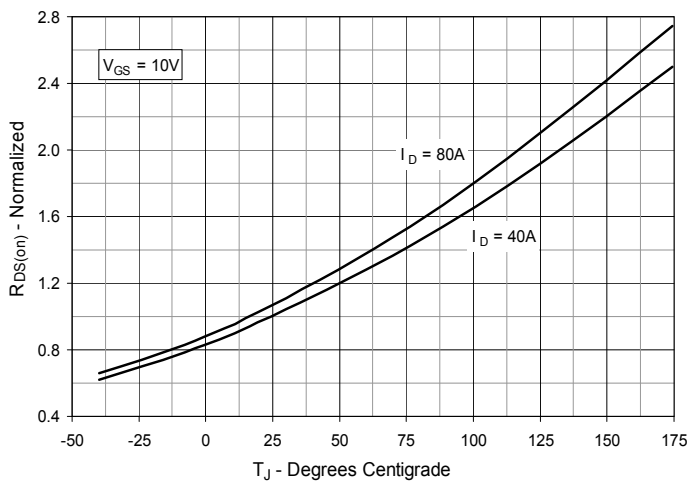


Fig. 5. $R_{DS(on)}$ Normalized to $I_D = 40\text{A}$ Value vs. Drain Current

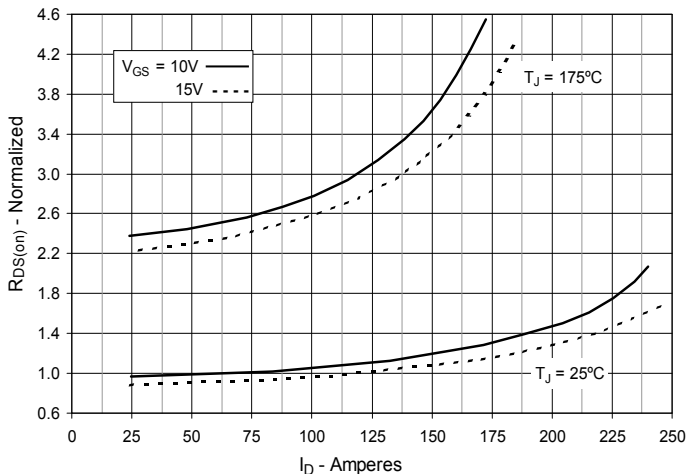


Fig. 6. Drain Current vs. Case Temperature

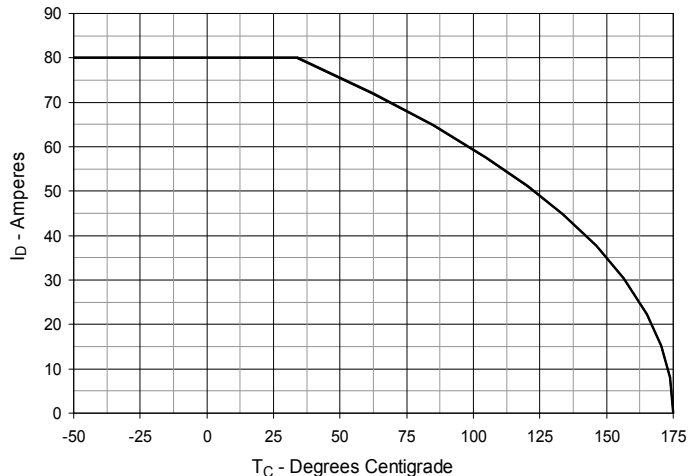


Fig. 7. Input Admittance

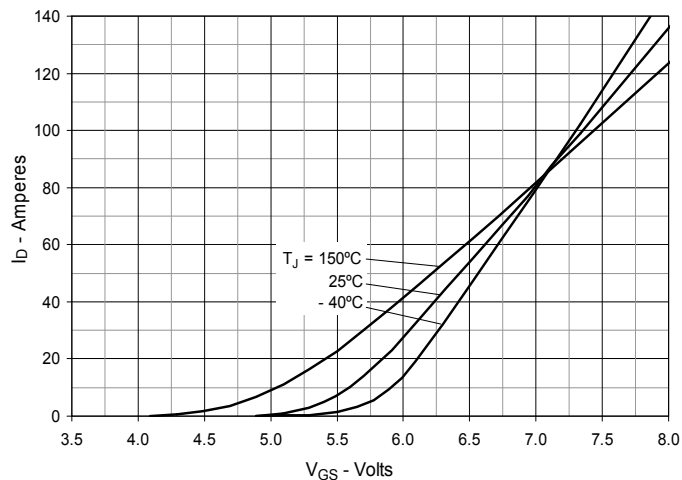


Fig. 8. Transconductance

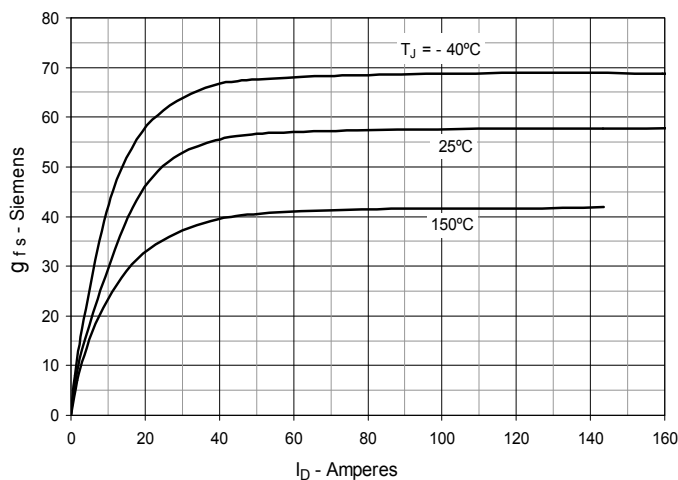


Fig. 9. Forward Voltage Drop of Intrinsic Diode

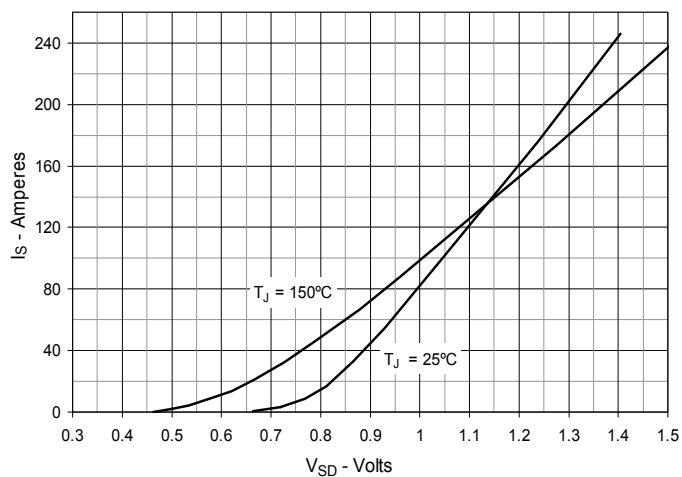


Fig. 10. Gate Charge

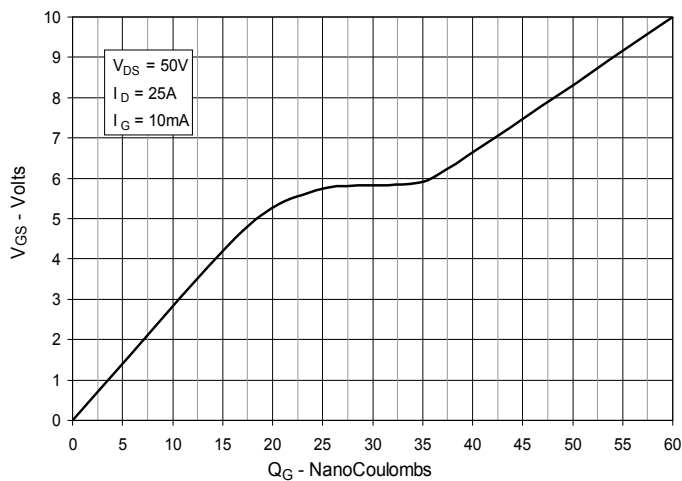


Fig. 11. Capacitance

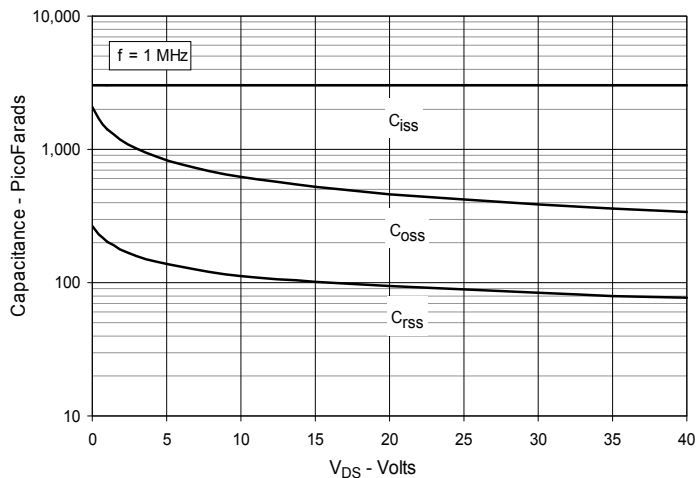
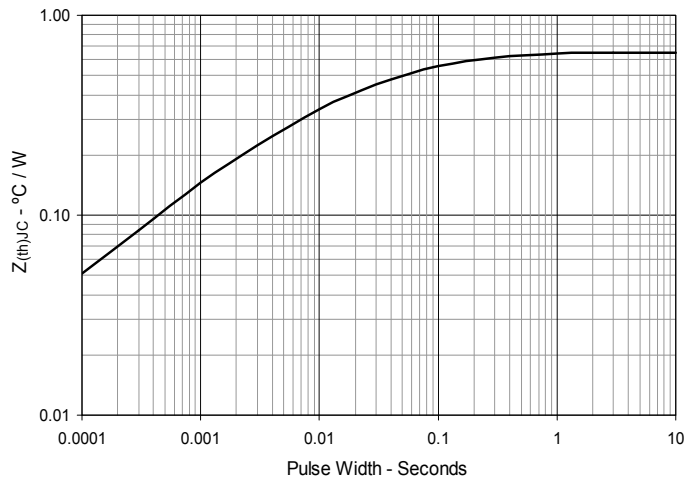
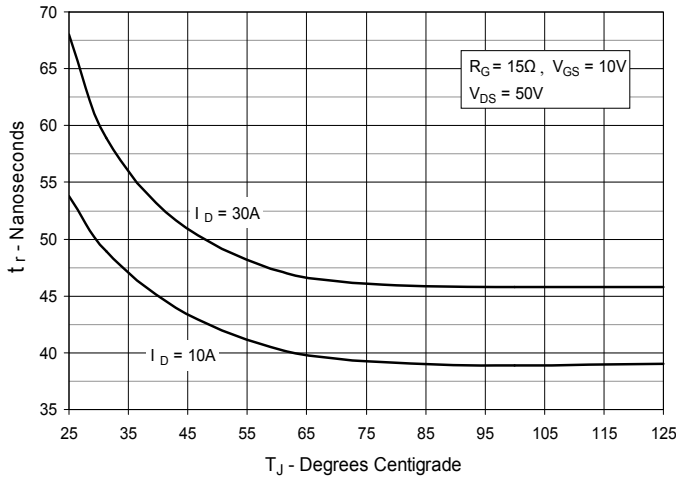


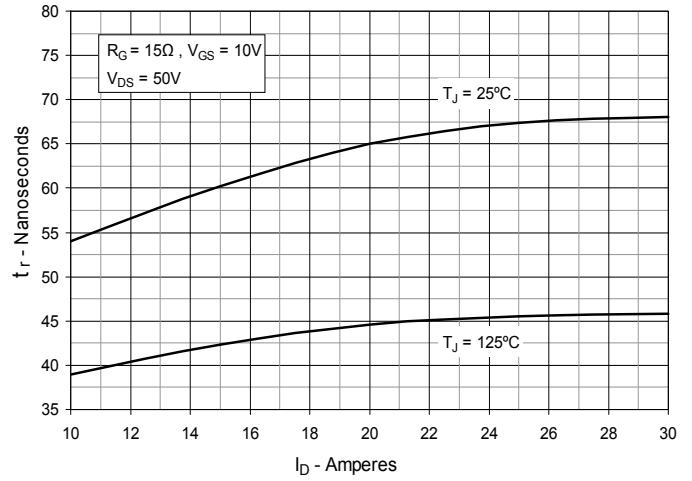
Fig. 12. Maximum Transient Thermal Impedance



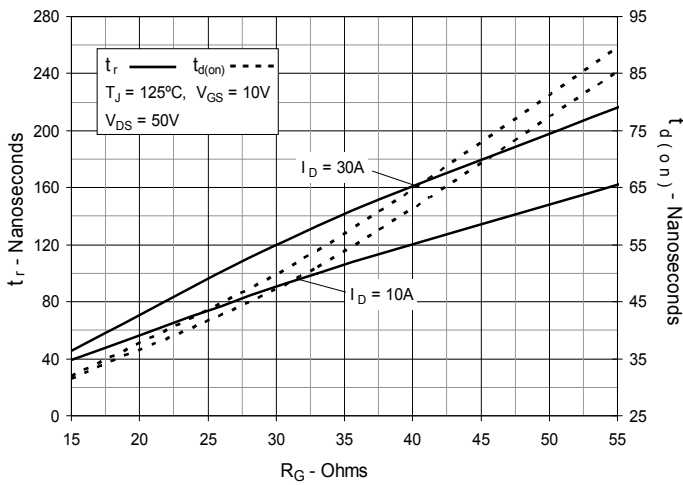
**Fig. 13. Resistive Turn-on
Rise Time vs. Junction Temperature**



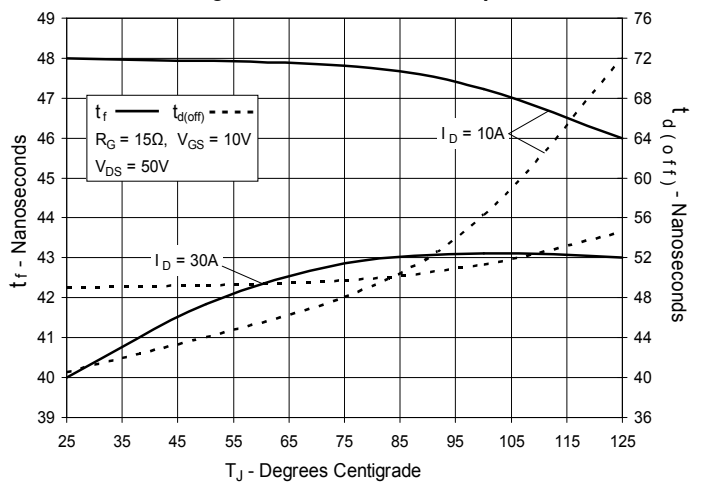
**Fig. 14. Resistive Turn-on
Rise Time vs. Drain Current**



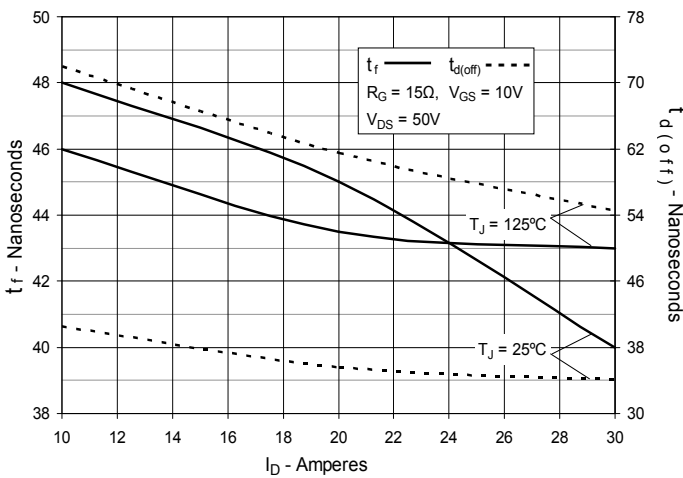
**Fig. 15. Resistive Turn-on
Switching Times vs. Gate Resistance**



**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**

