

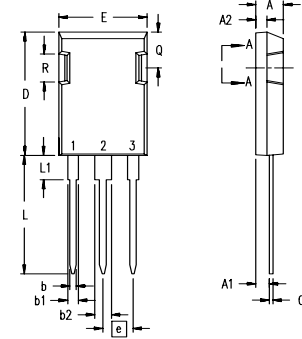
Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		Min.	Typ.	Max.
g_{fs}	$V_{DS} = 20\text{ V}; I_D = 0.5 I_{D25}$, Note 1	40	63	S
C_{iss}	$V_{GS} = 0\text{ V}, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$	1150	12	nF
C_{oss}			80	pF
C_{rss}				pF
$t_{d(on)}$	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 V_{DSS}, I_D = 0.5 I_{D25}$ $R_G = 1\ \Omega$ (External)	79	28	ns
t_r			23	ns
$t_{d(off)}$			24	ns
t_f				ns
$Q_{g(on)}$	$V_{GS} = 10\text{ V}, V_{DS} = 0.5 V_{DSS}, I_D = 0.5 I_{D25}$	68	200	nC
Q_{gs}			70	nC
Q_{gd}				nC
R_{thJC}		0.15	0.12 $^\circ\text{C/W}$	
R_{thCS}			$^\circ\text{C/W}$	

Source-Drain Diode		Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
Symbol	Test Conditions	Min.	Typ.	Max.
I_S	$V_{GS} = 0\text{ V}$			64 A
I_{SM}	Repetitive			150 A
V_{SD}	$I_F = I_S, V_{GS} = 0\text{ V}$, Note 1			1.5 V
t_{rr}	$I_F = 25\text{ A}, -di/dt = 100\text{ A}/\mu\text{s}$ $V_R = 100\text{ V}$	6.0	0.6	200 ns
Q_{RM}				μC
I_{RM}				A

Notes:

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

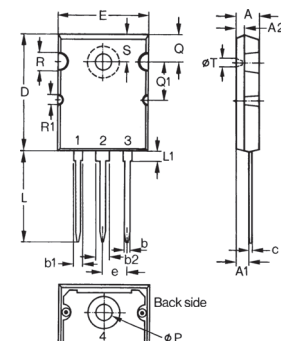
PLUS 247™ Outline



Terminals: 1 - Gate
2 - Drain (Collector)
3 - Source (Emitter)
4 - Drain (Collector)

Dim.	Millimeter	Inches
	Min.	Max.
A	4.83	5.21
A ₁	2.29	2.54
A ₂	1.91	2.16
b	1.14	1.40
b ₁	1.91	2.13
b ₂	2.92	3.12
C	0.61	0.80
D	20.80	21.34
E	15.75	16.13
e	5.45 BSC	.215 BSC
L	19.81	20.32
L1	3.81	4.32
Q	5.59	6.20
R	4.32	4.83

TO-264 Outline



Dim.	Millimeter	Inches
	Min.	Max.
A	4.82	5.13
A ₁	2.54	2.89
A ₂	2.00	2.10
b	1.12	1.42
b ₁	2.39	2.69
b ₂	2.90	3.09
c	0.53	0.83
D	25.91	26.16
E	19.81	19.96
e	5.46 BSC	.215 BSC
J	0.00	0.25
K	0.00	0.25
L	20.32	20.83
L1	2.29	2.59
P	3.17	3.66
Q	6.07	6.27
Q1	8.38	8.69
R	3.81	4.32
R1	1.78	2.29
S	6.04	6.30
T	1.57	1.83

IXYS reserves the right to change limits, test conditions, and dimensions.

IXYS MOSFETs and IGBTs are covered by 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
one or more of the following U.S. patents: 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
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

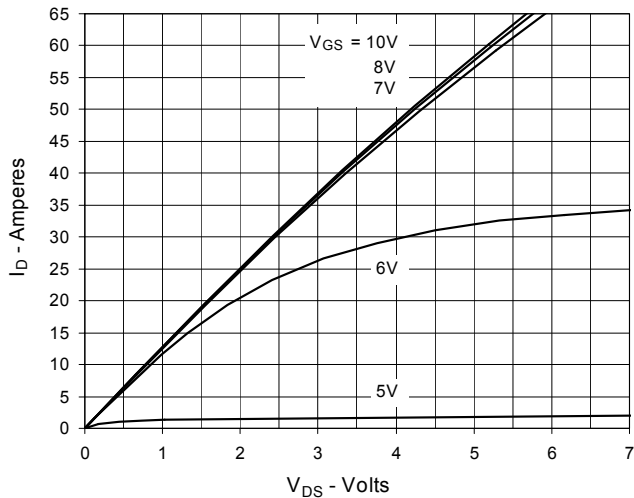
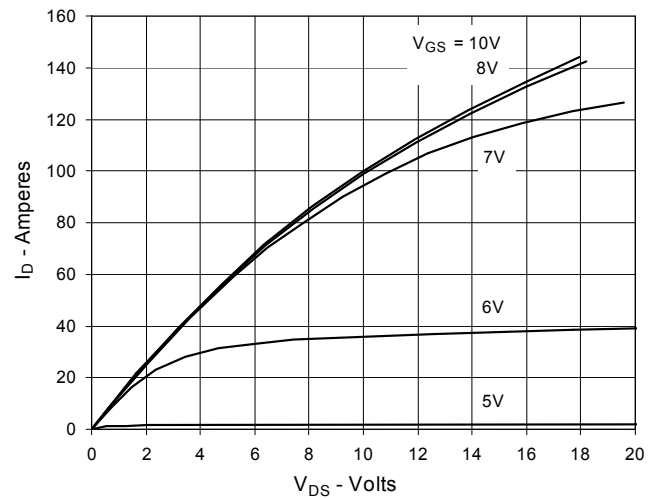
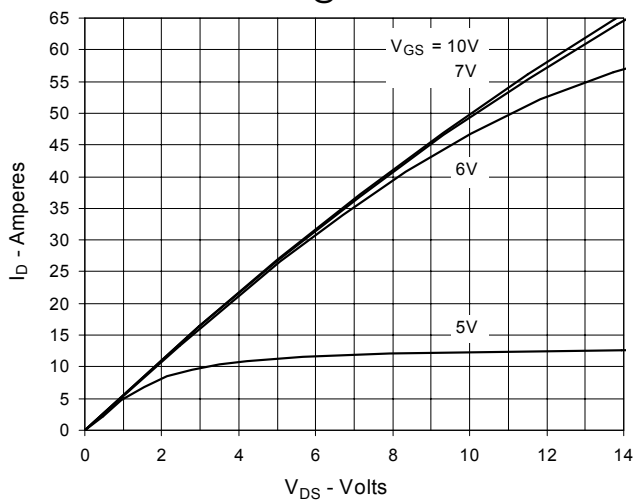
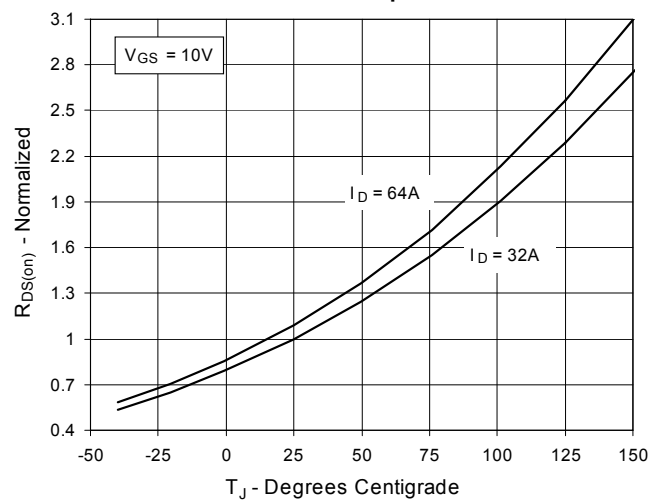
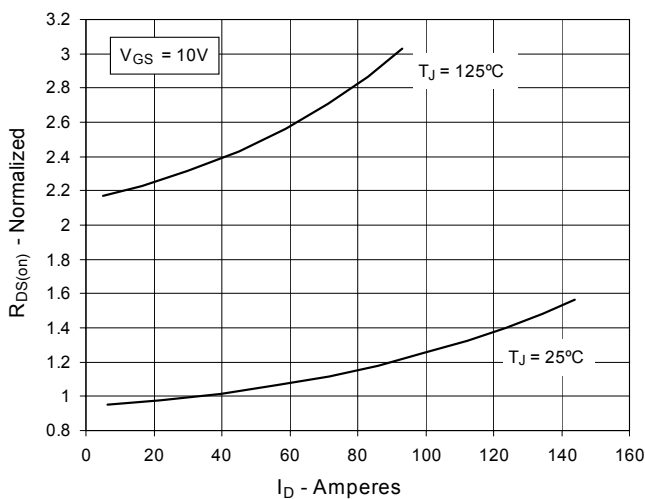
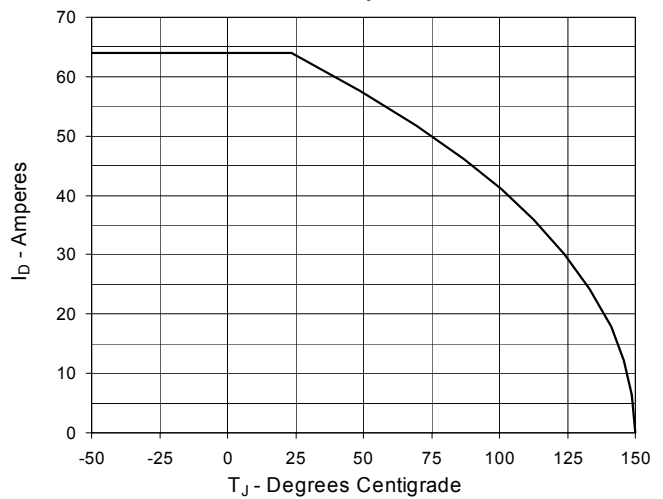
Fig. 1. Output Characteristics
@ 25°C

Fig. 2. Extended Output Characteristics
@ 25°C

Fig. 3. Output Characteristics
@ 125°C

Fig. 4. $R_{DS(on)}$ Normalized to $I_D = 32\text{A}$ vs. Junction Temperature

Fig. 5. $R_{DS(on)}$ Normalized to $I_D = 32\text{A}$ vs. Drain Current

Fig. 6. Maximum Drain Current vs. Case Temperature


Fig. 7. Input Admittance

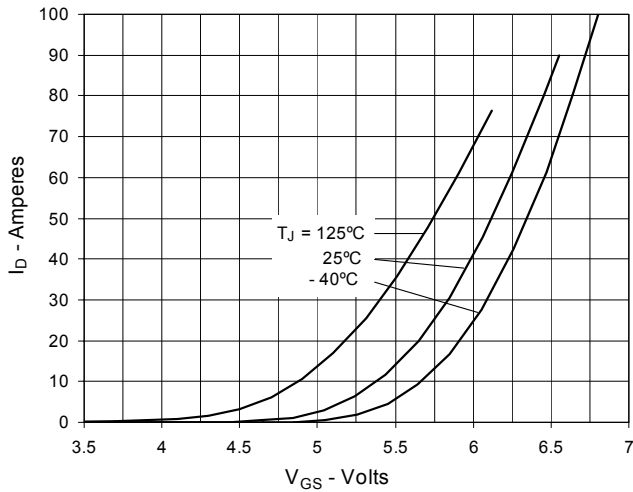


Fig. 8. Transconductance

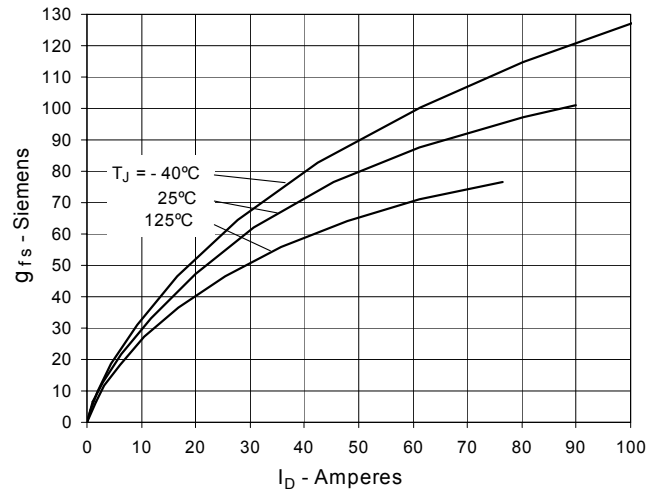


Fig. 9. Forward Voltage Drop of Intrinsic Diode

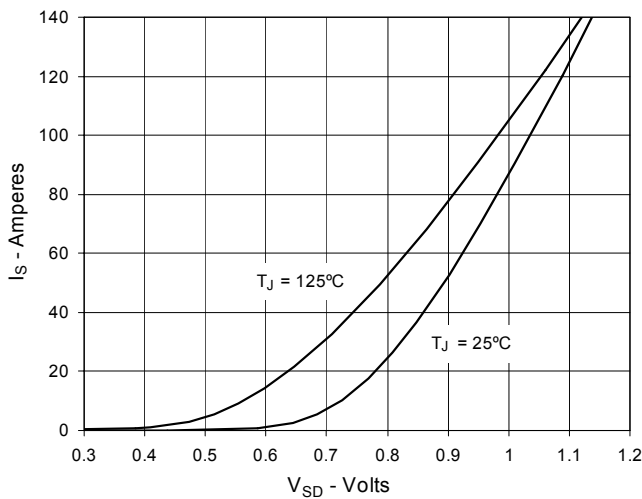


Fig. 10. Gate Charge

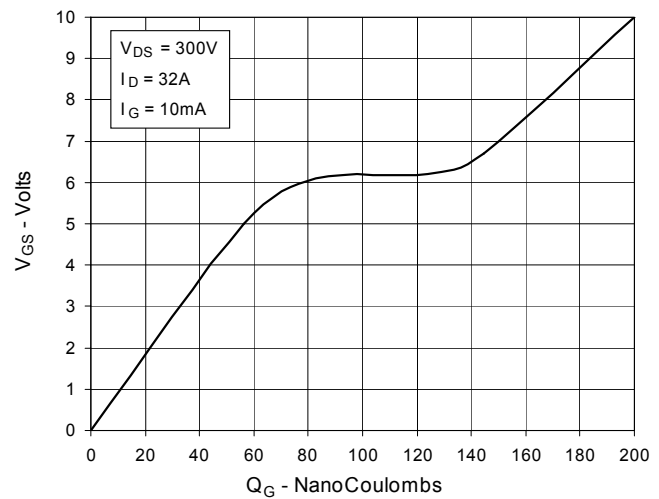


Fig. 11. Capacitance

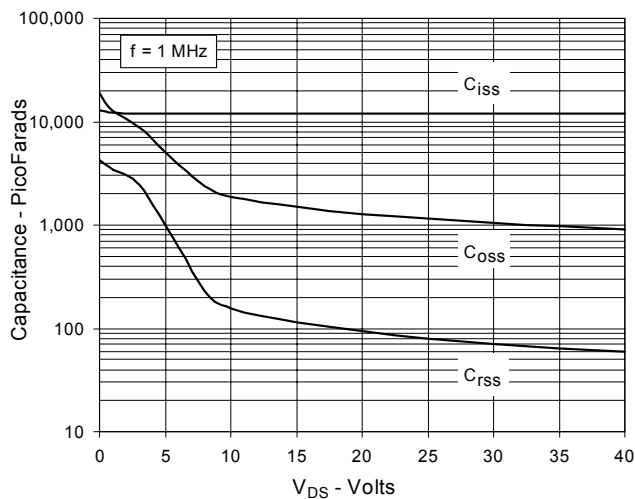


Fig. 12. Forward-Bias Safe Operating Area

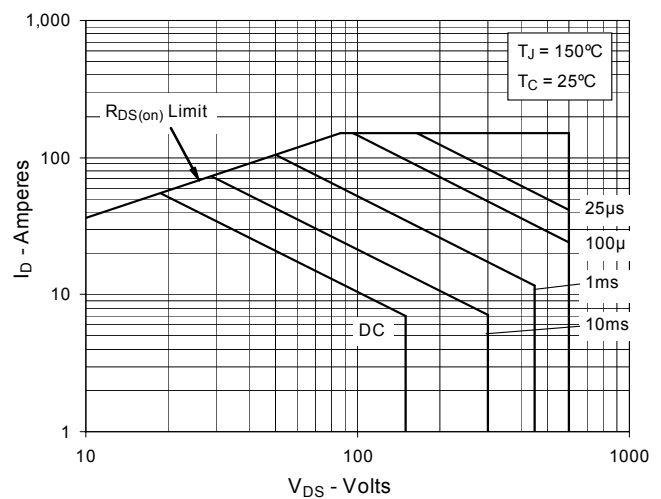
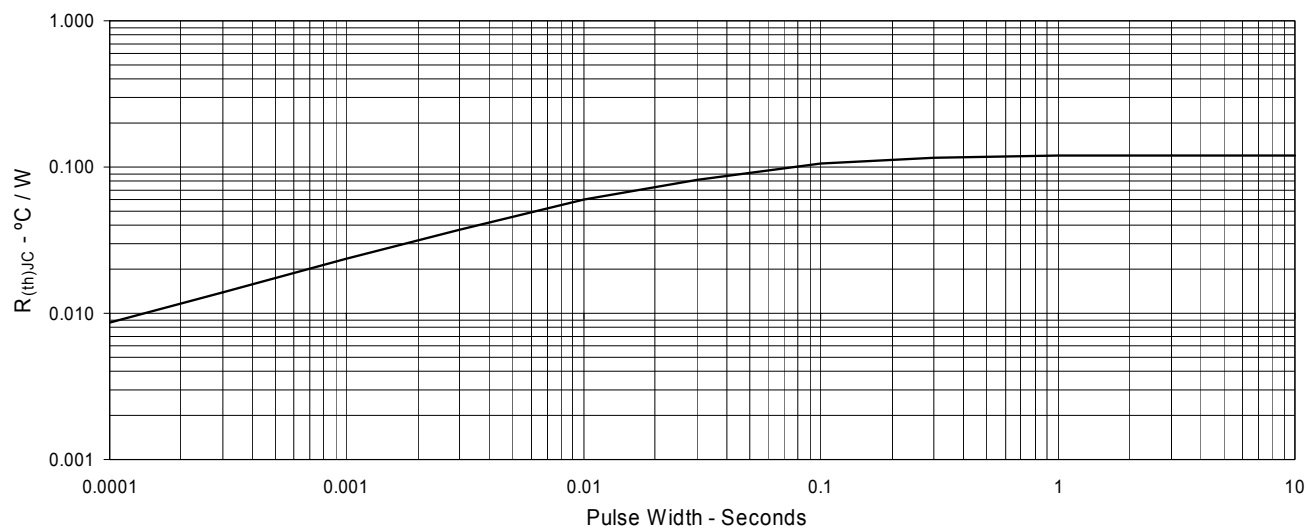


Fig. 13. Maximum Transient Thermal Resistance



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