

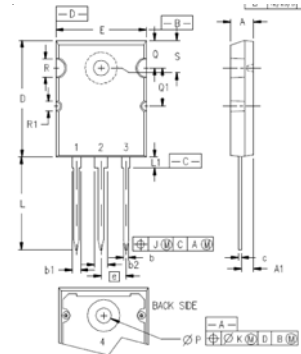
Symbol	Test Conditions	Characteristic Values		
	(T _J = 25°C, Unless Otherwise Specified)	Min.	Typ.	Max.
g_{fs}	V _{DS} = 20V, I _D = 0.5 • I _{D25} , Note 1	30	50	S
C_{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz		9700	nF
C_{oss}			970	pF
C_{rss}			30	pF
t_{d(on)}	Resistive Switching Times V _{GS} = 10V, V _{DS} = 0.5 • V _{DSS} , I _D = 0.5 • I _{D25} R _G = 2Ω (External)		30	ns
t_r			25	ns
t_{d(off)}			85	ns
t_f			22	ns
Q_{g(on)}	V _{GS} = 10V, V _{DS} = 0.5 • V _{DSS} , I _D = 0.5 • I _{D25}		150	nC
Q_{gs}			50	nC
Q_{gd}			50	nC
R_{thJC}		0.15		0.15 °C/W
R_{thCS}				°C/W

Source-Drain Diode

Symbol	Test Conditions	Characteristic Values		
	(T _J = 25°C, Unless Otherwise Specified)	Min.	Typ.	Max.
I_S	V _{GS} = 0V			64 A
I_{SM}	Repetitive, Pulse Width Limited by T _{JM}			250 A
V_{SD}	I _F = 64A, V _{GS} = 0V, Note 1			1.5 V
t_{rr}	I _F = 25A, -di/dt = 100A/μs V _R = 100V, V _{GS} = 0V	0.6	6.0	200 nS
Q_{RM}				μC
I_{RM}				A

Note 1: Pulse Test, t ≤ 300μs; Duty Cycle, d ≤ 2%.

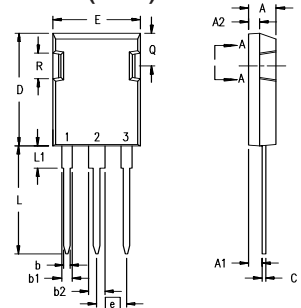
TO-264 (IXFK) Outline



1 - GATE
2, 4 - DRAIN (COLLECTOR)
3 - SOURCE (EMITTER)

SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.185	.209	4.70	5.31
A1	.102	.118	2.59	3.00
b	.037	.055	0.94	1.40
b1	.087	.102	2.21	2.59
b2	.110	.126	2.79	3.20
c	.017	.029	0.43	0.74
D	1.007	1.047	25.58	26.59
E	.760	.799	19.30	20.29
e	.215 BSC		5.46 BSC	
J	.000	.010	0.00	0.25
K	.000	.010	0.00	0.25
L	.779	.842	19.79	21.39
L1	.087	.102	2.21	2.59
ØP	.122	.138	3.10	3.51
Q	.240	.256	6.10	6.50
Q1	.330	.346	8.38	8.79
ØR	.155	.187	3.94	4.75
ØR1	.085	.093	2.16	2.36
S	.243	.253	6.17	6.43

PLUS 247™ (IXFX) Outline



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

Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.83	5.21	.190	.205
A ₁	2.29	2.54	.090	.100
A ₂	1.91	2.16	.075	.085
b	1.14	1.40	.045	.055
b ₁	1.91	2.13	.075	.084
b ₂	2.92	3.12	.115	.123
C	0.61	0.80	.024	.031
D	20.80	21.34	.819	.840
E	15.75	16.13	.620	.635
e	5.45 BSC		.215 BSC	
L	19.81	20.32	.780	.800
L1	3.81	4.32	.150	.170
Q	5.59	6.20	.220	0.244
R	4.32	4.83	.170	.190

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	7,157,338 B2
	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

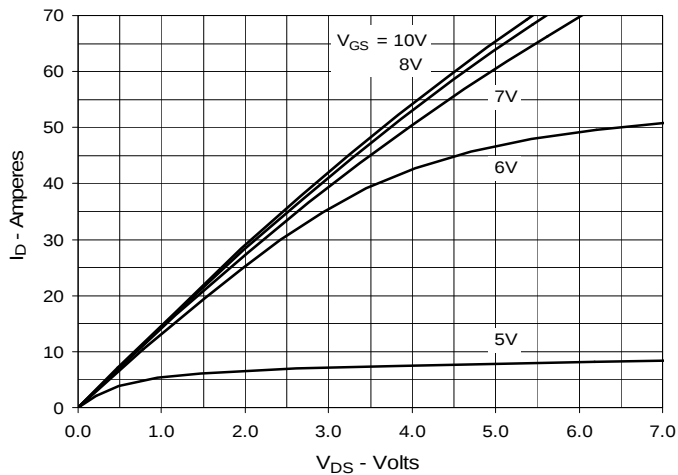


Fig. 2. Extended Output Characteristics
@ 25°C

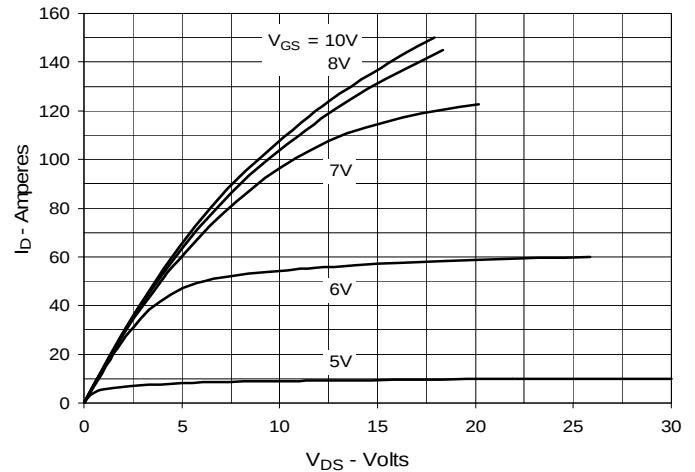


Fig. 3. Output Characteristics
@ 125°C

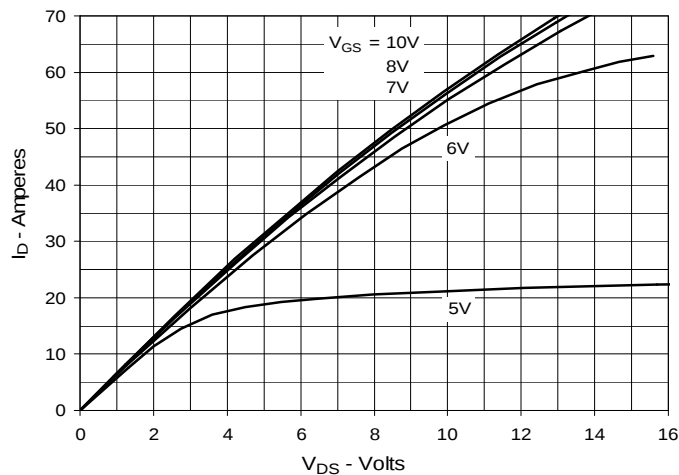


Fig. 4. $R_{DS(on)}$ Normalized to $I_D = 32\text{A}$ Value
vs. Junction Temperature

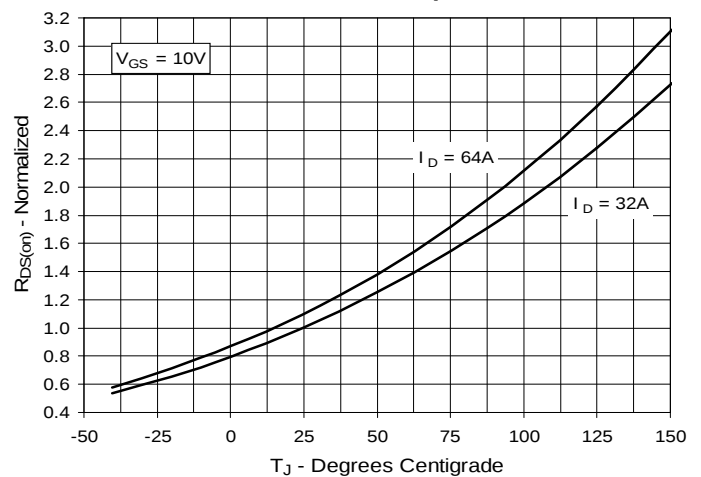


Fig. 5. $R_{DS(on)}$ Normalized to $I_D = 32\text{A}$ Value
vs. Drain Current

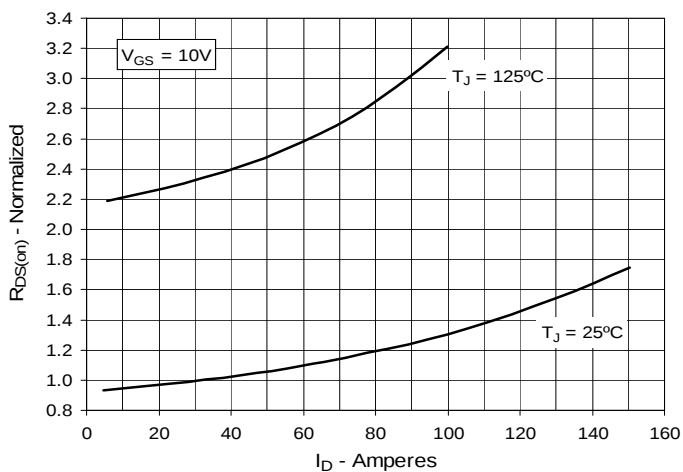


Fig. 6. Maximum Drain Current vs.
Case Temperature

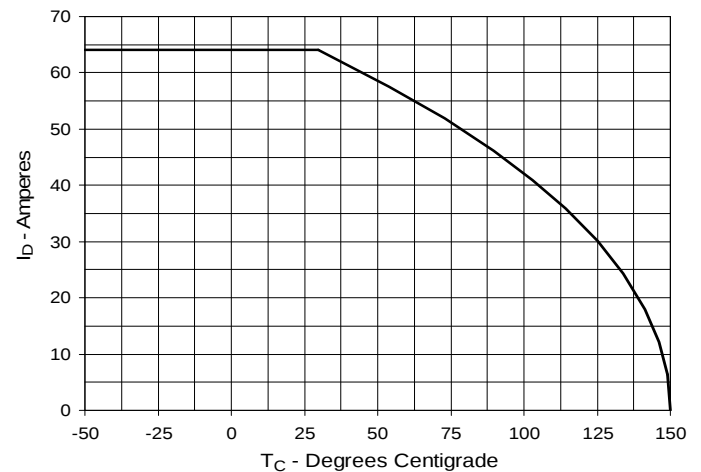


Fig. 7. Input Admittance

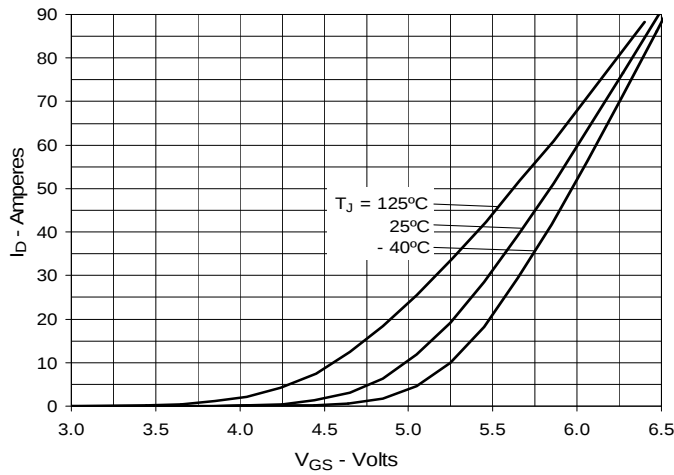


Fig. 8. Transconductance

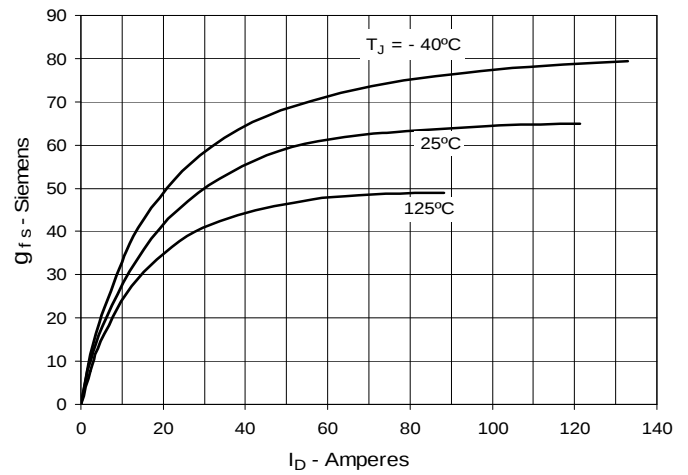


Fig. 9. Forward Voltage Drop of Intrinsic Diode

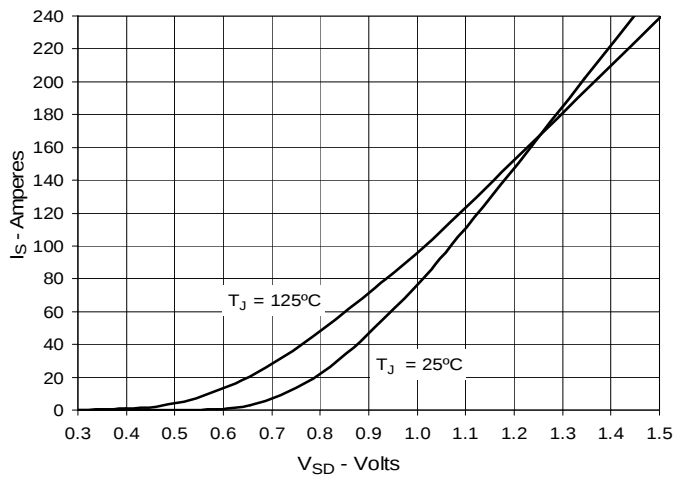


Fig. 10. Gate Charge

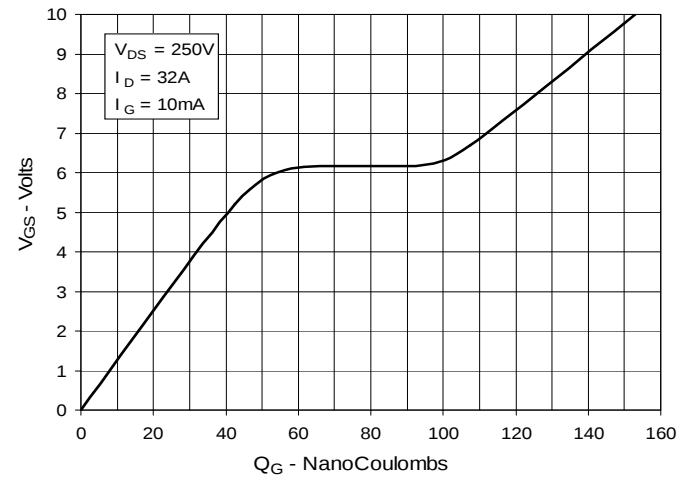


Fig. 11. Capacitance

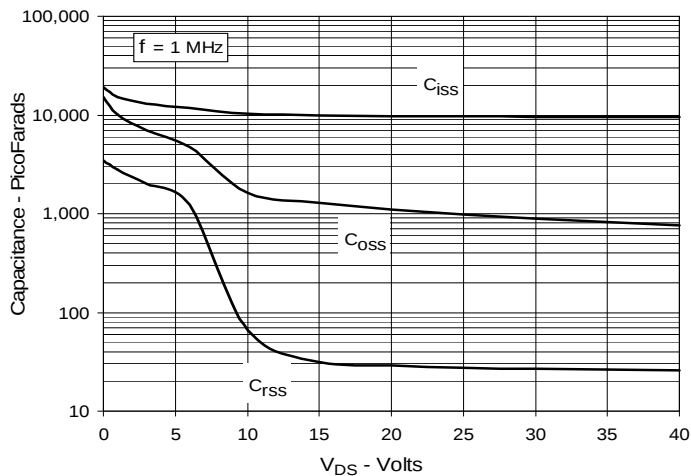
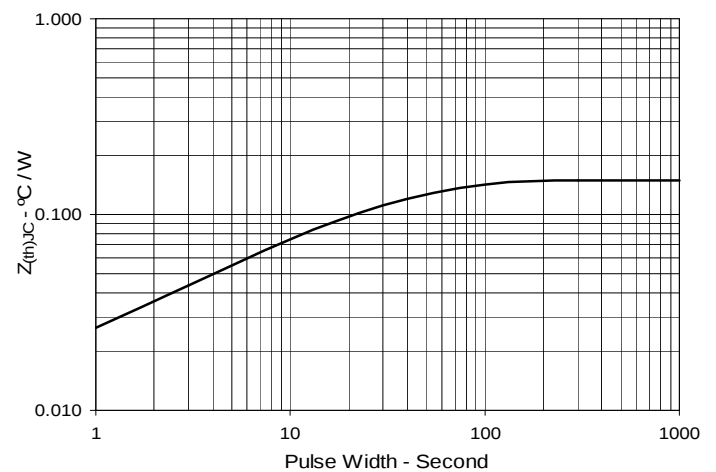


Fig. 12. Maximum Transient Thermal Impedance





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