

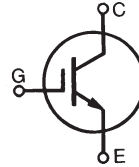
GenX3™ 1000V IGBT
**IXGH32N100A3
IXGT32N100A3**

$$V_{CES} = 1000V$$

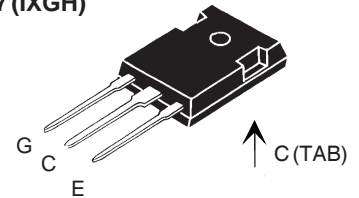
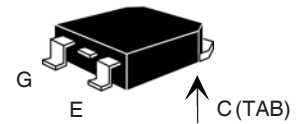
$$I_{C25} = 75A$$

$$V_{CE(sat)} \leq 2.2V$$

**Ultra-low V_{sat} PT IGBTs
for up to 4 kHz switching**



Symbol	Test Conditions	Maximum Ratings	
V_{CES}	$T_C = 25^\circ C$ to $150^\circ C$	1000	V
V_{CGR}	$T_J = 25^\circ C$ to $150^\circ C$, $R_{GE} = 1M\Omega$	1000	V
V_{GES}	Continuous	± 20	V
V_{GEM}	Transient	± 30	V
I_{C25}	$T_C = 25^\circ C$, IGBT chip capability	75	A
I_{C110}	$T_C = 110^\circ C$	32	A
I_{CM}	$T_J \leq 150^\circ C$, $tp < 300\mu s$	200	A
I_{AS}	$T_C = 25^\circ C$	20	A
E_{AS}	$T_C = 25^\circ C$	120	mJ
SSOA (RBSOA)	$V_{GE} = 15V$, $T_{VJ} = 125^\circ C$, $R_G = 10\Omega$ Clamped inductive load @ $\leq 0.8 \cdot V_{CES}$	$I_{CM} = 150$	A
P_C	$T_C = 25^\circ C$	300	W
T_J		-55 ... +150	$^\circ C$
T_{JM}		150	$^\circ C$
T_{stg}		-55 ... +150	$^\circ C$
T_L	1.6mm (0.062 in.) from case for 10s	300	$^\circ C$
T_{SOLD}	Plastic body for 10 seconds	260	$^\circ C$
M_d	Mounting torque (TO-247)	1.13 / 10	Nm/lb.in.
Weight	TO-247	6	g
	TO-268	5	g

TO-247 (IXGH)

TO-268 (IXGT)


G = Gate C = Collector
E = Emitter TAB = Collector

Features

- International standard packages
- Low saturation voltage
- Avalanche Rated
- MOS gate turn-on - drive simplicity
- Epoxy molding meets UL 94V-O

Applications

- Pulser circuits
- Capacitor discharge

Symbol	Test Conditions ($T_J = 25^\circ C$ unless otherwise specified)	Characteristic Values		
		Min.	Typ.	Max.
BV_{CES}	$I_C = 250\mu A$, $V_{GE} = 0V$	1000		V
$V_{GE(th)}$	$I_C = 250\mu A$, $V_{CE} = V_{GE}$	3.0		5.0 V
I_{CES}	$V_{CE} = V_{CES}$			50 μA
	$V_{GE} = 0V$ $T_J = 125^\circ C$			1 mA
I_{GES}	$V_{CE} = 0V$, $V_{GE} = \pm 20V$			± 100 nA
$V_{CE(sat)}$	$I_C = 32A$, $V_{GE} = 15V$, Note 1 $T_J = 125^\circ C$	1.90		2.2 V
		2.05		V

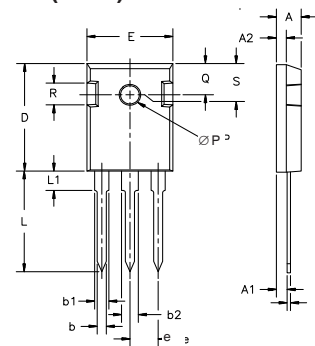
Symbol	Test Conditions ($T_J = 25^\circ\text{C}$ unless otherwise specified)	Characteristic Values		
		Min.	Typ.	Max.
g_{fs}	$I_C = 32\text{A}, V_{CE} = 10\text{V}$, Note 1	14	20	S
C_{ies}	$V_{CE} = 25\text{V}, V_{GE} = 0\text{V}, f = 1\text{MHz}$		2250	pF
C_{oes}			130	pF
C_{res}			48	pF
$Q_{g(on)}$	$I_C = 32\text{A}, V_{GE} = 15\text{V}, V_{CE} = 0.5 \cdot V_{CES}$		87	nC
Q_{ge}			16	nC
Q_{gc}			35	nC
$t_{d(on)}$	Inductive Load, $T_J = 25^\circ\text{C}$ $I_C = 32\text{A}, V_{GE} = 15\text{V}$ $V_{CE} = 800\text{V}, R_G = 10\Omega$		24	ns
t_{ri}			51	ns
E_{on}			2.6	mJ
$t_{d(off)}$			385	700 ns
t_{fi}			540	800 ns
E_{off}			9.5	14 mJ
$t_{d(on)}$	Inductive Load, $T_J = 125^\circ\text{C}$ $I_C = 32\text{A}, V_{GE} = 15\text{V}$ $V_{CE} = 800\text{V}, R_G = 10\Omega$		52	ns
t_{ri}			23	ns
E_{on}			4.2	mJ
$t_{d(off)}$			400	ns
t_{fi}			770	ns
E_{off}			13	mJ
R_{thJC}			0.42	$^\circ\text{C}/\text{W}$
R_{thCS}	TO-247	0.21		$^\circ\text{C}/\text{W}$

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

ADVANCE TECHNICAL INFORMATION

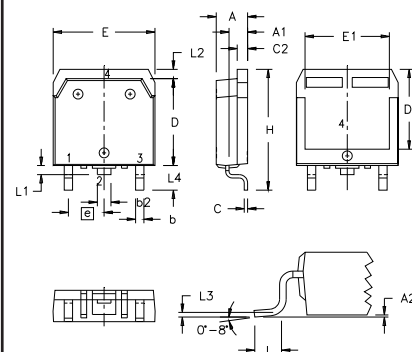
The product presented herein is under development. The Technical Specifications offered are derived from a subjective evaluation of the design, based upon prior knowledge and experience, and constitute a "considered reflection" of the anticipated result. IXYS reserves the right to change limits, test conditions, and dimensions without notice.

TO-247 (IXGH) Outline



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.7	5.3	.185	.209
A ₁	2.2	2.54	.087	.102
A ₂	2.2	2.6	.059	.098
b	1.0	1.4	.040	.055
b ₁	1.65	2.13	.065	.084
b ₂	2.87	3.12	.113	.123
C	.4	.8	.016	.031
D	20.80	21.46	.819	.845
E	15.75	16.26	.610	.640
e	5.20	5.72	0.205	0.225
L	19.81	20.32	.780	.800
L1		4.50		.177
∅P	3.55	3.65	.140	.144
Q	5.89	6.40	0.232	0.252
R	4.32	5.49	.170	.216
S	6.15	BSC	.242	BSC

TO-268 Outline



Terminals: 1 - Gate 2 - Collector
3 - Emitter

SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.193	.201	4.90	5.10
A1	.106	.114	2.70	2.90
A2	.001	.010	0.02	0.25
b	.045	.057	1.15	1.45
b2	.075	.083	1.90	2.10
C	.016	.026	0.40	0.65
C2	.057	.063	1.45	1.60
D	.543	.551	13.80	14.00
D1	.488	.500	12.40	12.70
E	.624	.632	15.85	16.05
E1	.524	.535	13.30	13.60
e		.215 BSC		5.45 BSC
H	.736	.752	18.70	19.10
L	.094	.106	2.40	2.70
L1	.047	.055	1.20	1.40
L2	.039	.045	1.00	1.15
L3		.010 BSC		0.25 BSC
L4	.150	.161	3.80	4.10

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IXYS MOSFETs and IGBTs are covered 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
by 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 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



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