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[IXGH30N60B](#)

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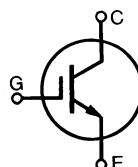
sales@integrated-circuit.com



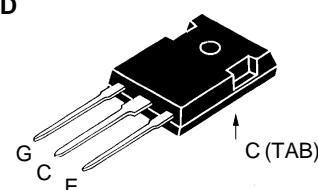
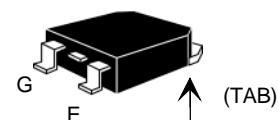
HiPerFAST™ IGBT

IXGH30N60B IXGT30N60B

$V_{CES} = 600 \text{ V}$
 $I_{C25} = 60 \text{ A}$
 $V_{CE(sat)} = 1.8 \text{ V}$
 $t_{fi} = 100 \text{ ns}$



Symbol	Test Conditions	Maximum Ratings	
V_{CES}	$T_J = 25^\circ\text{C}$ to 150°C	600	V
V_{CGR}	$T_J = 25^\circ\text{C}$ to 150°C ; $R_{GE} = 1 \text{ M}\Omega$	600	V
V_{GES}	Continuous	± 20	V
V_{GEM}	Transient	± 30	V
I_{C25}	$T_C = 25^\circ\text{C}$	60	A
I_{C110}	$T_C = 110^\circ\text{C}$	30	A
I_{CM}	$T_C = 25^\circ\text{C}$, 1 ms	120	A
SSOA (RBSOA)	$V_{GE} = 15 \text{ V}$, $T_{VJ} = 125^\circ\text{C}$, $R_G = 33 \Omega$ Clamped inductive load, $L = 100 \mu\text{H}$	$I_{CM} = 60$ @ $0.8 V_{CES}$	A
P_C	$T_C = 25^\circ\text{C}$	200	W
T_J		-55 ... +150	$^\circ\text{C}$
T_{JM}		150	$^\circ\text{C}$
T_{stg}		-55 ... +150	$^\circ\text{C}$
Maximum lead temperature for soldering 1.6 mm (0.062 in.) from case for 10 s		300	$^\circ\text{C}$
M_d	Mounting torque (M3)	1.13/10	Nm/lb.in.
Weight		6	g

**TO-247 AD
(IXGH)**

**TO-268 (D3)
(IXGT)**


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

Features

- International standard packages
JEDEC TO-268 surface mountable and JEDEC TO-247 AD
- High current handling capability
- Latest generation HDMOS™ process
- MOS Gate turn-on
- drive simplicity

Applications

- AC motor speed control
- DC servo and robot drives
- DC choppers
- Uninterruptible power supplies (UPS)
- Switched-mode and resonant-mode power supplies

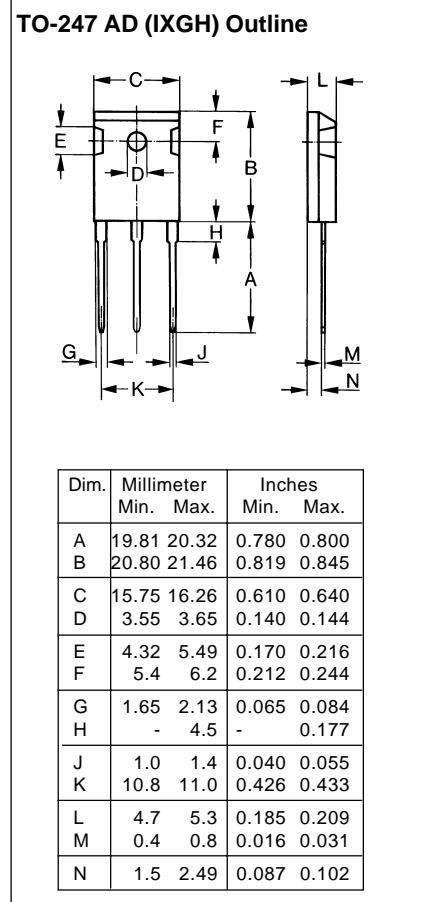
Advantages

- Space savings (two devices in one package)
- High power density
- Suitable for surface mounting
- Switching speed for high frequency applications
- Easy to mount with 1 screw, TO-247 (isolated mounting screw hole)

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
BV_{CES}	$I_C = 250 \mu\text{A}$, $V_{GE} = 0 \text{ V}$ BV_{CES} temperature coefficient	600	0.072	V %/K
$V_{GE(th)}$	$I_C = 250 \mu\text{A}$, $V_{CE} = V_{GE}$ $V_{GE(th)}$ temperature coefficient	2.5	-0.286	V %/K
I_{CES}	$V_{CE} = 0.8 \cdot V_{CES}$, $T_J = 25^\circ\text{C}$ $V_{GE} = 0 \text{ V}$, $T_J = 150^\circ\text{C}$			200 μA 1 mA
I_{GES}	$V_{CE} = 0 \text{ V}$, $V_{GE} = \pm 20 \text{ V}$			± 100 nA
$V_{CE(sat)}$	$I_C = I_{C110}$, $V_{GE} = 15 \text{ V}$			1.8 V
$V_{CE(sat)}$	$I_C = I_{C110}$, $V_{GE} = 15 \text{ V}$, $T_J = 150^\circ\text{C}$			2.0 V

IXYS **IXGH30N60B** **IXGT30N60B**

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
g_{fs}	$I_C = I_{C110}$; $V_{CE} = 10\text{ V}$, Pulse test, $t \leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$		25	S
C_{ies}	$V_{CE} = 25\text{ V}$, $V_{GE} = 0\text{ V}$, $f = 1\text{ MHz}$		2700	pF
C_{oes}			190	pF
C_{res}			50	pF
Q_g	$I_C = I_{C110}$; $V_{GE} = 15\text{ V}$, $V_{CE} = 0.5 V_{CES}$		125	150 nC
Q_{ge}			23	35 nC
Q_{gc}			50	75 nC
$t_{d(on)}$	Inductive load, $T_J = 25^\circ\text{C}$ $I_C = I_{C110}$; $V_{GE} = 15\text{ V}$, $L = 100\ \mu\text{H}$, $V_{CE} = 0.8 V_{CES}$; $R_G = R_{off} = 4.7\ \Omega$ Remarks: Switching times may increase for V_{CE} (Clamp) $> 0.8 \cdot V_{CES}$, higher T_J or increased R_G		25	ns
t_{ri}			30	ns
$t_{d(off)}$			130	220 ns
t_{fi}			100	190 ns
E_{off}			1.3	2 mJ
$t_{d(on)}$	Inductive load, $T_J = 150^\circ\text{C}$ $I_C = I_{C110}$; $V_{GE} = 15\text{ V}$, $L = 100\ \mu\text{H}$, $V_{CE} = 0.8 V_{CES}$; $R_G = R_{off} = 4.7\ \Omega$ Remarks: Switching times may increase for V_{CE} (Clamp) $> 0.8 \cdot V_{CES}$, higher T_J or increased R_G		25	ns
t_{ri}			35	ns
E_{on}			0.3	mJ
$t_{d(off)}$			200	ns
t_{fi}			290	ns
E_{off}		3	mJ	
R_{thJC}				0.62 K/W
R_{thCK}	(IXGH30N60B)		0.25	K/W



IXBH30N60B characteristic curves are located in the IXBH30N60BU1 data sheet.

