

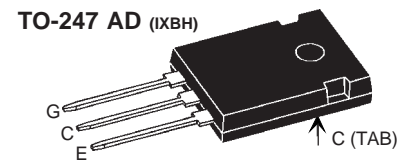
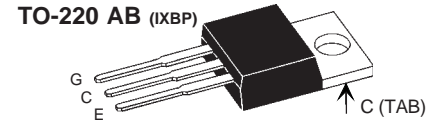
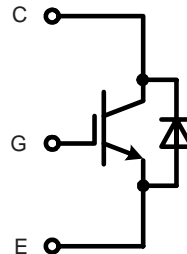
# High Voltage BIMOSFET™

**IXBP 5N160 G**  
**IXBH 5N160 G**

**$I_{C25}$  = 5.7 A**  
 **$V_{CES}$  = 1600 V**  
 **$V_{CE(sat)}$  = 4.9 V**  
 **$t_f$  = 70 ns**

Monolithic Bipolar MOS Transistor

Preliminary data sheet



A = Anode, C = Cathode, TAB = Cathode

IGBT		
Symbol	Conditions	Maximum Ratings
$V_{CES}$	$T_{VJ} = 25^{\circ}\text{C to } 150^{\circ}\text{C}$	1600 V
$V_{GES}$		$\pm 20$ V
$I_{C25}$	$T_C = 25^{\circ}\text{C}$	5.7 A
$I_{C90}$	$T_C = 90^{\circ}\text{C}$	3.5 A
$I_{CM}$ $V_{CEK}$	$V_{GE} = 10/0 \text{ V}; R_G = 47 \Omega; T_{VJ} = 125^{\circ}\text{C}$ RBSOA, Clamped inductive load; $L = 100 \mu\text{H}$	6 A
		$0.8V_{CES}$
$P_{tot}$	$T_C = 25^{\circ}\text{C}$	68 W

## Features

- High Voltage BIMOSFET™
  - substitute for high voltage MOSFETs with significantly lower voltage drop
  - MOSFET compatible control 10 V turn on gate voltage
- fast switching for high frequency operation
- reverse conduction capability
- industry standard package
  - TO-220AB
  - TO-247AD
- epoxy meets UL94V-0

Symbol	Conditions	Characteristic Values ( $T_{VJ} = 25^{\circ}\text{C}$ , unless otherwise specified)			
		min.	typ.	max.	
$V_{CE(sat)}$	$I_C = 3 \text{ A}; V_{GE} = 15 \text{ V}; T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		4.9 5.6	V V	
$V_{GE(th)}$	$I_C = 0.3 \text{ mA}; V_{GE} = V_{CE}$	3.5		5.5 V	
$I_{CES}$	$V_{GE} = 0 \text{ V}; V_{CE} = V_{CES}; T_{VJ} = 25^{\circ}\text{C}$ $V_{CE} = 0.8V_{CES}; T_{VJ} = 125^{\circ}\text{C}$		50	150 $\mu\text{A}$ $\mu\text{A}$	
$I_{GES}$	$V_{CE} = 0 \text{ V}; V_{GE} = \pm 20 \text{ V}$			100 nA	
$t_{d(on)}$ $t_r$ $t_{d(off)}$ $t_f$	Inductive load, $T_{VJ} = 125^{\circ}\text{C}$ $V_{CE} = 960 \text{ V}; I_C = 3 \text{ A}$ $V_{GE} = 10/0 \text{ V}; R_G = 47 \Omega$		140 200 120 70	ns ns ns ns	
$C_{ies}$		$V_{CE} = 25 \text{ V}; V_{GE} = 0 \text{ V}; f = 1 \text{ MHz}$		325	pF
$Q_{Gon}$		$V_{CE} = 600 \text{ V}; V_{GE} = 10 \text{ V}; I_C = 3 \text{ A}$		26	nC
$V_F$		(reverse conduction); $I_F = 3 \text{ A}$		6	V
$R_{thJC}$				1.85 KW	

## Applications

- switched mode power supplies
- DC-DC converters
- resonant converters
- lamp ballasts
- laser generators, x ray generators

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

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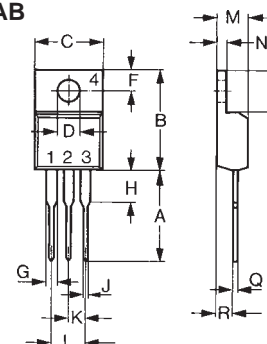
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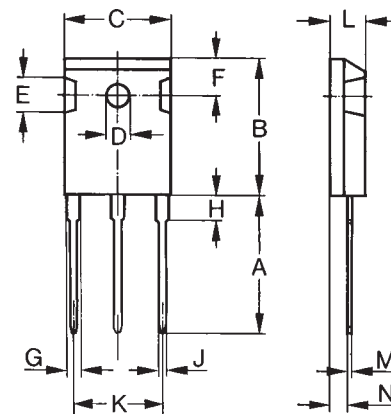
**Component**

Symbol	Conditions	Maximum Ratings	
$T_{VJ}$		-55...+150	°C
$T_{stg}$		-55...+125	°C
$M_D$	mounting torque	(TO-220)	0.6 Nm
		(TO-247)	1.2 Nm

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
$R_{thCH}$	with heatsink compound		0.25	K/W
Weight	(TO-220)		2	g
	(TO-247)		6	g

**Dimensions**
**TO-220 AB**


Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	12.70	13.97	0.500	0.550
B	14.73	16.00	0.580	0.630
C	9.91	10.66	0.390	0.420
D	3.54	4.08	0.139	0.161
E	5.85	6.85	0.230	0.270
F	2.54	3.18	0.100	0.125
G	1.15	1.65	0.045	0.065
H	2.79	5.84	0.110	0.230
J	0.64	1.01	0.025	0.040
K	2.54	BSC	0.100	BSC
M	4.32	4.82	0.170	0.190
N	1.14	1.39	0.045	0.055
Q	0.35	0.56	0.014	0.022
R	2.29	2.79	0.090	0.110

**TO-247 AD**


Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.610	0.640
D*	3.55	3.65	0.140	0.144
E	4.32	5.49	0.170	0.216
F	5.4	6.2	0.212	0.244
G	1.65	2.13	0.065	0.084
H	-	4.5	-	0.177
J	1.0	1.4	0.040	0.055
K	10.8	11.0	0.426	0.433
L	4.7	5.3	0.185	0.209
M	0.4	0.8	0.016	0.031
N	1.5	2.49	0.087	0.102



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