

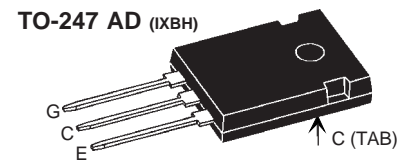
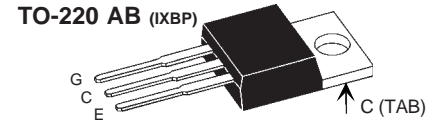
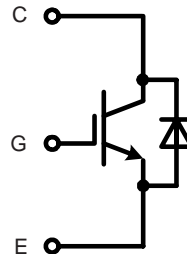
High Voltage BIMOSFET™

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°C	1600 V
V_{GES}		± 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}	$V_{GE} = 10/0$ V; $R_G = 47$ Ω ; $T_{VJ} = 125^{\circ}\text{C}$ RBSOA, Clamped inductive load; $L = 100$ μH	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.	
$V_{CE(sat)}$	$I_C = 3$ A; $V_{GE} = 15$ V; $T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		4.9 5.6	V V	
$V_{GE(th)}$	$I_C = 0.3$ mA; $V_{GE} = V_{CE}$	3.5		5.5 V	
I_{CES}	$V_{GE} = 0$ V; $V_{CE} = V_{CES}$; $T_{VJ} = 25^{\circ}\text{C}$ $V_{CE} = 0.8V_{CES}$; $T_{VJ} = 125^{\circ}\text{C}$		50	150 μA μA	
I_{GES}	$V_{CE} = 0$ V; $V_{GE} = \pm 20$ V			100 nA	
$t_{d(on)}$ t_r $t_{d(off)}$ t_f	Inductive load, $T_{VJ} = 125^{\circ}\text{C}$ $V_{CE} = 960$ V; $I_C = 3$ A $V_{GE} = 10/0$ V; $R_G = 47$ Ω		140 200 120 70	ns ns ns ns	
C_{ies}		$V_{CE} = 25$ V; $V_{GE} = 0$ V; $f = 1$ MHz		325	pF
Q_{Gon}		$V_{CE} = 600$ V; $V_{GE} = 10$ V; $I_C = 3$ A		26	nC
V_F		(reverse conduction); $I_F = 3$ 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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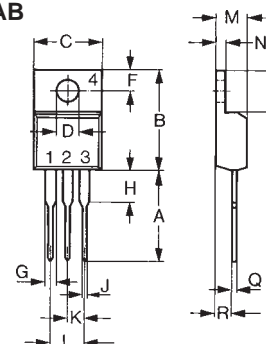
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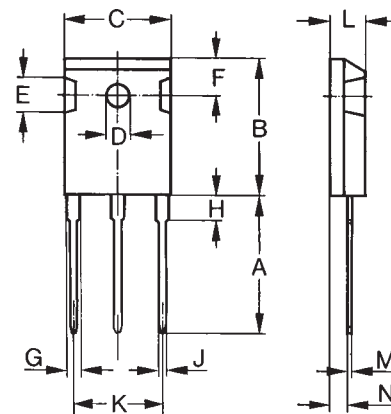
Component

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