

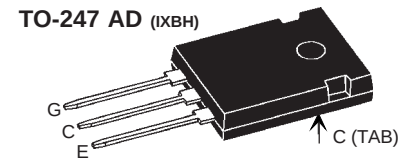
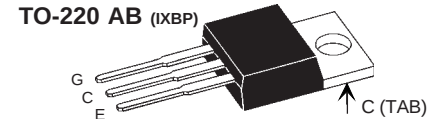
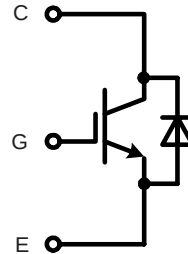
High Voltage BIMOSFET™

Monolithic Bipolar MOS Transistor

IXBP 5N160 G
IXBH 5N160 G

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

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}		± 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 $0.8V_{CES}$	A
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

Applications

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

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	7.2 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 μA μA
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} Q_{Gon}	$V_{CE} = 25 \text{ V}; V_{GE} = 0 \text{ V}; f = 1 \text{ MHz}$ $V_{CE} = 600 \text{ V}; V_{GE} = 10 \text{ V}; I_C = 3 \text{ A}$		325 26	pF nC
V_F	(reverse conduction); $I_F = 3 \text{ A}$		6	V
R_{thJC}				1.85 K/W

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

© 2003 IXYS All rights reserved

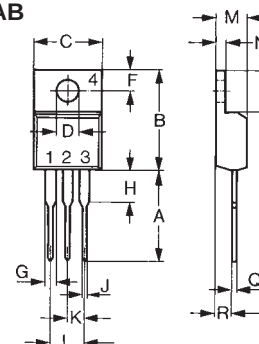
IXYS Semiconductor GmbH
Edisonstr. 15, D-68623 Lampertheim
Phone: +49-6206-503-0, Fax: +49-6206-503627

IXYS Corporation
3540 Bassett Street, Santa Clara CA 95054
Phone: (408) 982-0700, Fax: 408-496-0670

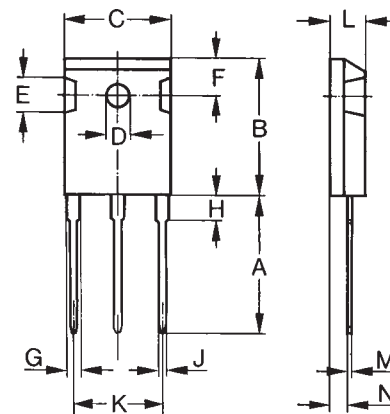
Component

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



Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/disclaimer-electronics.