

High Voltage, High Gain BIMOSFET™ Monolithic Bipolar MOS Transistor

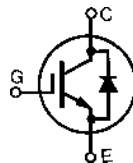
IXBH 16N170A IXBT 16N170A

$$V_{CES} = 1700 \text{ V}$$

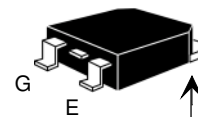
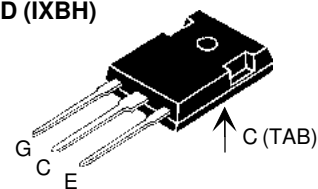
$$I_{C25} = 16 \text{ A}$$

$$V_{CE(sat)} = 6.0 \text{ V}$$

$$t_{fi(typ)} = 50 \text{ ns}$$



Symbol	Test Conditions	Maximum Ratings
V_{CES}	$T_J = 25^\circ\text{C}$ to 150°C	1700 V
V_{CGR}	$T_J = 25^\circ\text{C}$ to 150°C ; $R_{GE} = 1 \text{ M}\Omega$	1700 V
V_{GES}	Continuous	± 20 V
V_{GEM}	Transient	± 30 V
I_{C25}	$T_C = 25^\circ\text{C}$	16 A
I_{C90}	$T_C = 90^\circ\text{C}$	10 A
I_{CM}	$T_C = 25^\circ\text{C}$, 1 ms	40 A
SSOA (RBSOA)	$V_{GE} = 15 \text{ V}$, $T_{VJ} = 125^\circ\text{C}$, $R_G = 33 \Omega$ Clamped inductive load	$I_{CM} = 40$ A $V_{CES} = 1350$ V
t_{SC} (SCSOA)	$V_{GE} = 15 \text{ V}$, $V_{CES} = 1200 \text{ V}$, $T_J = 125^\circ\text{C}$ $R_G = 33 \Omega$ non repetitive	10 μs
P_C	$T_C = 25^\circ\text{C}$	150 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 $^\circ\text{C}$
Maximum tab temperature for soldering SMD devices for 10 s		260 $^\circ\text{C}$
M_d	Mounting torque (M3) (TO-247)	1.13/10 Nm/lb.in.
Weight	TO-247	6 g
	TO-268	4 g

TO-268 (IXBT)

TO-247 AD (IXBH)


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

Features

- Monolithic fast reverse diode
- High Blocking Voltage
- JEDEC TO-268 surface mount and JEDEC TO-247 AD packages
- Low switching losses
- High current handling capability
- MOS Gate turn-on - drive simplicity
- Molding epoxies meet UL94 V-0 flammability classification

Applications

- AC motor speed control
- Uninterruptible power supplies (UPS)
- Switched-mode and resonant-mode power supplies
- Capacitor discharge circuits

Advantages

- Lower conduction losses than MOSFETs
- High power density
- Suitable for surface mounting
- Easy to mount with 1 screw, (isolated mounting screw hole)

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
BV_{CES}	$I_C = 250 \mu\text{A}$, $V_{GE} = 0 \text{ V}$	1700		V
$V_{GE(th)}$	$I_C = 250 \mu\text{A}$, $V_{CE} = V_{GE}$	2.5		V
I_{CES}	$V_{CE} = 0.8 V_{CES}$ $V_{GE} = 0 \text{ V}$; Note 1 $T_J = 125^\circ\text{C}$			50 μA 1.5 mA
I_{GES}	$V_{CE} = 0 \text{ V}$, $V_{GE} = \pm 20 \text{ V}$			± 100 nA
$V_{CE(sat)}$	$I_C = I_{C90}$, $V_{GE} = 15 \text{ V}$ Note 2 $T_J = 125^\circ\text{C}$		5.0	6.0 V V



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