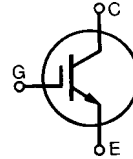


HiPerFAST™ IGBT

ISOPLUS247™

		V_{CES}	I_{C25}	$V_{CE(sat)}$	$t_{fi(typ)}$
IXGR	35N120B	1200 V	70 A	3.3 V	160 ns
IXGR	35N120C	1200 V	70 A	4.0 V	115 ns

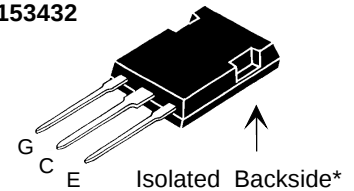
(Electrically Isolated Backside)



Symbol	Test Conditions	Maximum Ratings	
V_{CES}	$T_J = 25^\circ\text{C}$ to 150°C	1200	V
V_{CGR}	$T_J = 25^\circ\text{C}$ to 150°C ; $R_{GE} = 1\text{ M}\Omega$	1200	V
V_{GES}	Continuous	± 20	V
V_{GEM}	Transient	± 30	V
I_{C25}	$T_C = 25^\circ\text{C}$	70	A
I_{C90}	$T_C = 90^\circ\text{C}$	35	A
I_{CM}	$T_C = 25^\circ\text{C}$, 1 ms	140	A
SSOA (RBSOA)	$V_{GE} = 15\text{ V}$, $T_{VJ} = 125^\circ\text{C}$, $R_G = 10\text{ }\Omega$ Clamped inductive load	$I_{CM} = 90$ @ $0.8 V_{CES}$	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	$^\circ\text{C}$
Weight		5	g

ISOPLUS 247

 E153432



G = Gate,
E = Emitter

C = Collector

* Patent pending

Features

- DCB Isolated mounting tab
- Meets TO-247AD package Outline
- High current handling capability
- MOS Gate turn-on
- drive simplicity

Applications

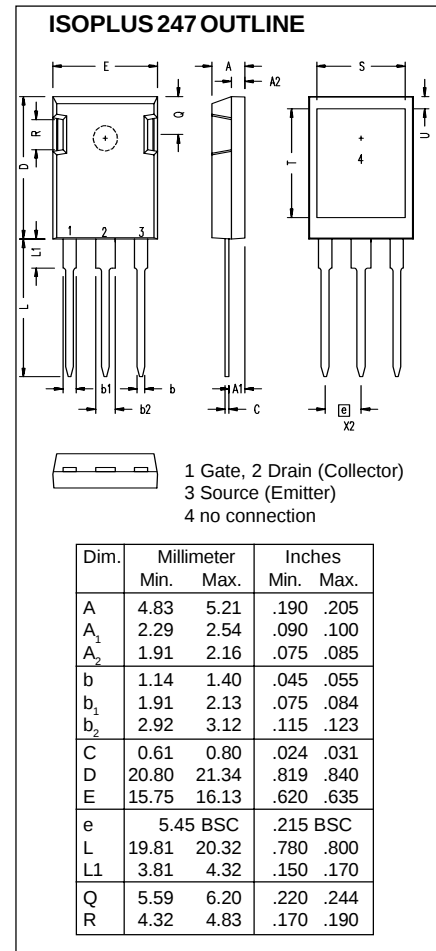
- Uninterruptible power supplies (UPS)
- Switched-mode and resonant-mode power supplies
- AC motor speed control
- DC servo and robot drives
- DC choppers

Advantages

- Easy assembly
- High power density

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		Min.	Typ.	Max.
BV_{CES}	$I_C = 1\text{ mA}$, $V_{GE} = 0\text{ V}$	1200		V
$V_{GE(th)}$	$I_C = 750\text{ }\mu\text{A}$, $V_{CE} = V_{GE}$	2.5		5.0 V
I_{CES}	$V_{CE} = V_{CES}$ $V_{GE} = 0\text{ V}$; note 1 $T_J = 125^\circ\text{C}$			250 μA 5 mA
I_{GES}	$V_{CE} = 0\text{ V}$, $V_{GE} = \pm 20\text{ V}$			$\pm 100\text{ nA}$
$V_{CE(sat)}$	$I_C = I_{C90}$, $V_{GE} = 15\text{ V}$ $T_J = 125^\circ\text{C}$	35N120B		3.3 V
		35N120C		4.0 V
				3.4 V

Symbol	Test Conditions	Characteristic Values (T _J = 25°C, unless otherwise specified)				
		min.	typ.	max.		
g _{fs}	I _C = I _{C90} , V _{CE} = 10 V, Note1	30	40	S		
C _{ies} C _{oes} C _{res}	V _{CE} = 25 V, V _{GE} = 0 V, f = 1 MHz		4620 260 90	pF pF pF		
Q _g Q _{ge} Q _{gc}		I _C = I _{C90} , V _{GE} = 15 V, V _{CE} = 0.5 V _{CES}		170 28 57	nC nC nC	
t _{d(on)} t _{ri} t _{d(off)} t _{fi} E _{off}			Inductive load, T_J = 25°C I _C = I _{C90} , V _{GE} = 15 V V _{CE} = 0.8 V _{CES} , R _G = R _{off} = 4.7 Ω Remarks: Switching times may increase for V _{CE} (Clamp) > 0.8 V _{CES} , higher T _J or increased R _G		50 27 180 150 160 115 3.8 3.0	ns ns ns ns ns ns mJ mJ
t _{d(on)} t _{ri} E _{on} t _{d(off)} t _{fi} E _{off}	Inductive load, T_J = 125°C I _C = I _{C90} , V _{GE} = 15 V V _{CE} = 0.8 V _{CES} , R _G = R _{off} = 4.7 Ω Remarks: Switching times may increase for V _{CE} (Clamp) > 0.8 V _{CES} , higher T _J or increased R _G				55 31 2.6 300 220 360 260 8.0 6.2	ns ns mJ ns ns ns ns mJ mJ
R _{thJC} R _{thCK}					0.5 0.15	K/W K/W



Note: 1. Pulse test, $t_p \leq 300\text{ ms}$, duty cycle: $d \leq 2\%$



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