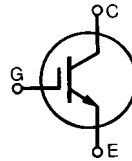


HiPerFAST™ IGBT ISOPLUS247™

		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

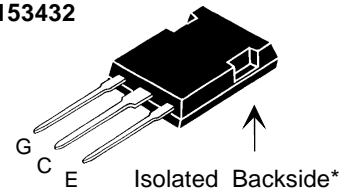
(Electrically Isolated Backside)



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)	$V_{GE} = 15\text{ V}$, $T_{VJ} = 125^\circ\text{C}$, $R_G = 10\ \Omega$ 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

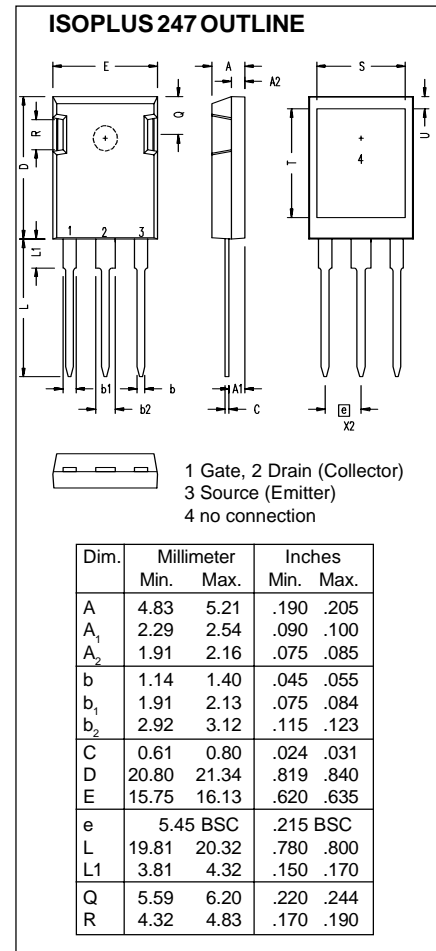
- Uninterruptible power supplies (UPS)
- Switched-mode and resonant-mode power supplies
- AC motor speed control
- DC servo and robot drives
- DC choppers

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
$V_{GE(th)}$	$I_C = 750\ \mu\text{A}$, $V_{CE} = V_{GE}$	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	2.7	3.3 V
	$T_J = 125^\circ\text{C}$	35N120C		4.0 V
			3.4	V

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)			
		min.	typ.	max.	
g_{fs}	$I_C = I_{C90}, V_{CE} = 10\text{ V}$, Note1	30	40	S	
C_{ies}	$V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}, f = 1\text{ MHz}$		4620	pF	
C_{oes}			260	pF	
C_{res}			90	pF	
Q_g	$I_C = I_{C90}, V_{GE} = 15\text{ V}, V_{CE} = 0.5 V_{CES}$		170	nC	
Q_{ge}			28	nC	
Q_{gc}			57	nC	
$t_{d(on)}$	Inductive load, $T_J = 25^\circ\text{C}$ $I_C = I_{C90}, V_{GE} = 15\text{ V}$ $V_{CE} = 0.8 V_{CES}, R_G = R_{off} = 4.7\ \Omega$ Remarks: Switching times may increase for V_{CE} (Clamp) $> 0.8 V_{CES}$, higher T_J or increased R_G		50	ns	
t_{ri}			27	ns	
$t_{d(off)}$		35N120B	180	280	ns
		35N120C	150	220	ns
t_{fi}		35N120B	160	320	ns
		35N120C	115	190	ns
E_{off}		35N120B	3.8	7.3	mJ
		35N120C	3.0	4.2	mJ
$t_{d(on)}$	Inductive load, $T_J = 125^\circ\text{C}$ $I_C = I_{C90}, V_{GE} = 15\text{ V}$ $V_{CE} = 0.8 V_{CES}, R_G = R_{off} = 4.7\ \Omega$ Remarks: Switching times may increase for V_{CE} (Clamp) $> 0.8 V_{CES}$, higher T_J or increased R_G		55	ns	
t_{ri}			31	ns	
E_{on}			2.6	mJ	
$t_{d(off)}$		35N120B	300	ns	
		35N120C	220	ns	
t_{fi}		35N120B	360	ns	
	35N120C	260	ns		
E_{off}		35N120B	8.0	mJ	
		35N120C	6.2	mJ	
R_{thJC}			0.5	K/W	
R_{thCK}		0.15		K/W	



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



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.