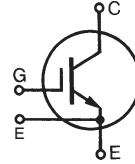


HiPerFAST™ IGBT

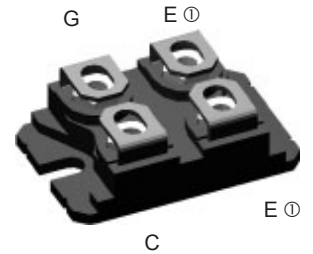
IXGE 200N60B

$V_{CES} = 600 \text{ V}$
 $I_{C25} = 160 \text{ A}$
 $V_{CE(sat)} = 2.3 \text{ V}$
 $t_{fi} = 160 \text{ ns}$



Symbol	Test Conditions	Maximum Ratings	
V_{CES}	$T_J = 25^\circ\text{C to } 150^\circ\text{C}$	600	V
V_{CGR}	$T_J = 25^\circ\text{C to } 150^\circ\text{C}; R_{GE} = 1 \text{ M}\Omega$	600	V
V_{GES}	Continuous	± 20	V
V_{GEM}	Transient	± 30	V
I_{C25}	$T_C = 25^\circ\text{C}$	160	A
I_L	Terminal Current Limit(RMS)	100	A
I_{C90}	$T_C = 90^\circ\text{C}$	96	A
I_{CM}	$T_C = 25^\circ\text{C}, 1 \text{ ms}$	400	A
SSOA (RBSOA)	$V_{GE} = 15 \text{ V}, T_{VJ} = 125^\circ\text{C}, R_G = 2.4 \Omega$ Clamped inductive load @ $0.8 V_{CES}$	$I_{CM} = 200$	A
P_C	$T_C = 25^\circ\text{C}$	416	W
T_J		-40 ... +150	$^\circ\text{C}$
T_{JM}		150	$^\circ\text{C}$
T_{stg}		-40 ... +150	$^\circ\text{C}$
V_{ISOL}	50/60 Hz	$t = 1 \text{ min}$	2500 V~
	$I_{ISOL} \leq 1 \text{ mA}$	$t = 1 \text{ s}$	3000 V~
M_d	Mounting torque	1.5/13 Nm/lb.in.	
	Terminal connection torque (M4)	1.5/13 Nm/lb.in.	
Weight		19	g

ISOPLUS 227™ (IXGE)



G = Gate, E = Emitter, C = Collector

① either emitter terminal can be used as Main or Kelvin Emitter

Features

- Conforms to SOT-227B outline
- Isolation voltage 3000 V~
- Very high current, fast switching IGBT
- Low $V_{CE(sat)}$ - for minimum on-state conduction losses
- MOS Gate turn-on - drive simplicity
- Low collector-to-case capacitance (< 50 pF)
- Low package inductance (< 5 nH) - easy to drive and to protect

Applications

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

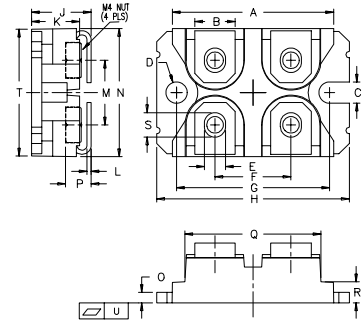
Advantages

- Easy to mount with 2 screws
- Space savings
- High power density

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
BV_{CES}	$I_C = 1 \text{ mA}, V_{GE} = 0 \text{ V}$	600		V
$V_{GE(th)}$	$I_C = 1 \text{ mA}, V_{CE} = V_{GE}$	2.5	5.5	V
I_{CES}	$V_{CE} = V_{CES}$ $V_{GE} = 0 \text{ V}$	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	200	μA
			2	mA
I_{GES}	$V_{CE} = 0 \text{ V}, V_{GE} = \pm 20 \text{ V}$		± 400	nA
$V_{CE(sat)}$	$I_C = 120 \text{ A}, V_{GE} = 15 \text{ V}$		2.3	V

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
g_{fs}	$I_C = 60\text{ A}; V_{CE} = 10\text{ V}$, Pulse test, $t \leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$	50	75	S
C_{ies}	$V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}, f = 1\text{ MHz}$		11000	pF
C_{oes}			680	pF
C_{res}			190	pF
Q_g	$I_C = 120\text{ A}, V_{GE} = 15\text{ V}, V_{CE} = 0.5 V_{CES}$		350	nC
Q_{ge}			72	nC
Q_{gc}			131	nC
$t_{d(on)}$	Inductive load, $T_J = 25^\circ\text{C}$ $I_C = 100\text{ A}, V_{GE} = 15\text{ V}$ $V_{CE} = 0.8 V_{CES}, R_G = R_{off} = 2.4\ \Omega$ Remarks: Switching times may increase for $V_{CE}(\text{Clamp}) > 0.8 \cdot V_{CES}$, higher T_J or increased R_G		60	ns
t_{ri}			45	ns
E_{on}			2.4	mJ
$t_{d(off)}$			200	360 ns
t_{fi}			160	280 ns
E_{off}			5.5	9.6 mJ
$t_{d(on)}$	Inductive load, $T_J = 125^\circ\text{C}$ $I_C = 100\text{ A}, V_{GE} = 15\text{ V}$ $V_{CE} = 0.8 V_{CES}, R_G = R_{off} = 2.4\ \Omega$ Remarks: Switching times may increase for $V_{CE}(\text{Clamp}) > 0.8 \cdot V_{CES}$, higher T_J or increased R_G		60	ns
t_{ri}			60	ns
E_{on}			4.8	mJ
$t_{d(off)}$			290	ns
t_{fi}			250	ns
E_{off}			8.7	mJ
R_{thJC}			0.3	K/W
R_{thCK}		0.07		K/W

SOT-227B miniBLOC



SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	1.240	1.255	31.50	31.88
B	.307	.323	7.80	8.20
C	.161	.169	4.09	4.29
D	.161	.169	4.09	4.29
E	.161	.169	4.09	4.29
F	.587	.595	14.91	15.11
G	1.186	1.193	30.12	30.30
H	1.496	1.505	38.00	38.23
J	.460	.481	11.68	12.22
K	.351	.378	8.92	9.60
L	.030	.033	0.76	0.84
M	.496	.506	12.60	12.85
N	.990	1.001	25.15	25.42
O	.078	.084	1.98	2.13
P	.195	.235	4.95	5.97
Q	1.045	1.059	26.54	26.90
R	.155	.174	3.94	4.42
S	.186	.191	4.72	4.85
T	.968	.987	24.59	25.07
U	-.002	.004	-0.05	0.1

Please see IXGN200N60B data sheet for characteristic curves.

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

IXYS MOSFETs and IGBTs are covered by one or more of the following U.S. patents:	4,835,592	4,931,844	5,049,961	5,237,481	6,162,665	6,404,065B1	6,683,344	6,727,585
	4,850,072	5,017,508	5,063,307	5,381,025	6,259,123B1	6,534,343	6,710,405B2	6,759,692
	4,881,106	5,034,796	5,187,117	5,486,715	6,306,728 B1	6,583,505	6,710,463	