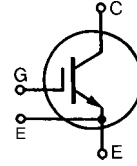
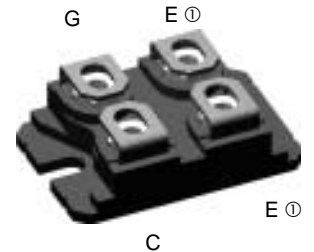


HiPerFAST™ IGBT
IXGE 200N60B

$$\begin{aligned}
 V_{CES} &= 600 \text{ V} \\
 I_{C25} &= 175 \text{ A} \\
 V_{CE(sat)} &= 2.1 \text{ V}
 \end{aligned}$$



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}	$T_C = 25^\circ\text{C}$	175 A
I_{C90}	$T_C = 90^\circ\text{C}$	112 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, $L = 30 \mu\text{H}$	$I_{CM} = 200$ @ $0.8 V_{CES}$ A
P_C	$T_C = 25^\circ\text{C}$	500 W
T_J		-40 ... +150 °C
T_{JM}		150 °C
T_{stg}		-40 ... +150 °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

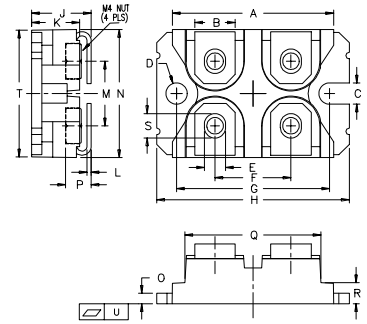
Advantages

- 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
$V_{CE(sat)}$	$I_C = 120 \text{ A}, V_{GE} = 15 \text{ V}$		2.1	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 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_{ri}			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 higher T_J or increased R_G		60	ns
t_{ri}			60	ns
E_{on}			4.8	mJ
$t_{d(off)}$			290	ns
t_{ri}			250	ns
E_{off}		8.7	mJ	
R_{thJC}			0.25	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