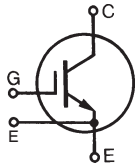
IXYS

HiPerFAST™ IGBT

IXGE 200N60B

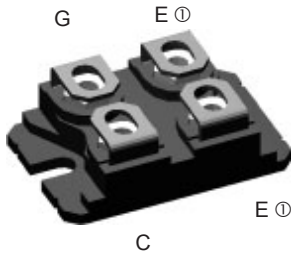
V_{CES} = 600 V
I_{C25} = 160 A
$V_{CE(sat)}$ = 2.3 V
t_{fi} = 160ns



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

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

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

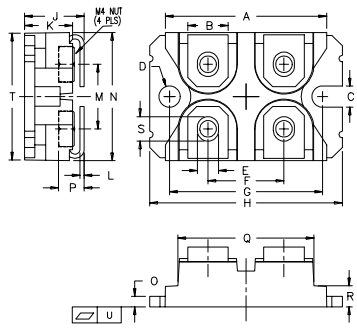
Advantages

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

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

SOT-227B miniBLOC



SYM	INCHES MIN	INCHES MAX	MILLIMETERS MIN	MILLIMETERS 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 4,850,072 4,881,106 4,931,844 5,017,508 5,034,796 5,049,961 5,063,307 5,187,117 5,237,481 5,381,025 5,486,715 6,162,665 6,259,123B1 6,306,728 B1 6,404,065B1 6,534,343 6,583,505 6,683,344 6,710,405B2 6,710,463 6,727,585 6,759,692