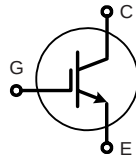


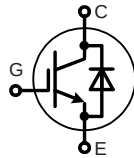
NPT³ IGBT in miniBLOC package

IXEN 60N120 IXEN 60N120D1

$$\begin{aligned}
I_{C25} &= 100 \text{ A} \\
V_{CES} &= 1200 \text{ V} \\
V_{CE(sat) \text{ typ.}} &= 2.1 \text{ V}
\end{aligned}$$



IXEN 60N120

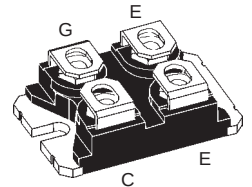


IXEN 60N120D1

miniBLOC, SOT-227 B



E153432



C = Collector
G = Gate
E = Emitter *

* Either Emitter terminal can be used as Main or Kelvin Emitter

IGBT

Symbol	Conditions	Maximum Ratings	
V_{CES}	$T_{VJ} = 25^{\circ}\text{C to } 150^{\circ}\text{C}$	1200	V
V_{GES}		± 20	V
I_{C25}	$T_C = 25^{\circ}\text{C}$	100	A
I_{C90}	$T_C = 90^{\circ}\text{C}$	65	A
I_{CM} V_{CEK}	$V_{GE} = \pm 15 \text{ V}; R_G = 22 \Omega; T_{VJ} = 125^{\circ}\text{C}$ RBSOA, Clamped inductive load; $L = 100 \mu\text{H}$	100 V_{CES}	A
t_{SC} (SCSOA)	$V_{CE} = 900 \text{ V}; V_{GE} = \pm 15 \text{ V}; R_G = 22 \Omega; T_{VJ} = 125^{\circ}\text{C}$ non-repetitive	10	μs
P_{tot}	$T_C = 25^{\circ}\text{C}$	445	W

Symbol	Conditions	Characteristic Values ($T_{VJ} = 25^{\circ}\text{C}$, unless otherwise specified)		
		min.	typ.	max.
$V_{CE(sat)}$	$I_C = 60 \text{ A}; V_{GE} = 15 \text{ V}; T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$	2.1 2.5		V V
$V_{GE(th)}$	$I_C = 2 \text{ mA}; V_{GE} = V_{CE}$	4.5		6.5 V
I_{CES}	$V_{CE} = V_{CES}; V_{GE} = 0 \text{ V}; T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$	0.1		0.1 mA mA
I_{GES}	$V_{CE} = 0 \text{ V}; V_{GE} = \pm 20 \text{ V}$			200 nA
$t_{d(on)}$ t_r $t_{d(off)}$ t_f E_{on} E_{off}	Inductive load, $T_{VJ} = 125^{\circ}\text{C}$ $V_{CE} = 600 \text{ V}; I_C = 60 \text{ A}$ $V_{GE} = \pm 15 \text{ V}; R_G = 22 \Omega$	150 60 700 50		ns ns ns ns
		7.2 6.0		mJ mJ
C_{ies}		3.8		nF
Q_{Gon}		500		nC
R_{thJC}			0.28	K/W

Features

- NPT³ IGBT
 - low saturation voltage
 - positive temperature coefficient for easy paralleling
 - fast switching
 - short tail current for optimized performance in resonant circuits
- miniBLOC package
 - isolated copper base plate
 - screw terminals
 - kelvin emitter terminal for easy drive
 - industry standard outline

Applications

- single switches and with complementary free wheeling diodes
- choppers
- phaselegs, H bridges, three phase bridges e.g. for
 - power supplies, UPS
 - AC, DC and SR drives
 - induction heating

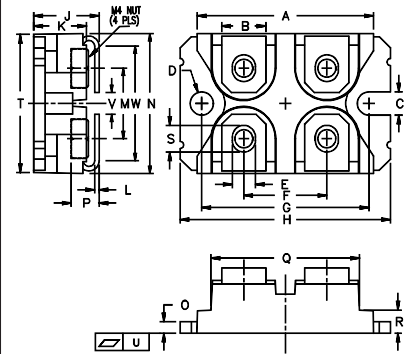
Diode (D1 version only)

Symbol	Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
V_F	$I_F = 55\text{ A}$, $V_{GE} = 0\text{ V}$		2.4	2.6
	$I_F = 55\text{ A}$, $V_{GE} = 0\text{ V}$, $T_J = 125^\circ\text{C}$		1.9	
I_F	$T_C = 25^\circ\text{C}$			110
	$T_C = 90^\circ\text{C}$			60
I_{RM}	$I_F = 55\text{ A}$, $-di_F/dt = 400\text{ A}/\mu\text{s}$, $V_R = 600\text{ V}$		40	
t_{rr}	$V_{GE} = 0\text{ V}$, $T_J = 125^\circ\text{C}$		200	
t_{rr}	$I_F = 1\text{ A}$, $-di_F/dt = 100\text{ A}/\mu\text{s}$, $V_R = 30\text{ V}$, $V_{GE} = 0\text{ V}$		40	
R_{thJC}				0.6

Component

Symbol	Conditions	Maximum Ratings		
		min.	typ.	max.
T_{VJ}		-40...+150		$^\circ\text{C}$
T_{stg}		-40...+150		$^\circ\text{C}$
V_{ISOL}	$I_{ISOL} \leq 1\text{ mA}$; 50/60 Hz		2500	V~
M_D	mounting torque (M4)		1.5	Nm
	terminal connection torque (M4)		1.5	Nm
Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
R_{thCH}	with heatsink compound		0.1	K/W
Weight			30	g

miniBLOC, SOT-227 B



M4 screws (4x) supplied

Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	31.50	31.88	1.240	1.255
B	7.80	8.20	0.307	0.323
C	4.09	4.29	0.161	0.169
D	4.09	4.29	0.161	0.169
E	4.09	4.29	0.161	0.169
F	14.91	15.11	0.587	0.595
G	30.12	30.30	1.186	1.193
H	37.80	38.20	1.489	1.505
J	11.68	12.22	0.460	0.481
K	8.92	9.60	0.351	0.378
L	0.76	0.84	0.030	0.033
M	12.60	12.85	0.496	0.506
N	25.15	25.42	0.990	1.001
O	1.98	2.13	0.078	0.084
P	4.95	5.97	0.195	0.235
Q	26.54	26.90	1.045	1.059
R	3.94	4.42	0.155	0.174
S	4.72	4.85	0.186	0.191
T	24.59	25.07	0.968	0.987
U	-0.05	0.1	-0.002	0.004
V	3.30	4.57	0.130	0.180
W	0.780	0.830	0.031	0.033