

NPT³ IGBT

in miniBLOC package

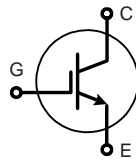
IXEN 60N120

IXEN 60N120D1

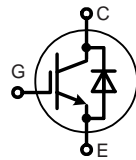
$$I_{C25} = 100 \text{ A}$$

$$V_{CES} = 1200 \text{ V}$$

$$V_{CE(sat) \text{ typ.}} = 2.1 \text{ V}$$



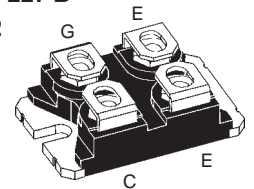
IXEN 60N120



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 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
P_{tot}	$T_C = 25^{\circ}\text{C}$	445 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

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	2.7	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
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	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		ns
E_{on}		60		ns
E_{off}		700		ns
		50		ns
		7.2		mJ
C_{ies}	$V_{CE} = 25 \text{ V}; V_{GE} = 0 \text{ V}; f = 1 \text{ MHz}$	3.8		nF
Q_{Gon}	$V_{CE} = 600 \text{ V}; V_{GE} = 15 \text{ V}; I_C = 50 \text{ A}$	500		nC
R_{thJC}				0.28 KW

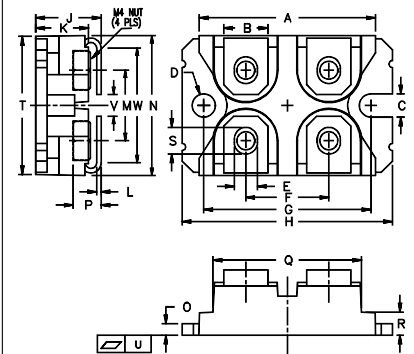
Diode (D1 version only)
Characteristic Values
 (T_J = 25°C, unless otherwise specified)

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
V _F	I _F = 55 A, V _{GE} = 0 V		2.4	2.6
	I _F = 55 A, V _{GE} = 0 V, T _J = 125°C		1.9	
I _F	T _C = 25°C			110
	T _C = 90°C			60
I _{RM}	I _F = 55 A, -di _F /dt = 400 A/μs, V _R = 600 V		40	A
t _{rr}	V _{GE} = 0 V, T _J = 125°C		200	ns
t _{rr}	I _F = 1 A, -di _F /dt = 100 A/μs, V _R = 30 V, V _{GE} = 0 V		40	ns
R _{thJC}				0.6
				KW

Component

Symbol	Conditions	Maximum Ratings		
T _{VJ}		-40...+150		°C
T _{stg}		-40...+150		°C
V _{ISOL}	I _{ISOL} ≤ 1 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	KW
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