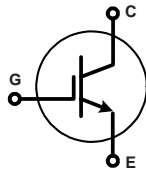


NPT³ IGBT

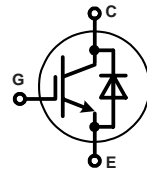
$$I_{C25} = 36 \text{ A}$$

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

$$V_{CE(sat) \text{ typ.}} = 2.6 \text{ V}$$

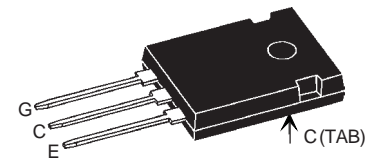


IXEH25N120



IXEH25N120D1

TO-247 AD



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}	$T_C = 25^{\circ}\text{C}$	36	A
I_{C90}	$T_C = 90^{\circ}\text{C}$	24	A
I_{CM} V_{CEK}	$V_{GE} = \pm 15 \text{ V}; R_G = 56 \Omega; T_{VJ} = 125^{\circ}\text{C}$ RBSOA, Clamped inductive load; $L = 100 \mu\text{H}$	40	A
		V_{CES}	
t_{SC} (SCSOA)	$V_{CE} = 900\text{V}; V_{GE} = \pm 15 \text{ V}; R_G = 56 \Omega; T_{VJ} = 125^{\circ}\text{C}$ non-repetitive	10	μs
P_{tot}	$T_C = 25^{\circ}\text{C}$	200	W

Features

- NPT³ IGBT
 - positive temperature coefficient of saturation voltage for easy paralleling
 - fast switching
 - short tail current for optimized performance in resonant circuits
- optional HiPerFRED™ diode
 - fast reverse recovery
 - low operating forward voltage
 - low leakage current
- TO-247 package
 - industry standard outline
 - epoxy meets UL 94V-0

Applications

- AC drives
- DC drives and choppers
- Uninterruptible power supplies (UPS)
- switched-mode and resonant-mode power supplies
- inductive heating, cookers

Symbol	Conditions	Characteristic Values ($T_{VJ} = 25^{\circ}\text{C}$, unless otherwise specified)			
		min.	typ.	max.	
$V_{CE(sat)}$	$I_C = 25 \text{ A}; V_{GE} = 15 \text{ V}; T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		2.6 3.2	V V	
$V_{GE(th)}$	$I_C = 0.6 \text{ mA}; V_{GE} = V_{CE}$	4.5		6.5 V	
I_{CES}	$V_{CE} = V_{CES}; V_{GE} = 0 \text{ V}; T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		0.2	0.2 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, $T_{VJ} = 125^{\circ}\text{C}$ $V_{CE} = 600 \text{ V}; I_C = 25 \text{ A}$ $V_{GE} = \pm 15 \text{ V}; R_G = 56 \Omega$		150 60 700 50	ns ns ns ns	
				3.4 2.5	mJ mJ
C_{ies}		$V_{CE} = 25 \text{ V}; V_{GE} = 0 \text{ V}; f = 1 \text{ MHz}$		1.2	nF
Q_{Gon}		$V_{CE} = 600 \text{ V}; V_{GE} = 15 \text{ V}; I_C = 20 \text{ A}$		150	nC
R_{thJC}					0.63 KW

Diode [D1 version only]

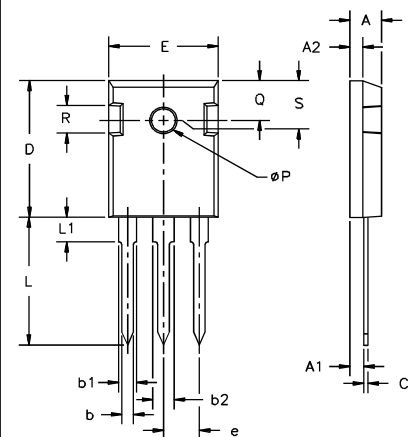
Symbol	Conditions	Maximum Ratings	
I_{F25}	$T_C = 25^\circ\text{C}$	33	A
I_{F90}	$T_C = 90^\circ\text{C}$	20	A

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
V_F	$I_F = 25\text{ A}; T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 125^\circ\text{C}$	2.7	3.2	V
I_{RM} t_{rr}	$I_F = 25\text{ A}; di_F/dt = -400\text{ A}/\mu\text{s}; T_{VJ} = 125^\circ\text{C}$ $V_R = 600\text{ V}; V_{GE} = 0\text{ V}$	16		A
		130		ns
R_{thJC}			1.6	K/W

Component

Symbol	Conditions	Maximum Ratings	
T_{VJ}		-55...+150	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
M_d	mounting torque	0.8...1.2	Nm

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
R_{thCH}	with heatsink compound	0.25		K/W
Weight		6		g

TO-247 AD Outline


Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.7	5.3	.185	.209
A ₁	2.2	2.54	.087	.102
A ₂	2.2	2.6	.059	.098
b	1.0	1.4	.040	.055
b ₁	1.65	2.13	.065	.084
b ₂	2.87	3.12	.113	.123
C	.4	.8	.016	.031
D	20.80	21.46	.819	.845
E	15.75	16.26	.610	.640
e	5.20	5.72	0.205	0.225
L	19.81	20.32	.780	.800
L1		4.50		.177
ØP	3.55	3.65	.140	.144
Q	5.89	6.40	0.232	0.252
R	4.32	5.49	.170	.216
S	6.15	BSC	242	BSC