

IGBT

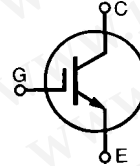
IXSH 35N120B
 IXST 35N120B

$$I_{C25} = 70 \text{ A}$$

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

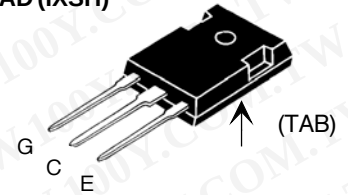
$$V_{CE(sat)} = 3.6 \text{ V}$$

"S" Series - Improved SCSOA Capability

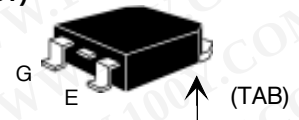


Symbol	Test Conditions	Maximum Ratings	
V_{CES}	$T_J = 25^\circ\text{C}$ to 150°C	1200	V
V_{CGR}	$T_J = 25^\circ\text{C}$ to 150°C ; $R_{GE} = 1 \text{ M}\Omega$	1200	V
V_{GES}	Continuous	± 20	V
V_{GEM}	Transient	± 30	V
I_{C25}	$T_C = 25^\circ\text{C}$	70	A
I_{C90}	$T_C = 90^\circ\text{C}$	35	A
I_{CM}	$T_C = 25^\circ\text{C}$, 1 ms	140	A
SSOA (RBSOA)	$V_{GE} = 15 \text{ V}$, $T_J = 125^\circ\text{C}$, $R_G = 5 \Omega$ Clamped inductive load	$I_{CM} = 90$ @ $0.8 V_{CES}$	A
t_{sc}	$T_J = 125^\circ\text{C}$, $V_{CE} = 720 \text{ V}$; $V_{GE} = 15 \text{ V}$, $R_G = 22 \Omega$	10	μs
P_C	$T_C = 25^\circ\text{C}$	300	W
T_J		-55 ... +150	$^\circ\text{C}$
T_{JM}		150	$^\circ\text{C}$
T_{stg}		-55 ... +150	$^\circ\text{C}$
M_d	Mounting torque (TO-247)	1.13/10 Nm/lb.in.	
Maximum lead temperature for soldering 1.6 mm (0.062 in.) from case for 10 s		300	$^\circ\text{C}$
Weight	TO-247	6	g
	TO-268	4	g

TO-247 AD (IXSH)



TO-268 (IXST)



G = Gate
 E = Emitter

C = Collector
 TAB = Collector

Features

- Epitaxial Silicon drift region
 - fast switching
 - small tail current
- MOS gate turn-on for drive simplicity

Applications

- AC motor speed control
- DC servo and robot drives
- Uninterruptible power supplies (UPS)
- Switched-mode and resonant-mode power supplies
- DC choppers

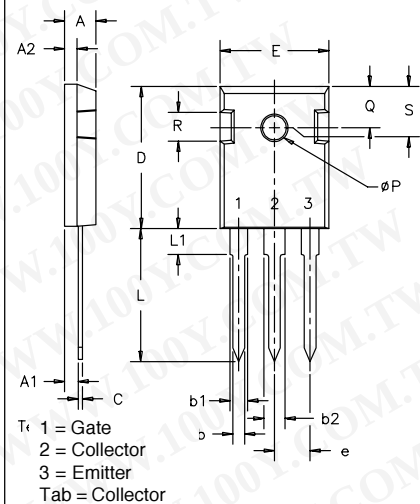
Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
BV_{CES}	$I_C = 1.0 \text{ mA}$, $V_{GE} = 0 \text{ V}$	1200		V
$V_{GE(th)}$	$I_C = 250 \mu\text{A}$, $V_{CE} = V_{GE}$	3		6 V
I_{CES}	$V_{CE} = 0.8 V_{CES}$ Note 1	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$		50 μA 2.5 mA
I_{GES}	$V_{CE} = 0 \text{ V}$, $V_{GE} = \pm 20 \text{ V}$			$\pm 100 \text{ nA}$
$V_{CE(sat)}$	$I_C = I_{C90}$, $V_{GE} = 15 \text{ V}$ Note 2	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$		3.6 V 2.9 V

Symbol	Test Conditions	Characteristic Values ($T_J = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
g_{fs}	$I_C = I_{C90}, V_{CE} = 10\text{ V}$, Note 2	16	23	S
C_{ies}	$V_{CE} = 25\text{ V}, V_{GE} = 0\text{ V}, f = 1\text{ MHz}$		3600	pF
C_{oes}			260	pF
C_{res}			75	pF
Q_g	$I_C = I_{C90}, V_{GE} = 15\text{ V}, V_{CE} = 0.5 V_{CES}$		120	nC
Q_{ge}			33	nC
Q_{gc}			49	nC
$t_{d(on)}$	Inductive load, $T_J = 25^\circ\text{C}$		36	ns
t_{ri}	$I_C = I_{C90}, V_{GE} = 15\text{ V}$		27	ns
$t_{d(off)}$	$R_G = 5\ \Omega$		160	300 ns
t_{fi}	$V_{CE} = 0.8 V_{CES}$		180	300 ns
E_{off}	Note 3		5	9 mJ
$t_{d(on)}$	Inductive load, $T_J = 125^\circ\text{C}$		38	ns
t_{ri}	$I_C = I_{C90}, V_{GE} = 15\text{ V}$		29	ns
E_{on}	$R_G = 5\ \Omega, V_{CE} = 0.8 V_{CES}$		2.5	mJ
$t_{d(off)}$	Note 3		240	ns
t_{fi}			340	ns
E_{off}			9	mJ
R_{thJC}	(TO-247)			0.42 K/W
R_{thCK}			0.25	K/W

- Notes: 1. Device must be heatsunk for high temperature leakage current measurements to avoid thermal runaway.
2. Pulse test, $t \leq 300\ \mu\text{s}$, duty cycle $\leq 2\%$
3. Switching times may increase for $V_{CE}(\text{Clamp}) > 0.8 V_{CES}$, higher T_J or increased R_G .

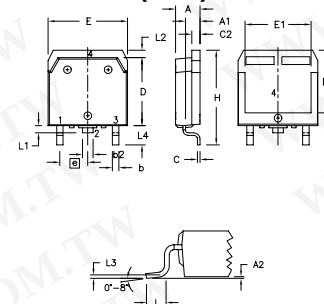
勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-34970699
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

TO-247 AD Outline (IXSH)



SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.185	.209	4.7	5.3
A1	.087	.102	2.2	2.54
A2	.059	.098	2.2	2.6
b	.040	.055	1.0	1.4
b1	.065	.084	1.65	2.13
b2	.113	.123	2.87	3.12
C	.016	.031	.4	.8
D	.819	.845	20.80	21.46
E	.610	.640	15.75	16.26
e	.215 BSC		5.45 BSC	
L	.780	.800	19.81	20.32
L1		.177		4.50
ØP	.140	.144	3.55	3.65
Q	.212	.244	5.4	6.2
R	.170	.216	4.32	5.49
S	.242 BSC		6.15 BSC	

TO-268 Outline (IXST)



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.9	5.1	.193	.201
A1	2.7	2.9	.106	.114
A2	.02	.25	.001	.010
b	1.15	1.45	.045	.057
b2	1.9	2.1	.75	.83
C	.4	.65	.016	.026
D	13.80	14.00	.543	.551
E	15.85	16.05	.624	.632
E1	13.3	13.6	.524	.535
e	5.45 BSC		.215 BSC	
H	18.70	19.10	.736	.752
L	2.40	2.70	.094	.106
L1	1.20	1.40	.047	.055
L2	1.00	1.15	.039	.045
L3	0.25 BSC		.010 BSC	
L4	3.80	4.10	.150	.161