ShinDengen

D45XT160

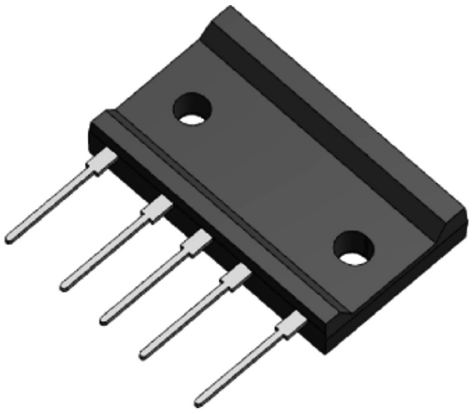
Bridge Diodes
1600V, 45A

Feature

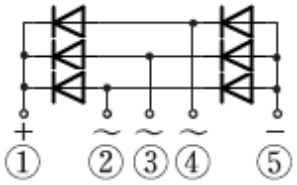
- Compact SIP
- UL E142422
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): TSB(5pin)



Equivalent circuit



Absolute Maximum Ratings (unless otherwise specified : Tc=25°C)

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-40 to 150	°C
Junction temperature	Tj		-40 to 150	°C
Repetitive peak reverse voltage	V_{RRM}		1600	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, With heatsink, Tc=97°C	45	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Without heatsink, Ta=26°C ※	4.6	A
Surge forward current	I_{FSM}	60Hz sine wave, Non-repetitive 1 cycle peak value, per diode, Tj=25°C	360	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive 1 cycle peak value, per diode, Tj=25°C	330	A
Current squared time	I^2t	1ms≦t＜10ms, Tj=25°C, per diode	544.5	A^2s
Dielectric strength	Vdis	Terminals to case, AC 1 minute, Except top (opposite side of the terminal side) of the mold case	2.5	kV
Mounting torque	TOR	(Recommended torque : 1.2N･m)	1.5	N･m

※ ：See the original Specifications

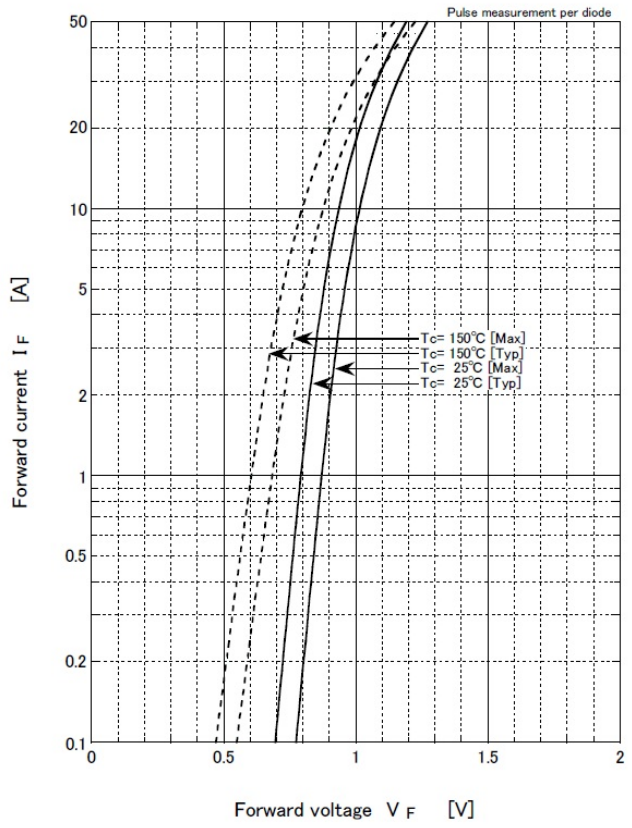
Electrical Characteristics (unless otherwise specified : Tc=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=15A, Pulse measurement, per diode			1.05	V
Reverse current	I_R	VR=1600V, Pulse measurement, per diode			100	μA
Thermal resistance	Rth(j-c)	Junction to case, With heatsink			0.5	°C/W
Thermal resistance	Rth(j-a)	Junction to ambient, On glass-epoxy substrate ※			16	°C/W

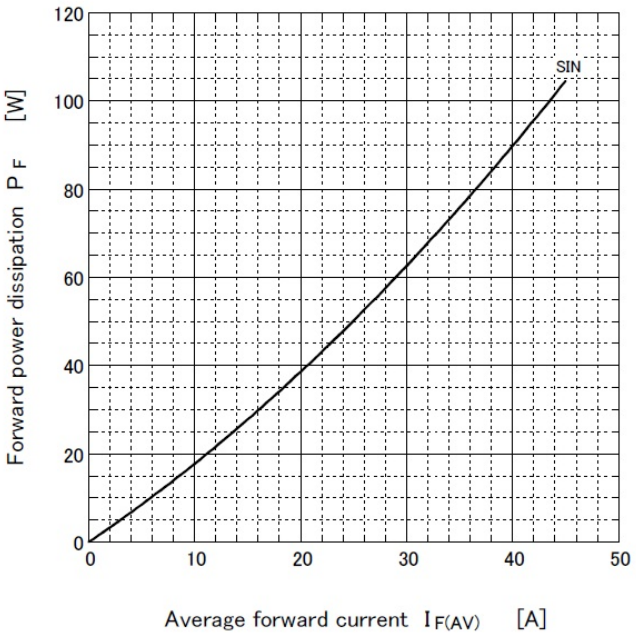
※ ：See the original Specifications

CHARACTERISTIC DIAGRAMS

Forward voltage

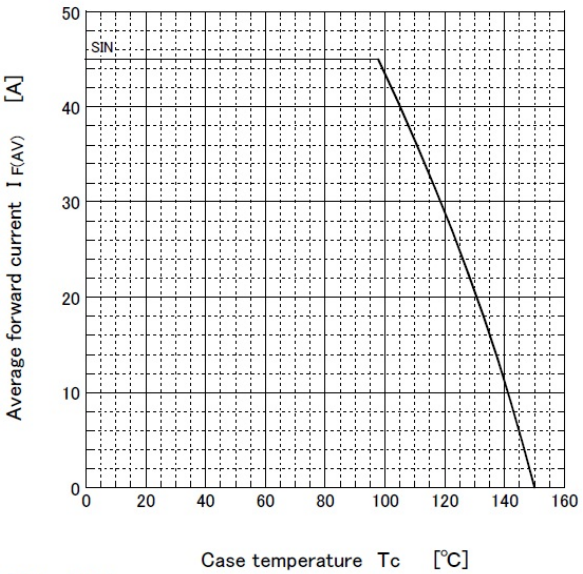


Forward power dissipation



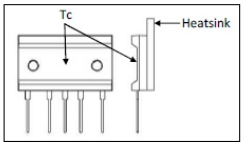
●Tj =150℃

Derating curve

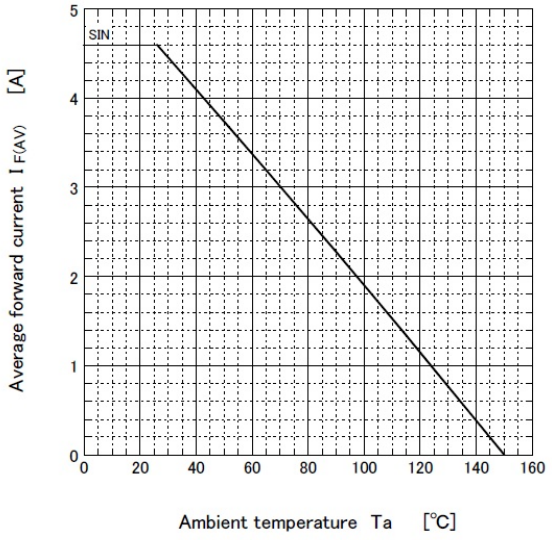


●V_R =1600V
R-load
With heatsink

●Tc sensing point



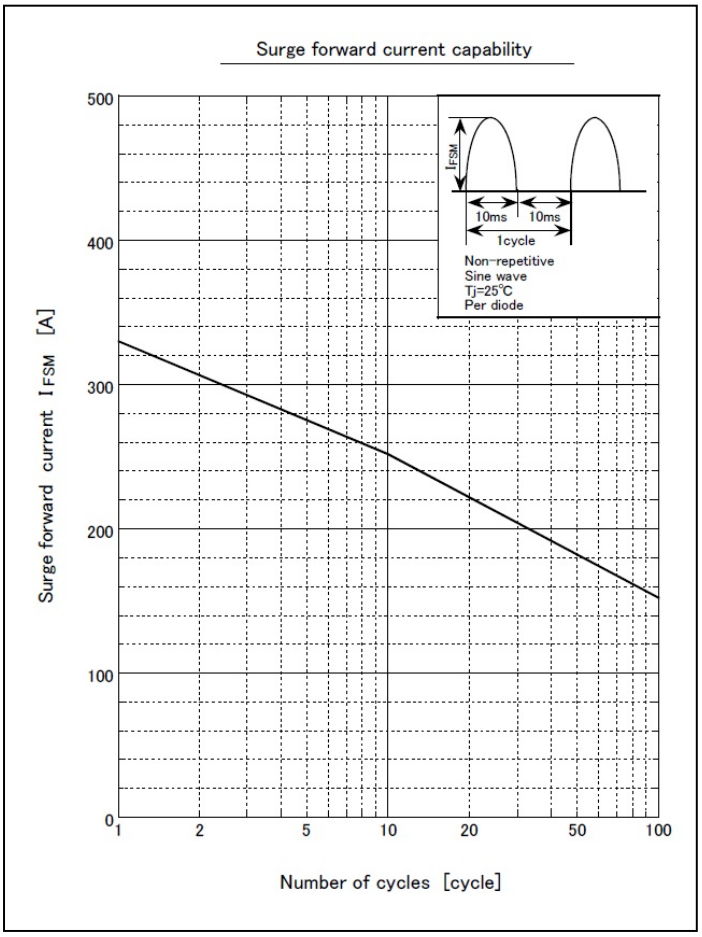
Derating curve

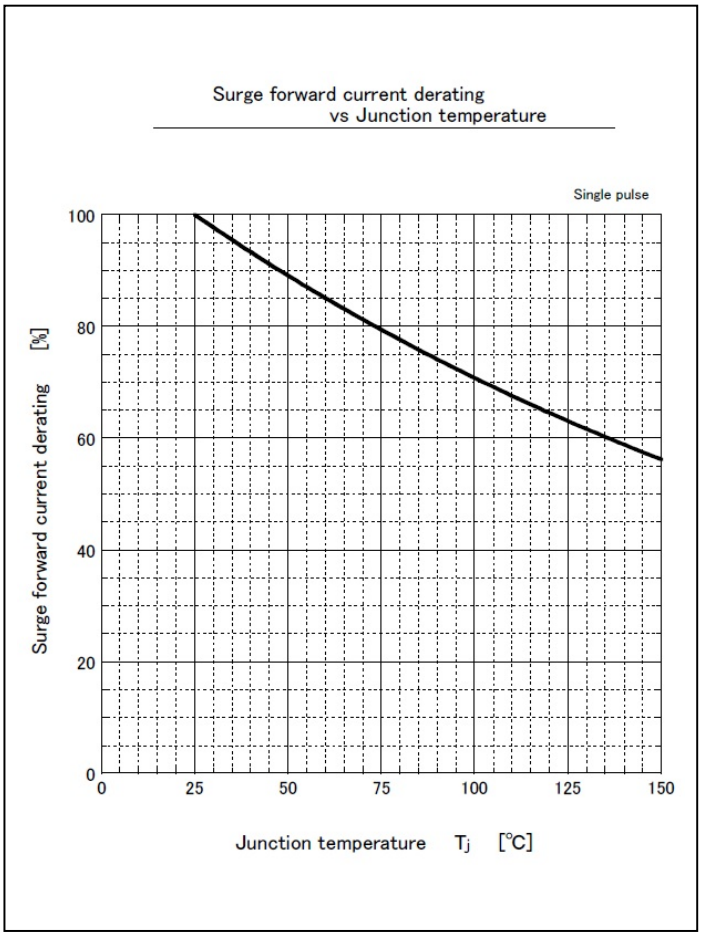


●V_R = 1600V
R-load
Free in air

●Substrate detail

Type	Glass-epoxy
Size	150mm ×90mm
Thickness	1mm
Conductor thickness	35 μm
Pattern area	1383mm²


Surge forward current capability
Surge forward current IFSM [A]
500
400
300
200
100
0
1
2
5
10
20
50
100
Number of cycles [cycle]
IFSM
10ms
10ms
1cycle
Non-repetitive
Sine wave
Tj=25℃
Per diode

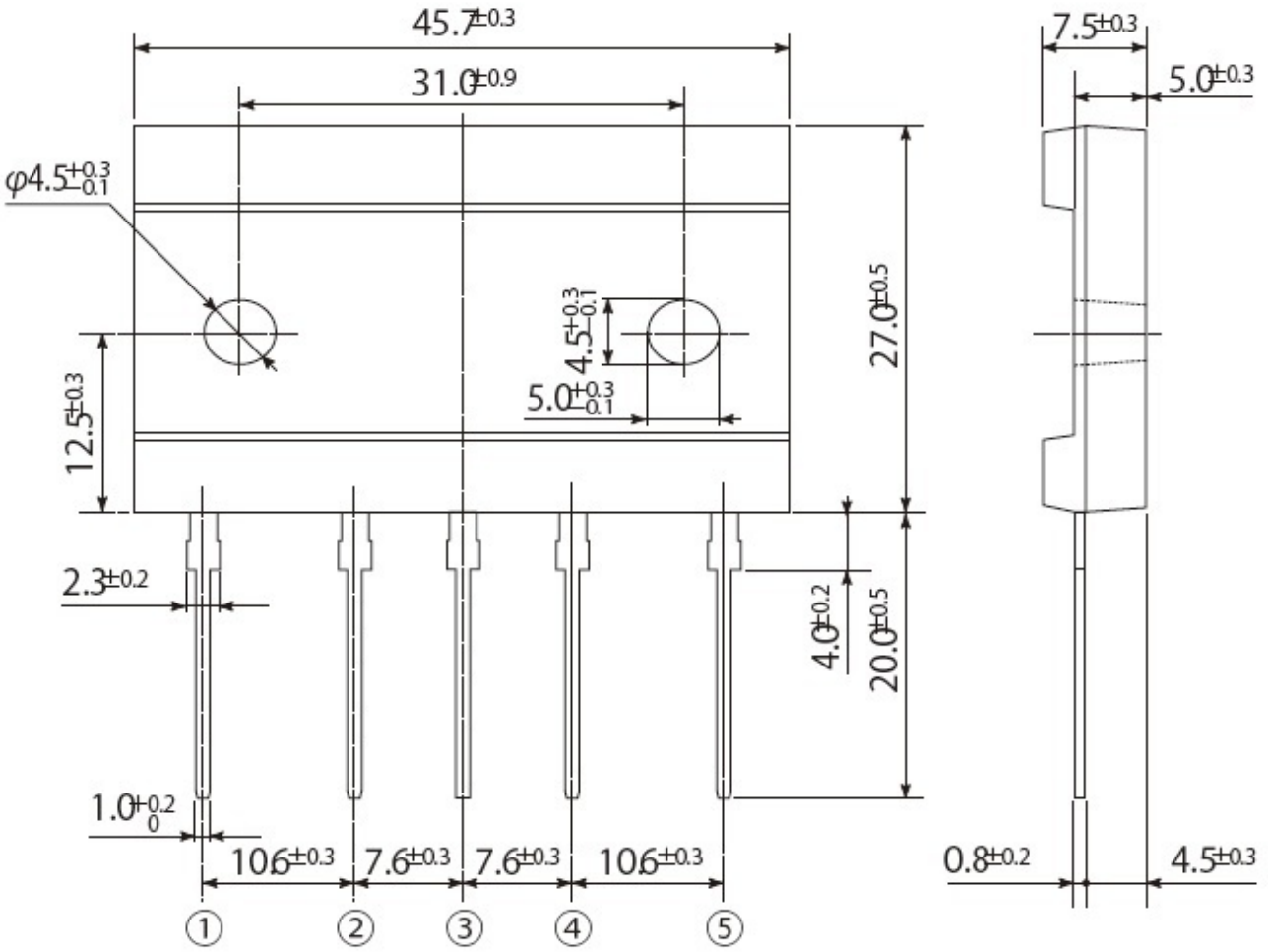

Surge forward current derating
vs Junction temperature
Single pulse
Surge forward current derating [%]
100
80
60
40
20
0
0
25
50
75
100
125
150
Junction temperature Tj [℃]

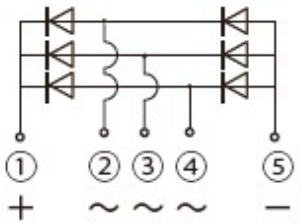
Outline Dimensions

unit:mm

D8

JEDEC Code	–
JEITA Code	–
House Name	TSB(5pin),JC(5pin)





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- If you wish to use any such products, please be sure to refer to the specifications.

U182-1(2026.09)

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