ShinDengen

LK25XB60

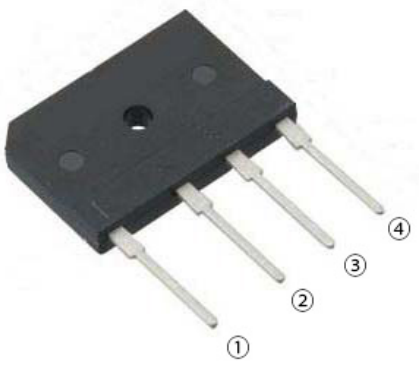
Bridge Diodes
600V, 25A

Feature

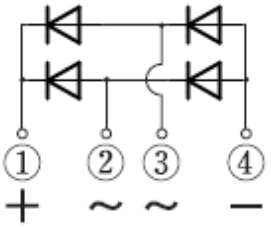
- Compact SIP
- Low V_F
- High lightning surge capability
- UL E142422
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): 5S



Equivalent circuit



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

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-55 to 150	°C
Junction temperature	Tj		-55 to 150	°C
Repetitive peak reverse voltage	V_{RRM}		600	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, With heatsink, Tc=114°C	25	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On glass-epoxy substrate, Tl=25°C ※	15	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25°C ※	3.5	A
Surge forward current	I_{FSM}	60Hz sine wave, Non-repetitive 1 cycle peak value, per diode, Tj=25°C	603	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive 1 cycle peak value, per diode, Tj=25°C	550	A
Surge forward current	I_{FSM1}	tp=1ms, sine wave, Non-repetitive, peak value, per diode, Tj=25°C	1738	A
Current squared time	I^2t	1ms≦tp＜10ms, Tj=25°C, per diode	1512	A^2s
Dielectric strength	Vdis	Terminals to case, AC 1 minute	2.5	kV
Mounting torque	TOR	(Recommended torque : 0.5N･m)	0.8	N･m

※ ：See the original Specifications

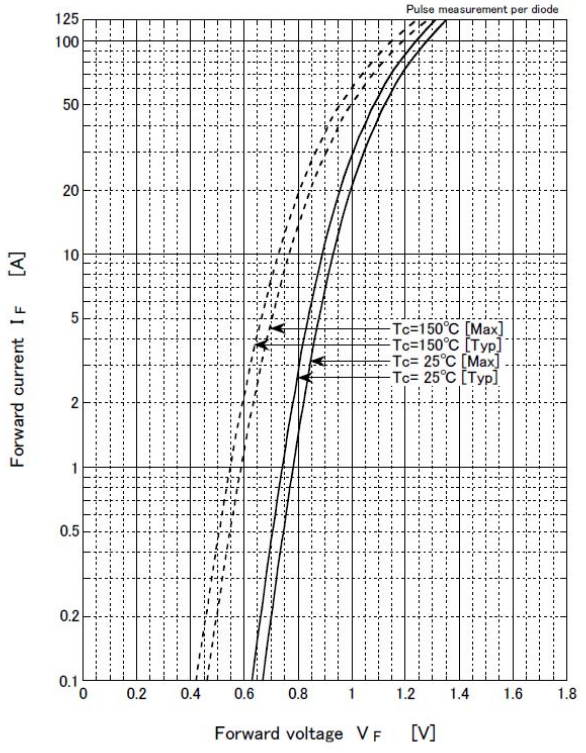
Electrical Characteristics (unless otherwise specified : Tc=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=12.5A, Pulse measurement, per diode			0.95	V
Reverse current	I_R	VR=600V, Pulse measurement, per diode			10	μA
Reverse recovery time	trr	IF=0.1A, IR=0.1A, 0.1IR, per diode			5000	ns
Thermal resistance	Rth(j-c)	Junction to case, With heatsink			0.8	°C/W
Thermal resistance	Rth(j-l)	Junction to lead, On glass-epoxy substrate ※			5.2	°C/W
Thermal resistance	Rth(j-a)	Junction to ambient, On glass-epoxy substrate ※			25	°C/W
EMC surge immunity	V_{EMS}	Voltage surge 1.2/50μs, Current surge 8/20μs, R=2Ω, 5 time each of positive and negative polarity test, Between AC terminals,Short circuit ＋and－terminal		10		kV

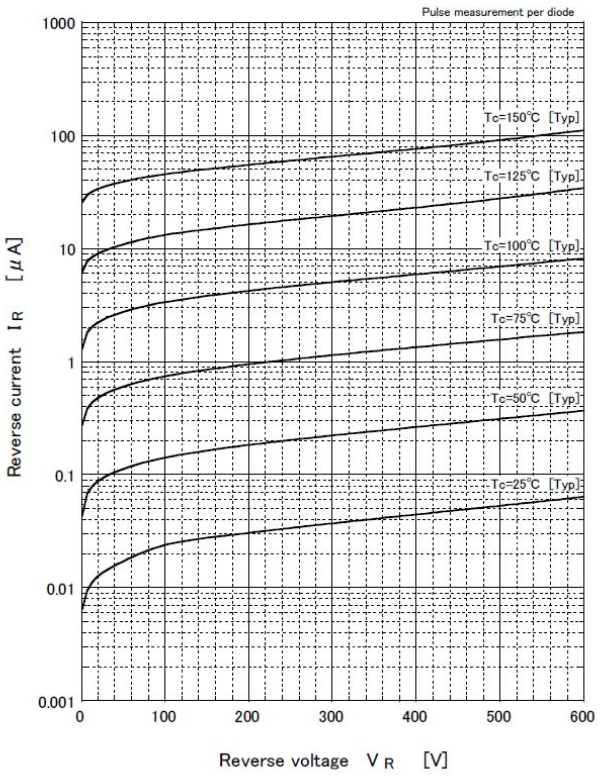
※ ：See the original Specifications

CHARACTERISTIC DIAGRAMS

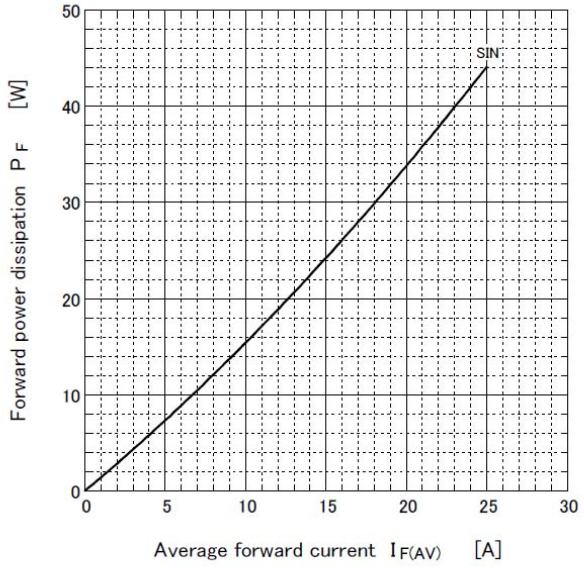
Forward voltage



Reverse current

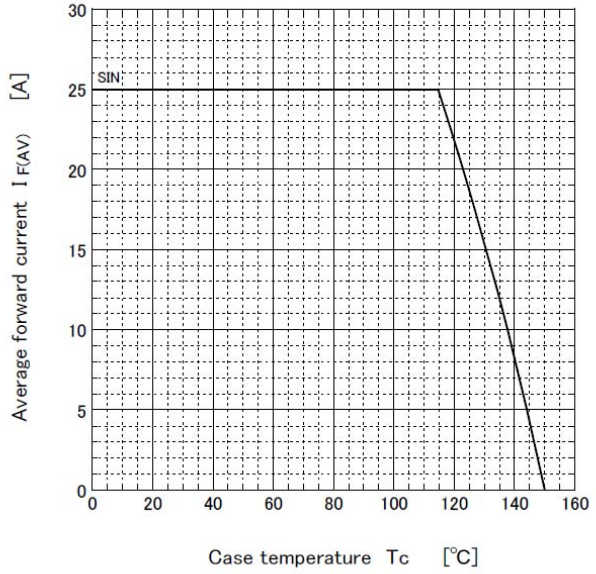


Forward power dissipation



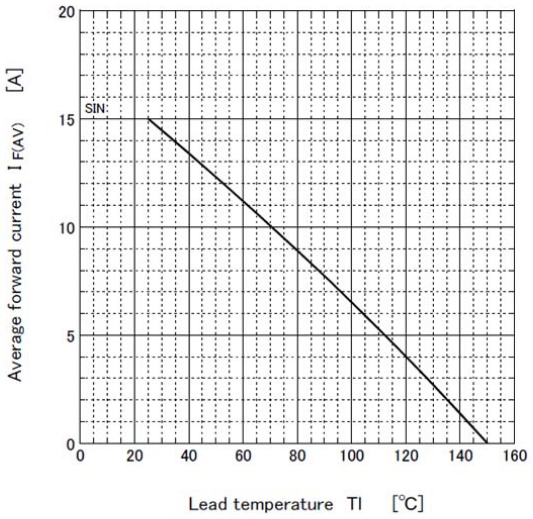
●Tj =150℃

Derating curve



●VR = 600V
R-load
With heatsink

Derating curve

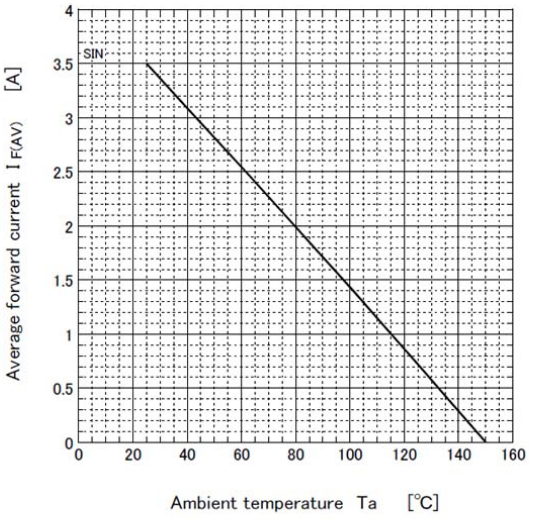


●V_R = 600V
R-load
Free in air

●Substrate detail

Type	Glass-epoxy
Size	90mm×150mm
Thickness	1mm
Conductor thickness	35μm
Pattern area	1107mm²

Derating curve



●V_R = 600V
R-load
Free in air

●Substrate detail

Type	Glass-epoxy
Size	90mm×150mm
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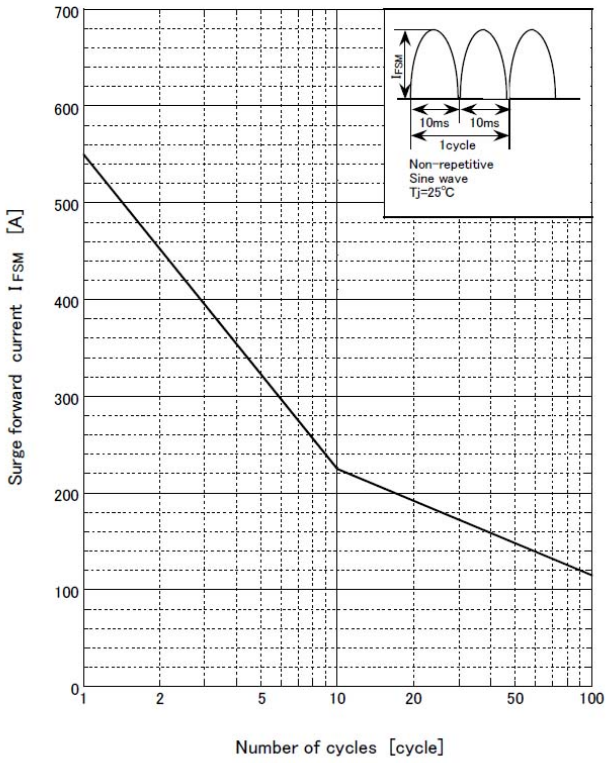
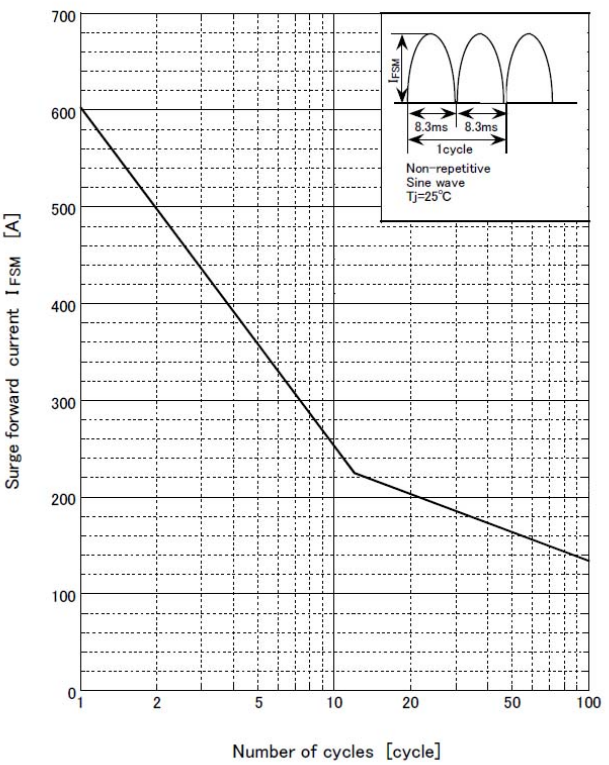
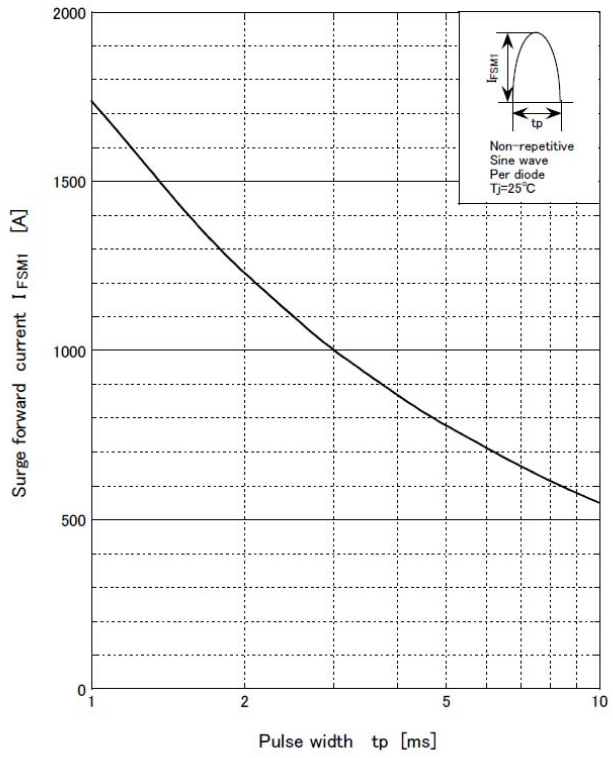
Surge forward current capability



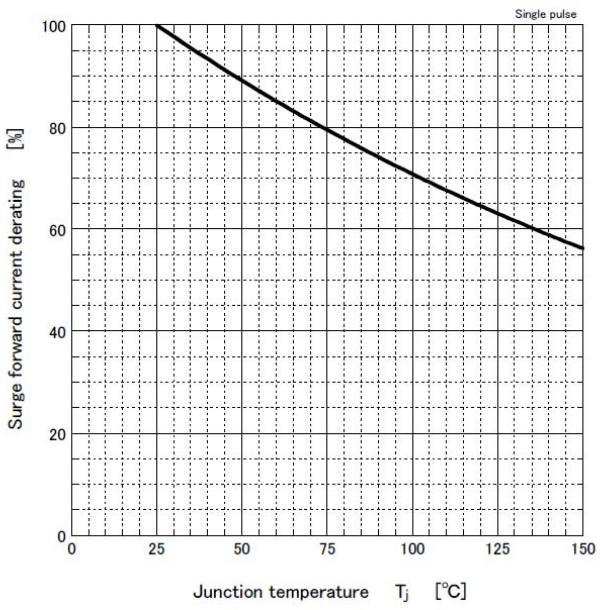
Surge forward current capability



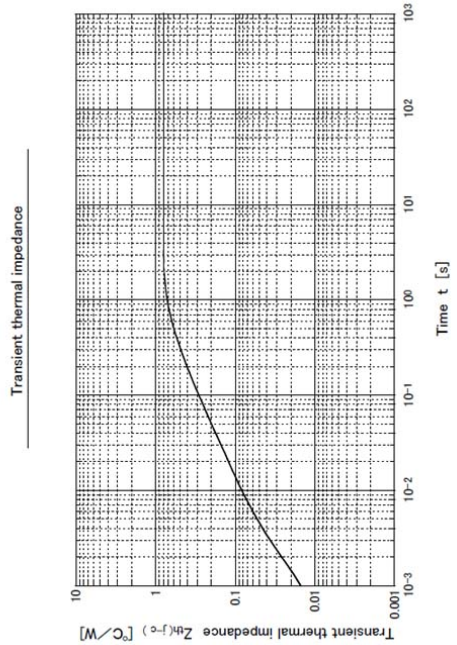
Surge forward current capability



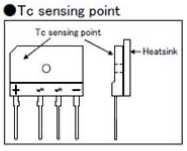
Surge forward current derating
vs Junction temperature



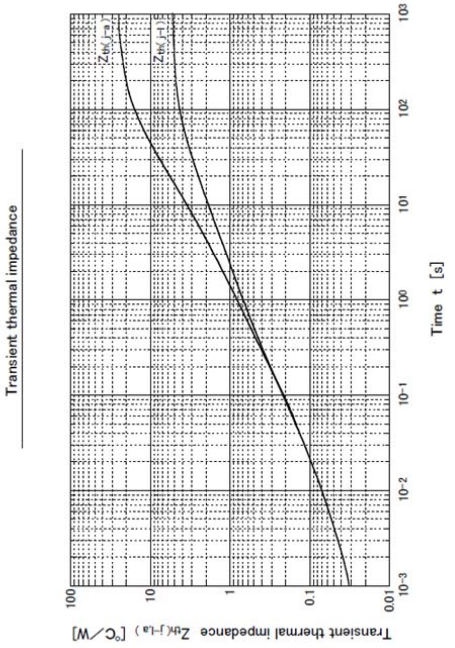
Transient thermal impedance



●Tc sensing point



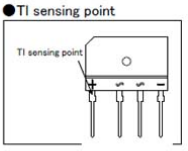
Transient thermal impedance



●Substrate detail

Type	Glass-epoxy
Size	90mm×150mm
Thickness	1mm
Conductor thickness	35μm
Pattern area	1107mm²

●Tl sensing point

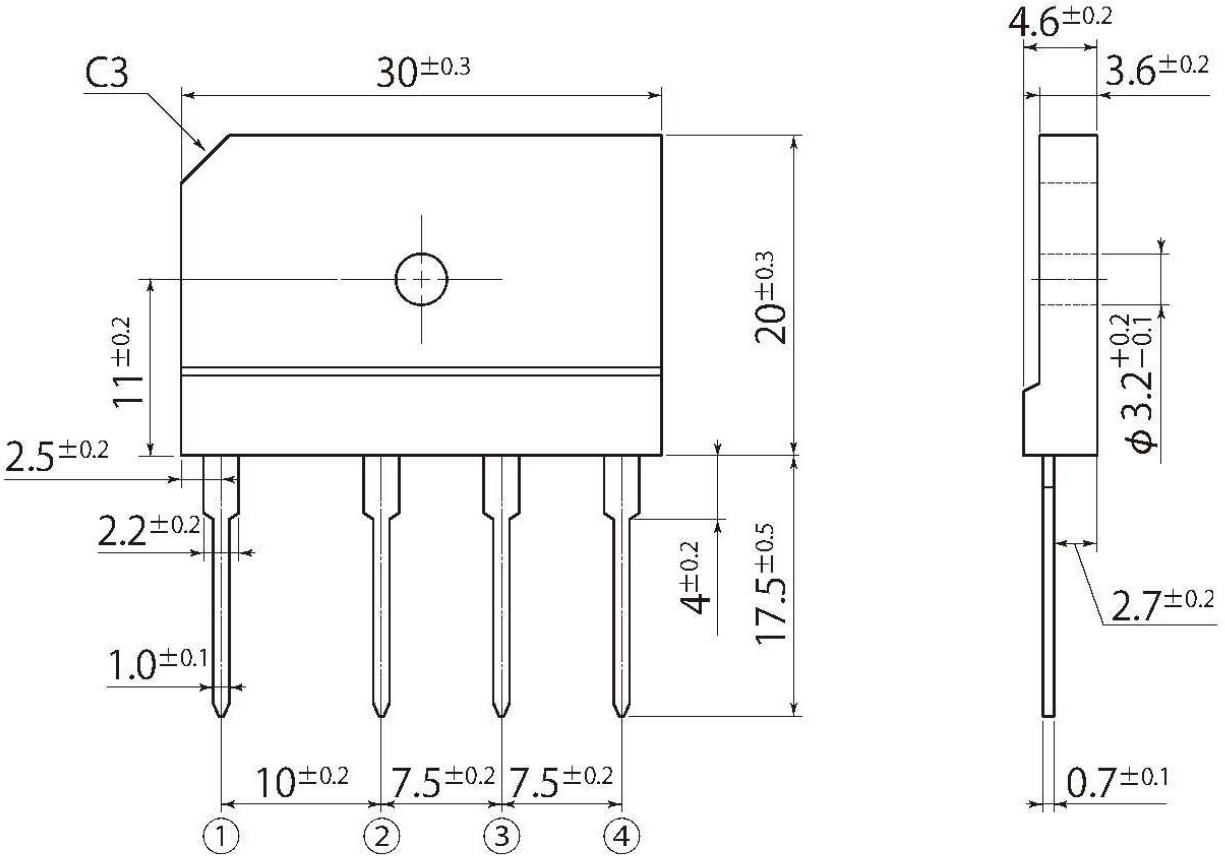


Outline Dimensions

unit:mm

D4

JEDEC Code	–
JEITA Code	–
House Name	5S



Notes

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