ShinDengen

DE5SC6M

Schottky Barrier Diodes
60V, 5A

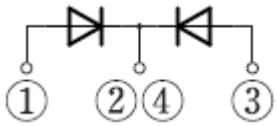
Feature

- SMD
- High Recovery Speed
- Low V_F
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): E-pack
Package (JEITA Code): SC-63

Equivalent circuit



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

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-40 to 150	℃
Junction temperature	Tj		-40 to 150	℃
Repetitive peak reverse voltage	V_{RRM}		60	V
Repetitive peak surge reverse voltage	V_{RRSM}	Pulse width 0.5ms, duty=1/40	65	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Rating for each diode IF(AV)/2, Tc=92℃ ※	5	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Rating for each diode IF(AV)/2, Ta=42℃,On alumina substrate ※	2.5	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive, 1cycle, Peak value, Tj=125℃	80	A
Repetitive peak surge reverse power	P_{RRSM}	Pulse width 10μs, Tj=25℃, per diode	330	W

※ ：See the original Specifications

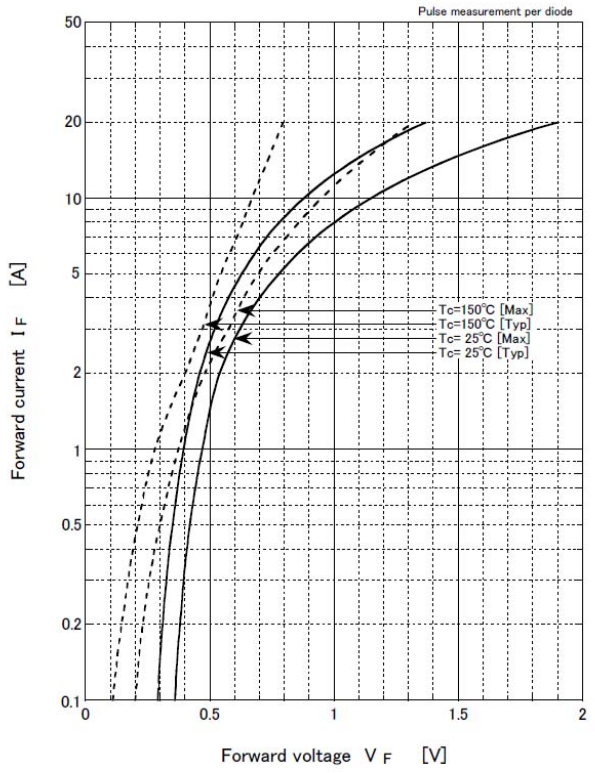
Electrical Characteristics (unless otherwise specified : Tc=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=2.5A, Pulse measurement, per diode			0.58	V
Reverse current	I_R	VR=60V, Pulse measurement, per diode			2.5	mA
Total capacitance	Ct	f=1MHz, VR=10V, per diode		130		pF
Thermal resistance	Rth(j-c)	Junction to case, On alumina substrate, With heatsink ※			12	°C/W
Thermal resistance	Rth(j-a)	Junction to ambient, On alumina substrate ※			55	°C/W

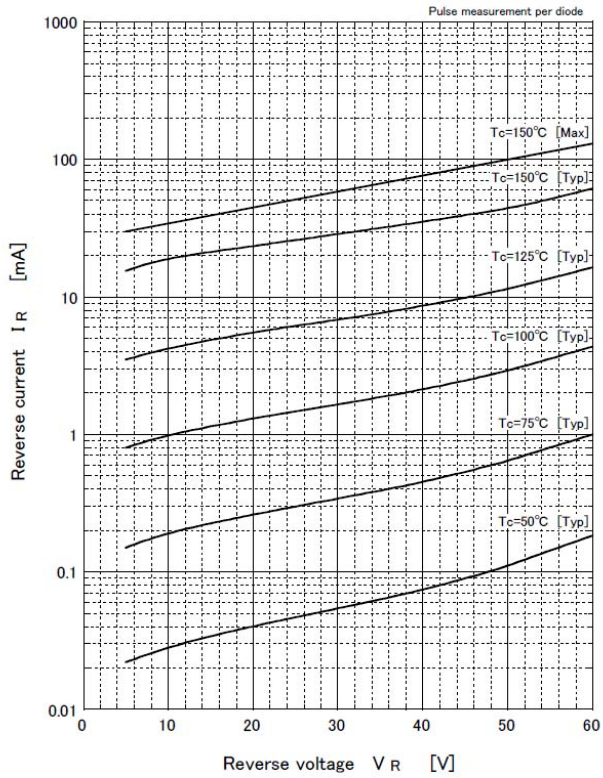
※ :See the original Specifications

CHARACTERISTIC DIAGRAMS

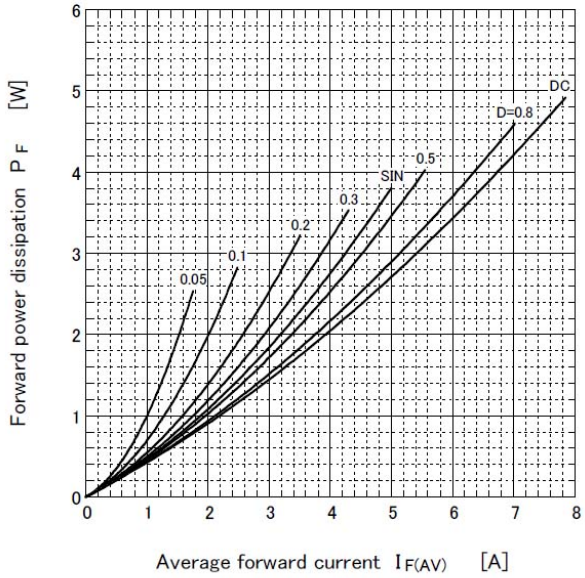
Forward voltage

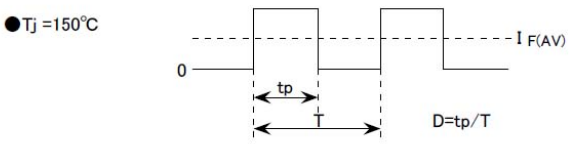


Reverse current

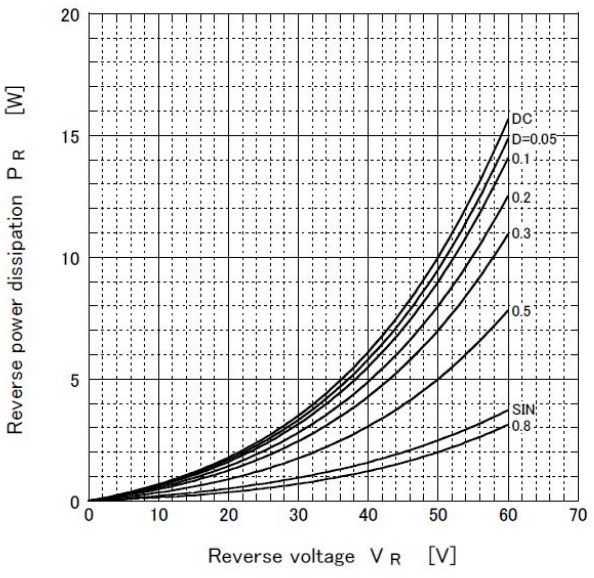


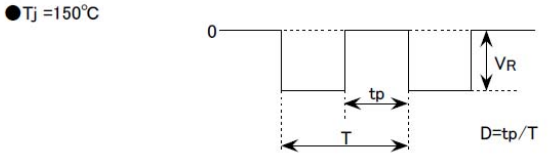
Forward power dissipation



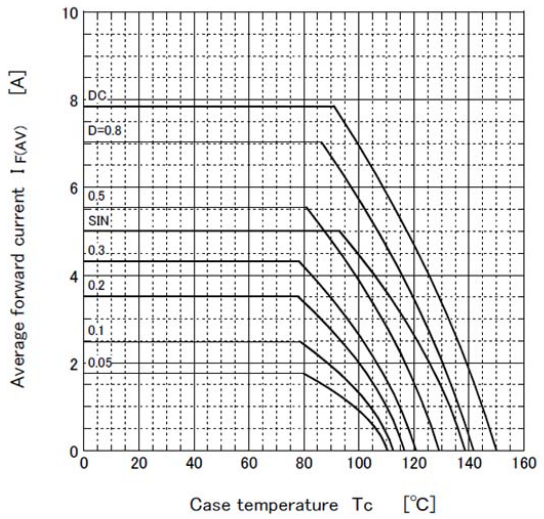


Reverse power dissipation





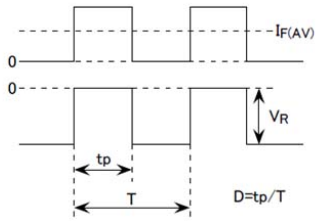
Derating curve



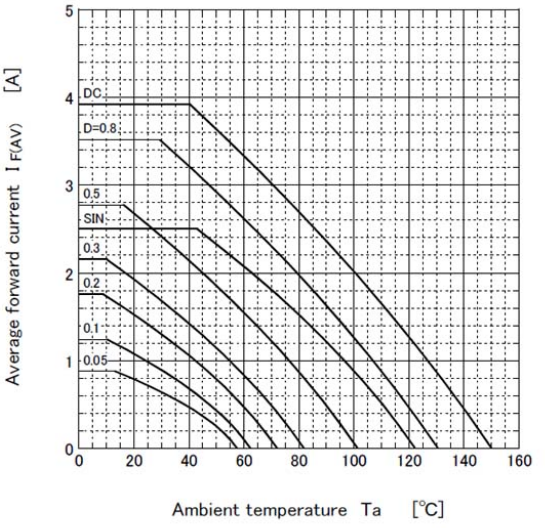
●V_R = 30V
R-load
With heatsink

●Substrate detail

Type	Alumina
Size	1 inch²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	65mm²



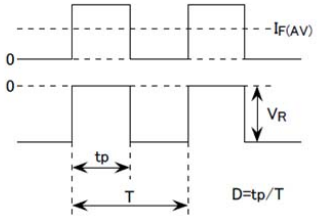
Derating curve



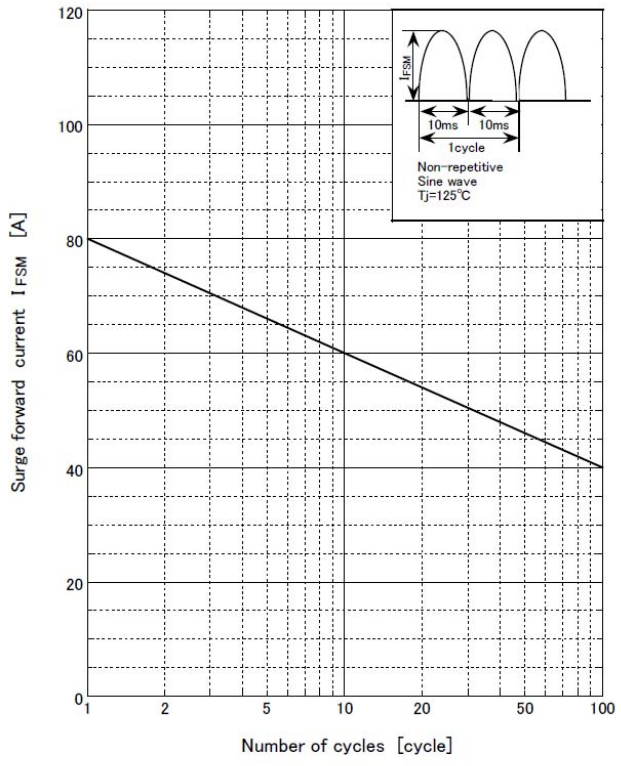
●V_R = 20V
R-load
Free in air

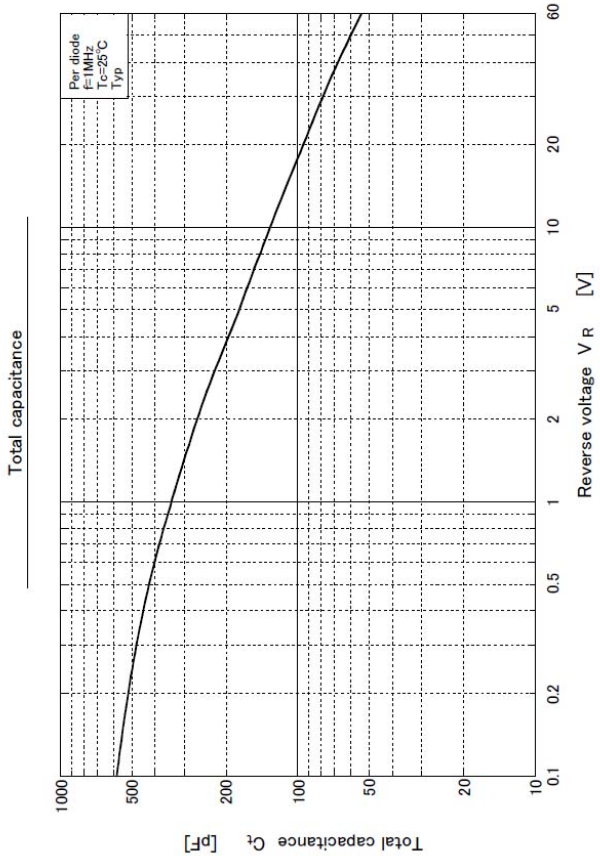
●Substrate detail

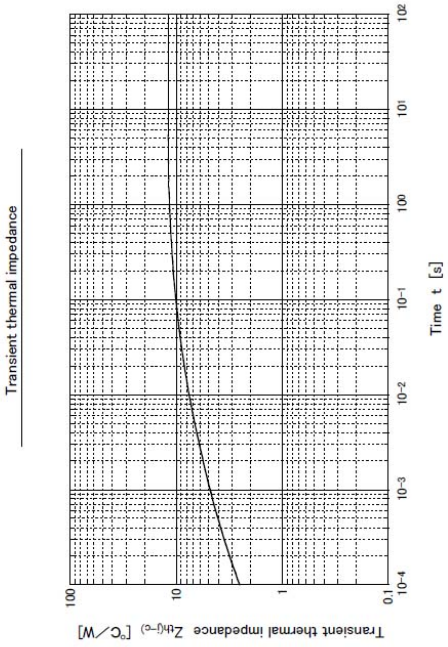
Type	Alumina
Size	1 inch²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	65mm²



Surge forward current capability



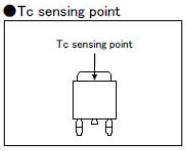




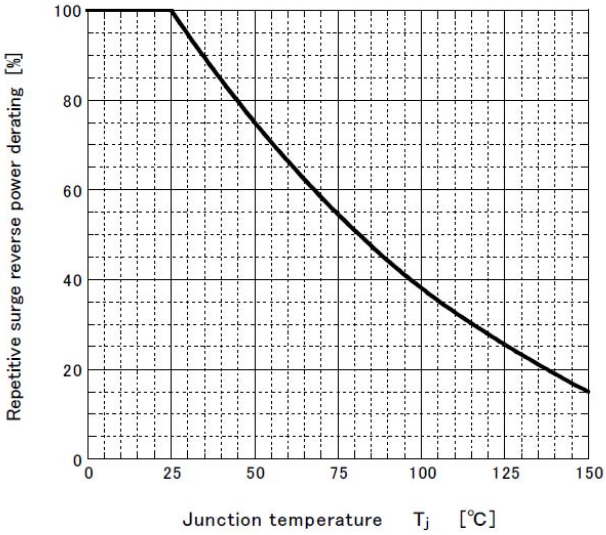
●Substrate detail

Type	Alumina
Size	1 inch²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	65mm²

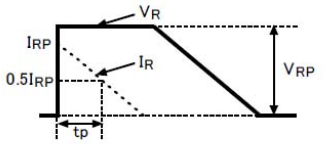
●Tc sensing point



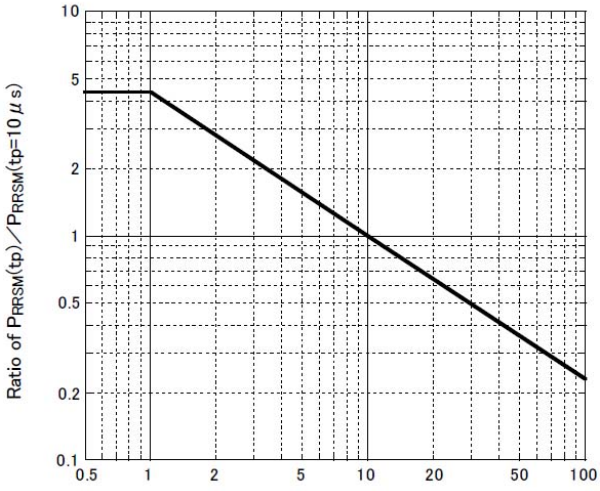
Repetitive surge reverse power derating
vs Junction temperature



●$P_{RRSM} = I_{RP} \times V_{RP}$



Repetitive surge reverse power capability



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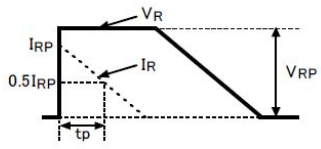


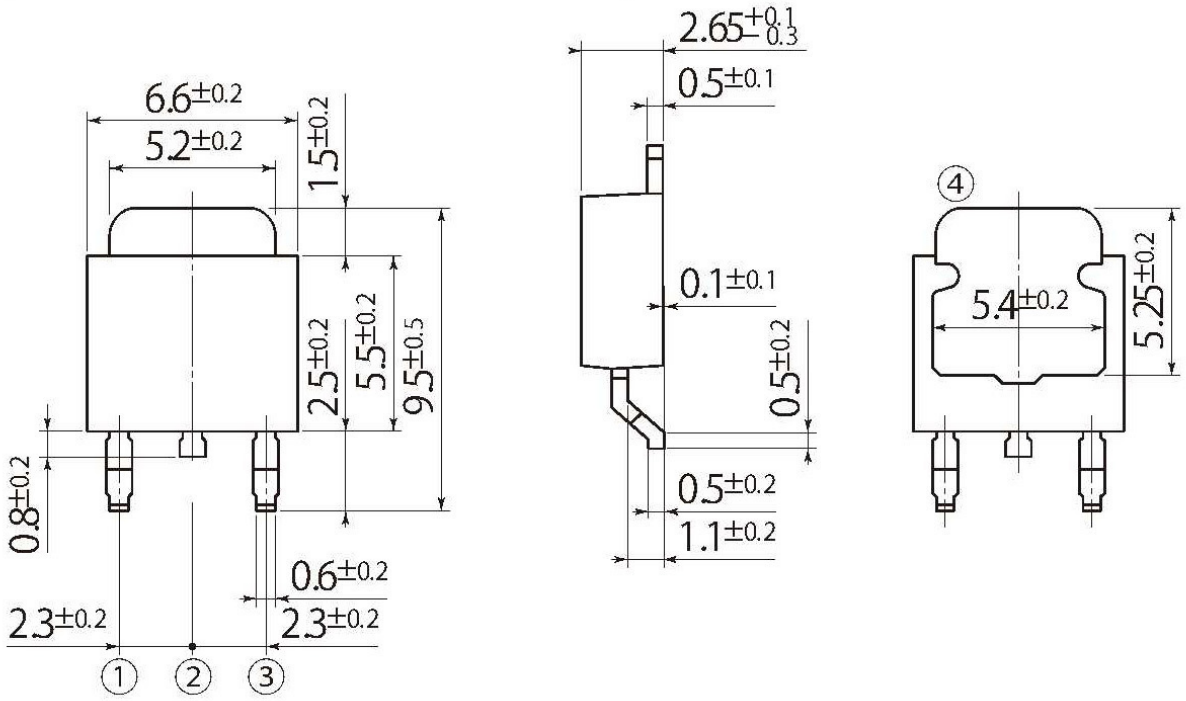
Outline Dimensions

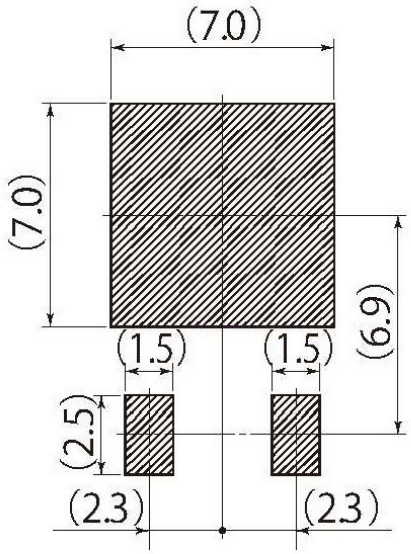
unit:mm

scale: 3/1

G1

JEDEC Code	–
JEITA Code	SC-63
House Name	E-pack





Referential Soldering Pad

• Optimize soldering pad to the board design and soldering condi tion.

Notes

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