ShinDengen

D6FEC4ST

Schottky Barrier Diodes
40V, 6A

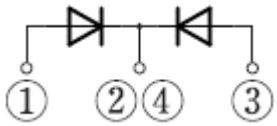
Feature

- SMD
- Tj=175℃
- Ultra low I_R
- Based on AEC-Q101
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): FE
Package (JEDEC Code): TO-252AB similar
Package (JEITA Code): SC-63

Equivalent circuit



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

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-55 to 175	℃
Junction temperature	Tj		-55 to 175	℃
Repetitive peak reverse voltage	V_{RRM}		40	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Rating for each diode IF(AV)/2, Tc=158℃ ※	6	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Rating for each diode IF(AV)/2, Ta=25℃ ※	4	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive, 1cycle, Peak value, Tj=25℃	90	A
Surge forward current	I_{FSM1}	tp=1ms, Sine wave, Non-repetitive, Peak value, Tj=25℃	155	A

※ ：See the original Specifications

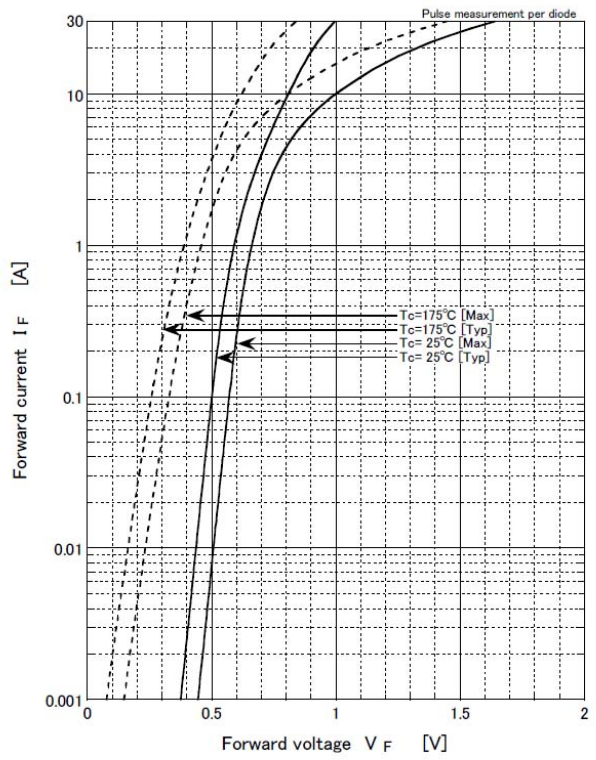
Electrical Characteristics (unless otherwise specified : Tc=25℃)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=3A, Pulse measurement, per diode			0.74	V
Reverse current	I_R	VR=40V, Pulse measurement, per diode			0.008	mA
Total capacitance	Ct	f=1MHz, VR=10V, per diode		93		pF
Thermal resistance	Rth(j-c)	Junction to case, With heatsink ※			4	℃/W
Thermal resistance	Rth(j-a)	Junction to ambient ※			60	℃/W

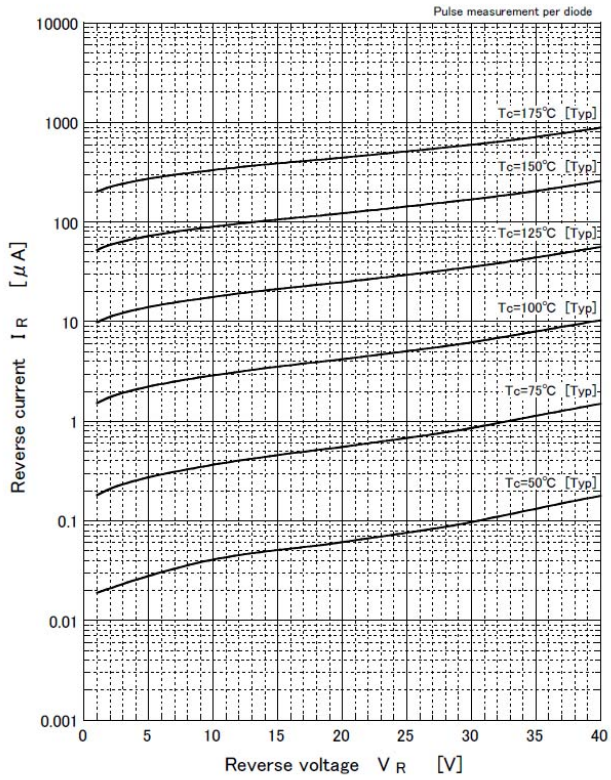
※ :See the original Specifications

CHARACTERISTIC DIAGRAMS

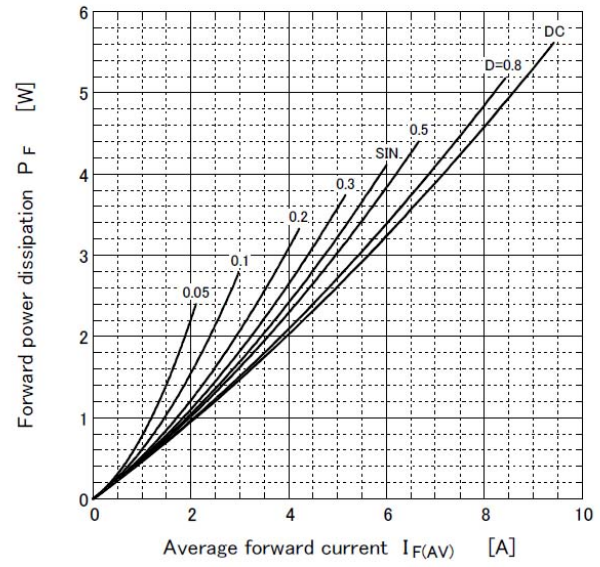
Forward voltage

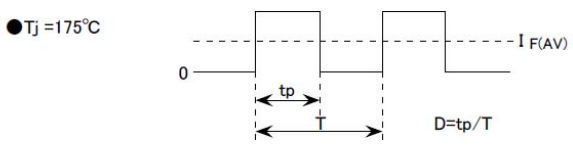


Reverse current

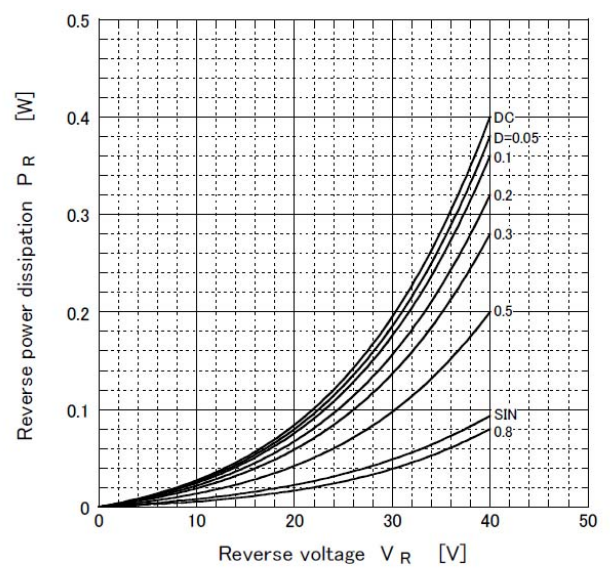


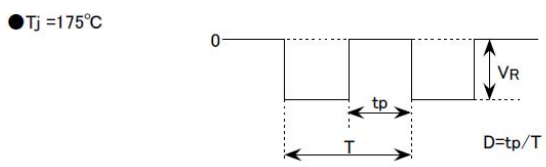
Forward power dissipation



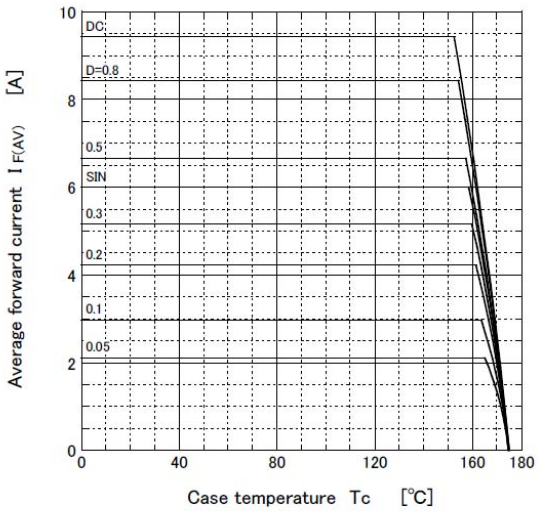


Reverse power dissipation





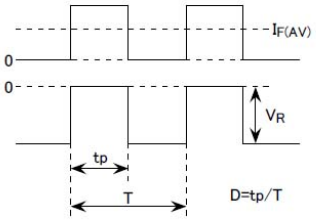
Derating curve



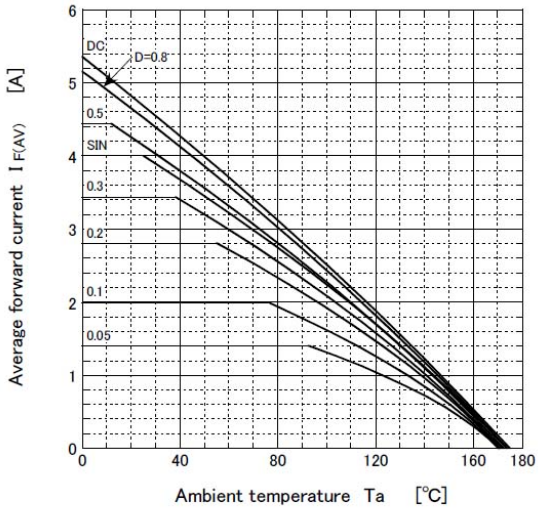
●V_R = 20V
R-load
With heatsink

●Substrate detail

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



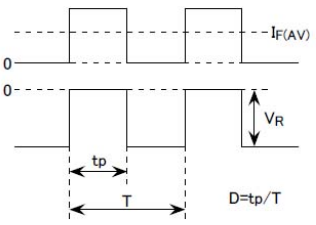
Derating curve



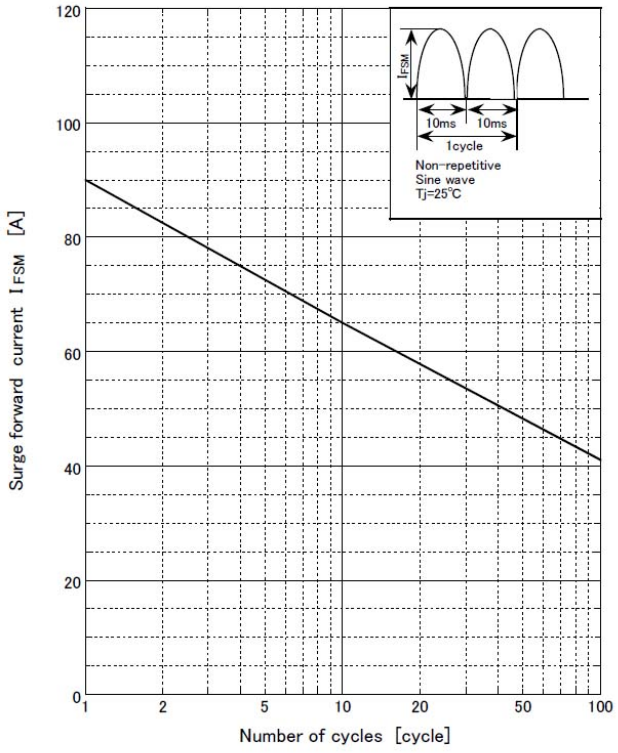
●V_R = 20V
R-load
Free in air

●Substrate detail

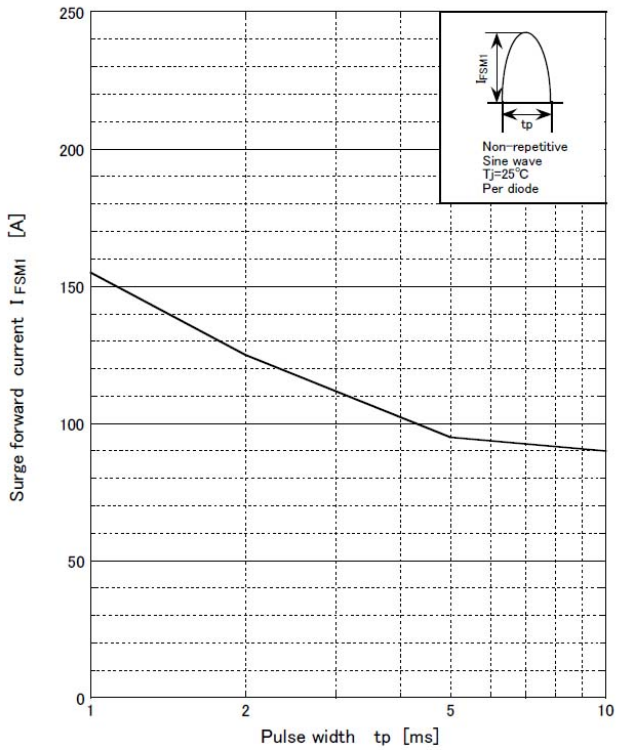
Type	Glass-epoxy
Size	24mm×36mm
Thickness	1.6mm
Conductor thickness	35μm
Pattern area	56.5mm²



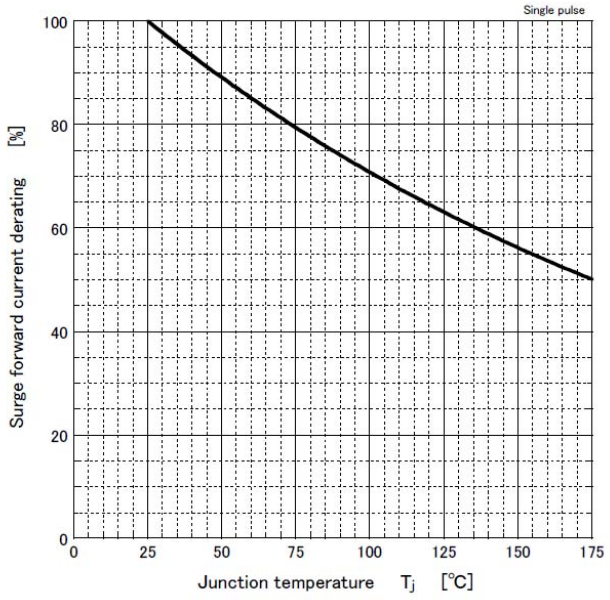
Surge forward current capability

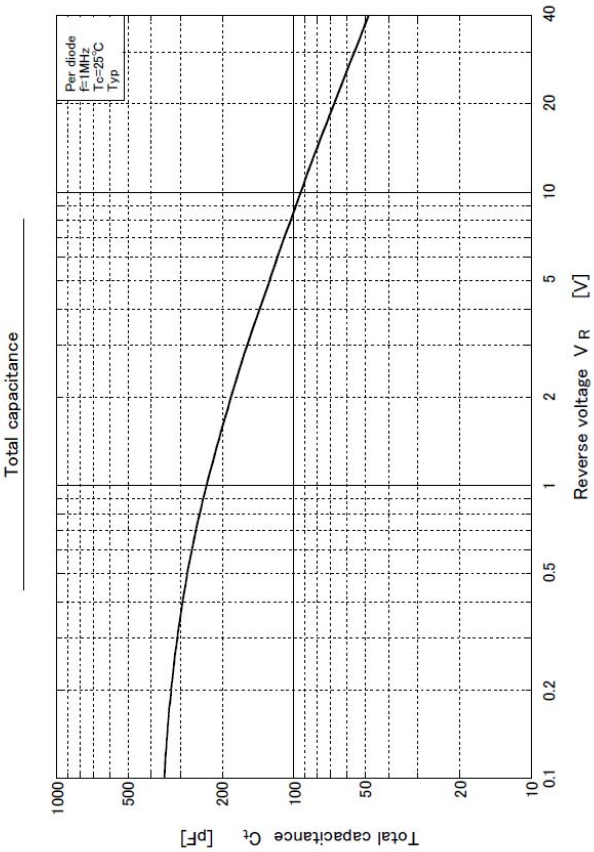


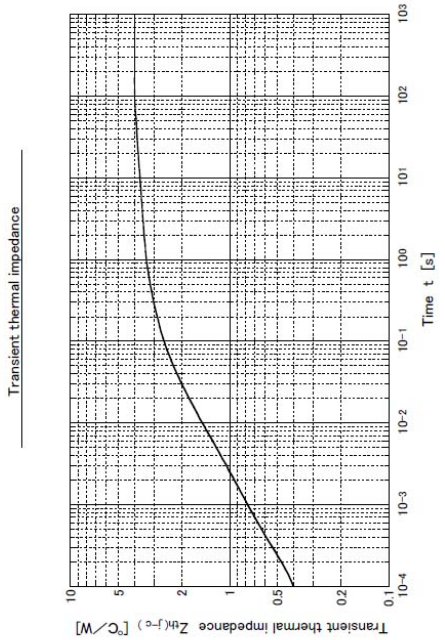
Surge forward current capability



Surge forward current derating
vs Junction temperature



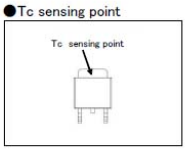


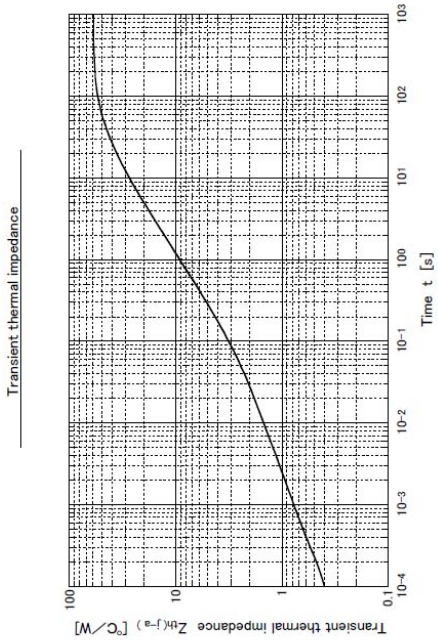


●Substrate detail

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

●Tc sensing point





●Substrate detail

Type	Glass-epoxy
Size	24mm×36mm
Thickness	1.6mm
Conductor thickness	35μm
Pattern area	56.5mm²

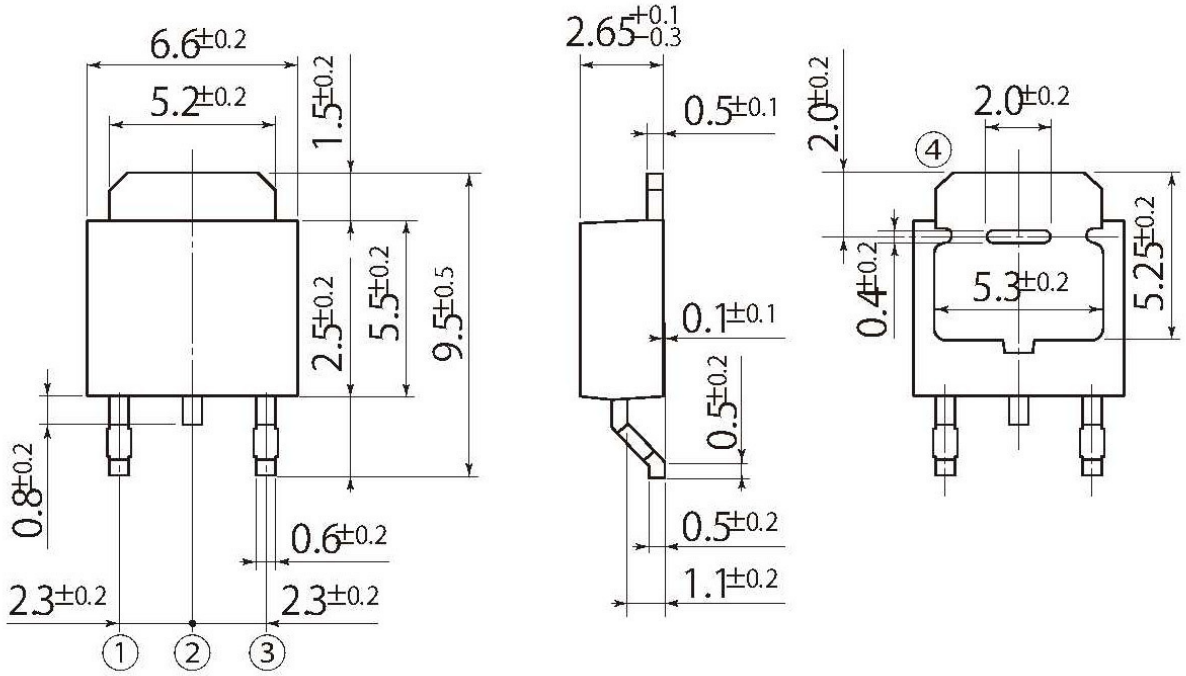
Outline Dimensions

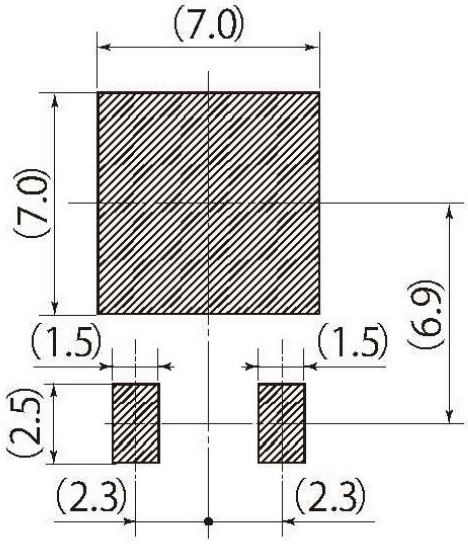
unit:mm

scale: 4/1

G3

JEDEC Code	TO-252AB similar
JEITA Code	SC-63
House Name	FE





Referential Soldering Pad

• Optimize soldering pad to the board design and soldering condition.

Notes

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