

D6FEC4ST

Schottky Barrier Diodes

40V, 6A

Feature

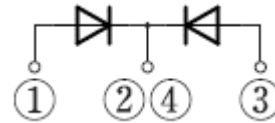
- SMD
- $T_j=175^{\circ}\text{C}$
- Ultra low I_R
- Based on AEC-Q101
- Pb free terminal
- RoHS:Yes

OUTLINE

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



Equivalent circuit



Absolute Maximum Ratings (unless otherwise specified : $T_c=25^{\circ}\text{C}$)

Item	Symbol	Conditions	Ratings	Unit
Storage temperature	T_{stg}		-55 to 175	$^{\circ}\text{C}$
Junction temperature	T_j		-55 to 175	$^{\circ}\text{C}$
Repetitive peak reverse voltage	V_{RRM}		40	V
Average forward current	$I_{F(AV)}$	50Hz sine wave, Resistance load, Rating for each diode $I_{F(AV)}/2$, $T_c=158^{\circ}\text{C}$ *	6	A
Average forward current	$I_{F(AV)}$	50Hz sine wave, Resistance load, Rating for each diode $I_{F(AV)}/2$, $T_a=25^{\circ}\text{C}$ *	4	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive, 1 cycle, Peak value, $T_j=25^{\circ}\text{C}$	90	A
Surge forward current	I_{FSM1}	$t_p=1\text{ms}$, Sine wave, Non-repetitive, Peak value, $T_j=25^{\circ}\text{C}$	155	A

* : See the original Specifications

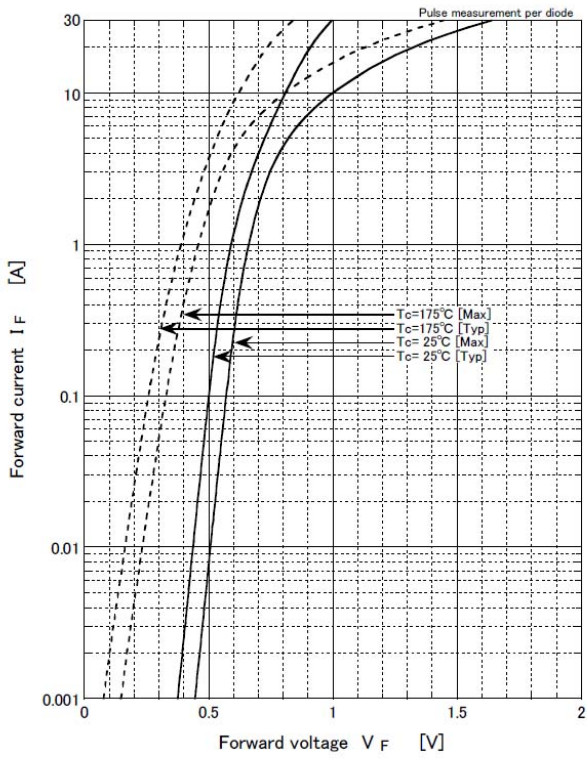
Electrical Characteristics (unless otherwise specified : Tc=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V _F	I _F =3A, Pulse measurement, per diode			0.74	V
Reverse current	I _R	V _R =40V, Pulse measurement, per diode			0.008	mA
Total capacitance	C _t	f=1MHz, V _R =10V, per diode		93		pF
Thermal resistance	R _{th(j-c)}	Junction to case, With heatsink ※			4	°C/W
Thermal resistance	R _{th(j-a)}	Junction to ambient ※			60	°C/W

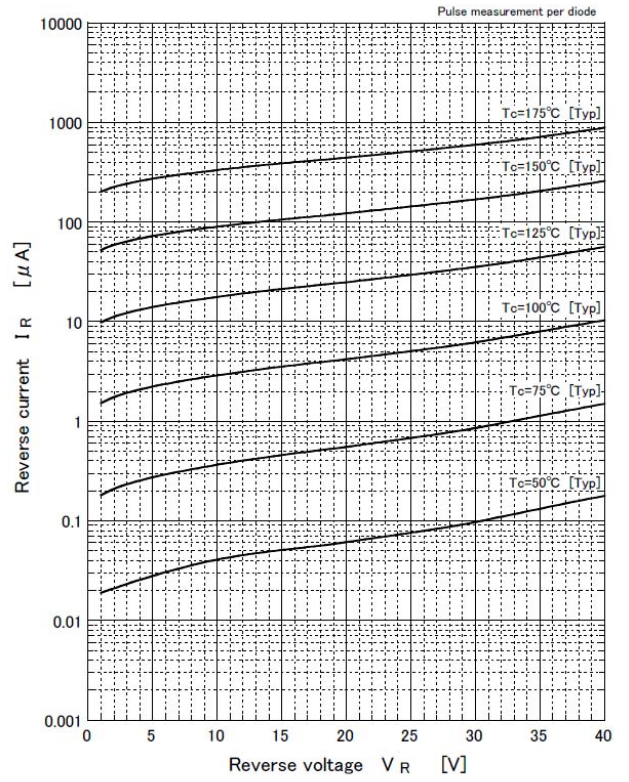
※ :See the original Specifications

CHARACTERISTIC DIAGRAMS

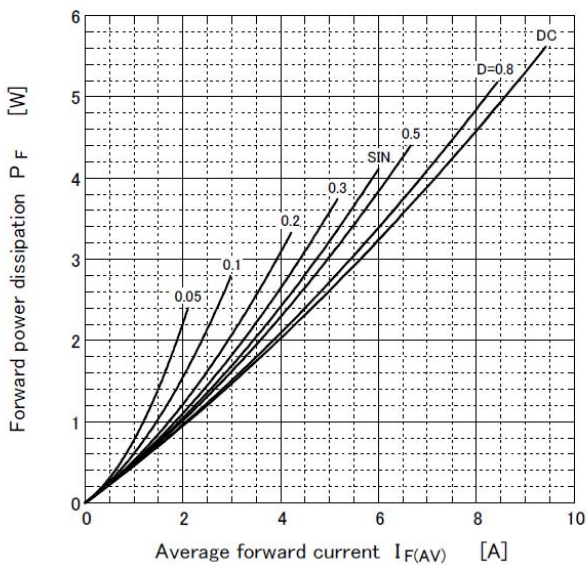
Forward voltage



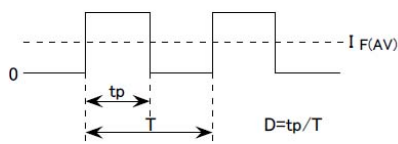
Reverse current



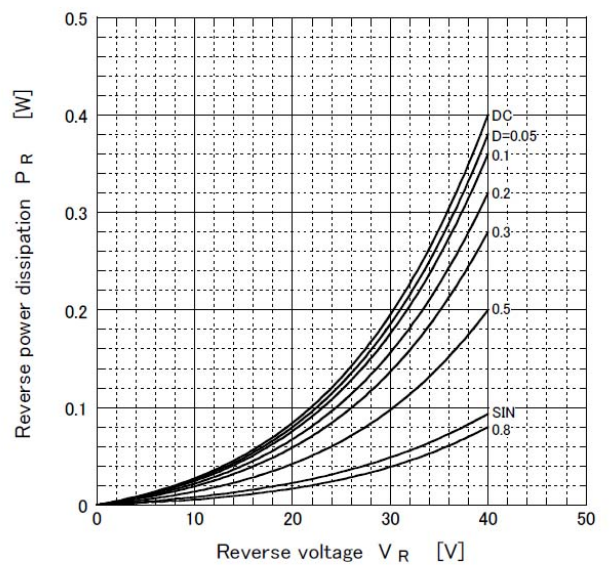
Forward power dissipation



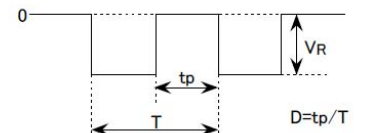
● $T_j=175^\circ\text{C}$



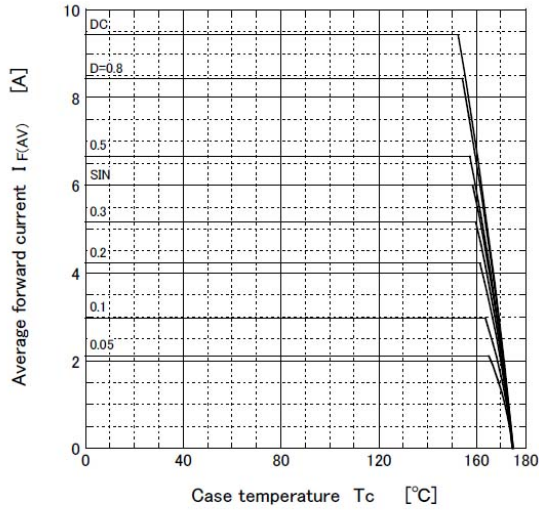
Reverse power dissipation



● $T_j=175^\circ\text{C}$



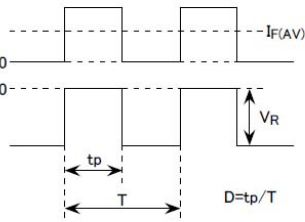
Derating curve



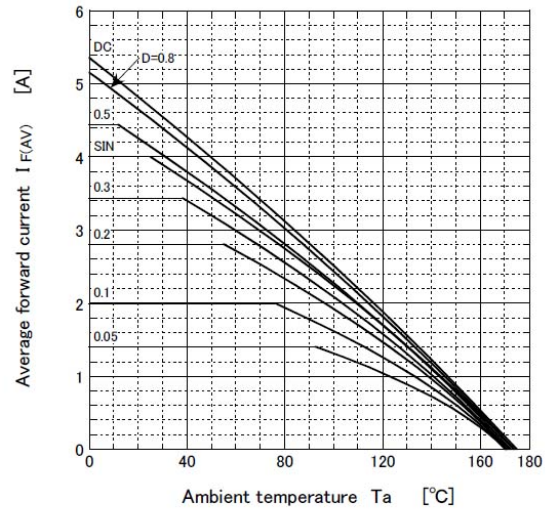
● $V_R = 20V$
R-load
With heatsink

● Substrate detail

Type	Alumina
Size	1inch ²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	65mm ²



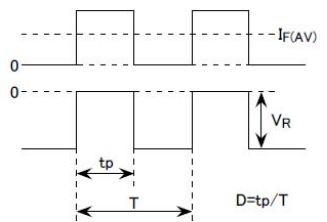
Derating curve



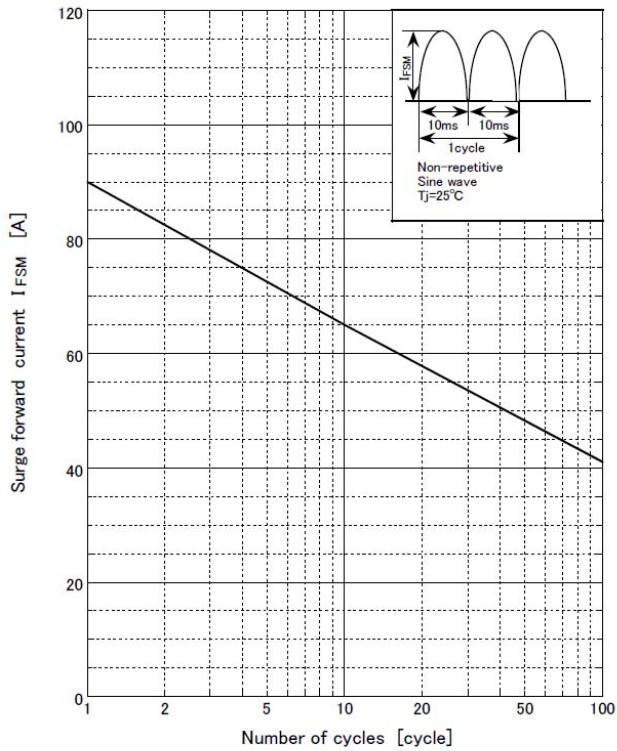
● $V_R = 20V$
R-load
Free in air

● Substrate detail

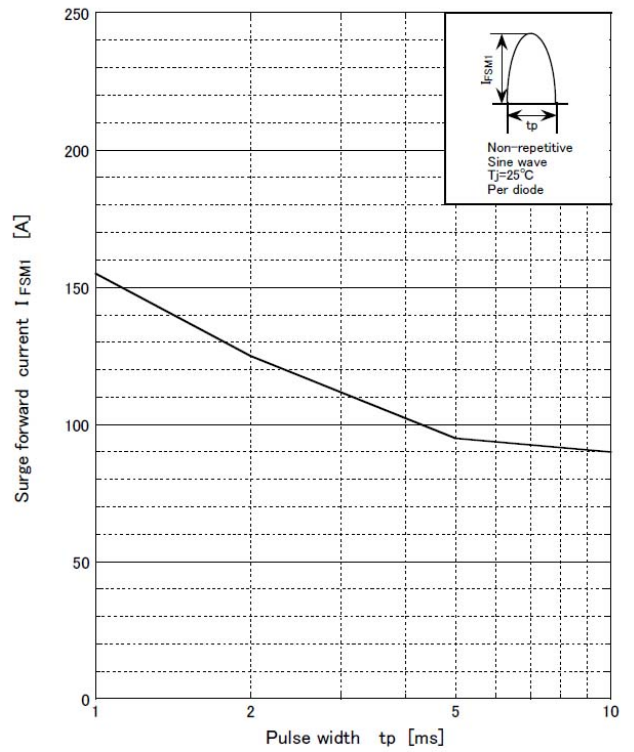
Type	Glass-epoxy
Size	24mm × 39mm
Thickness	1.9mm
Conductor thickness	35μm
Pattern area	56.5mm ²

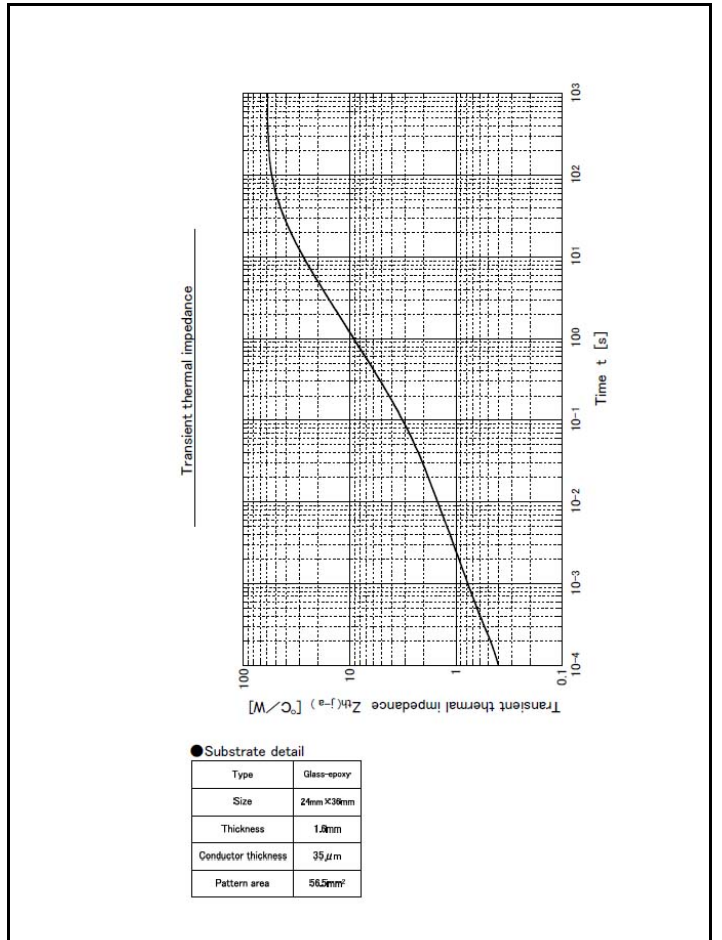
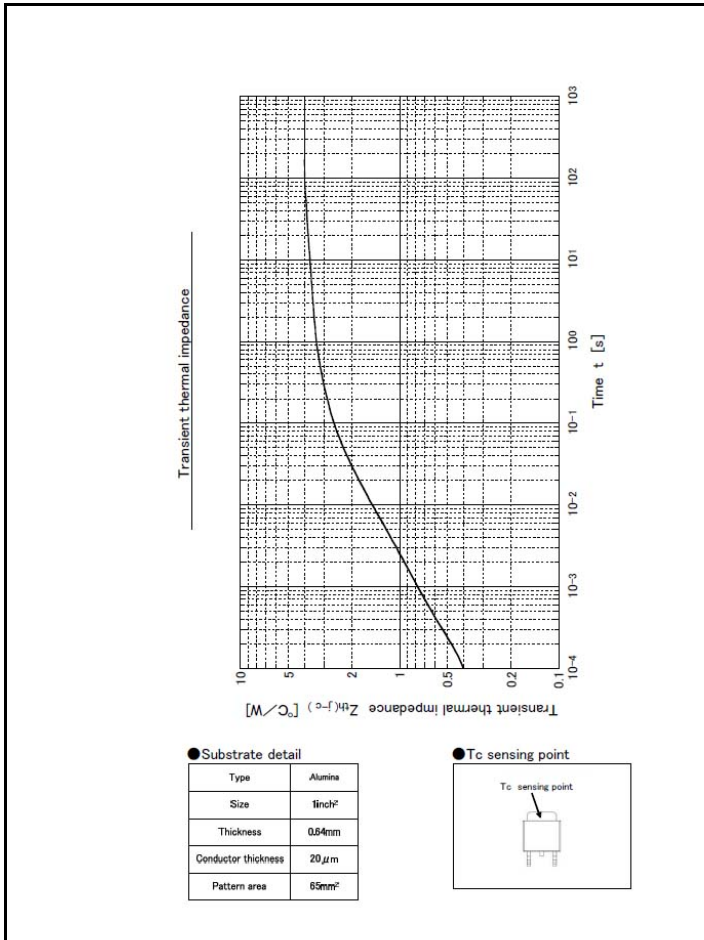
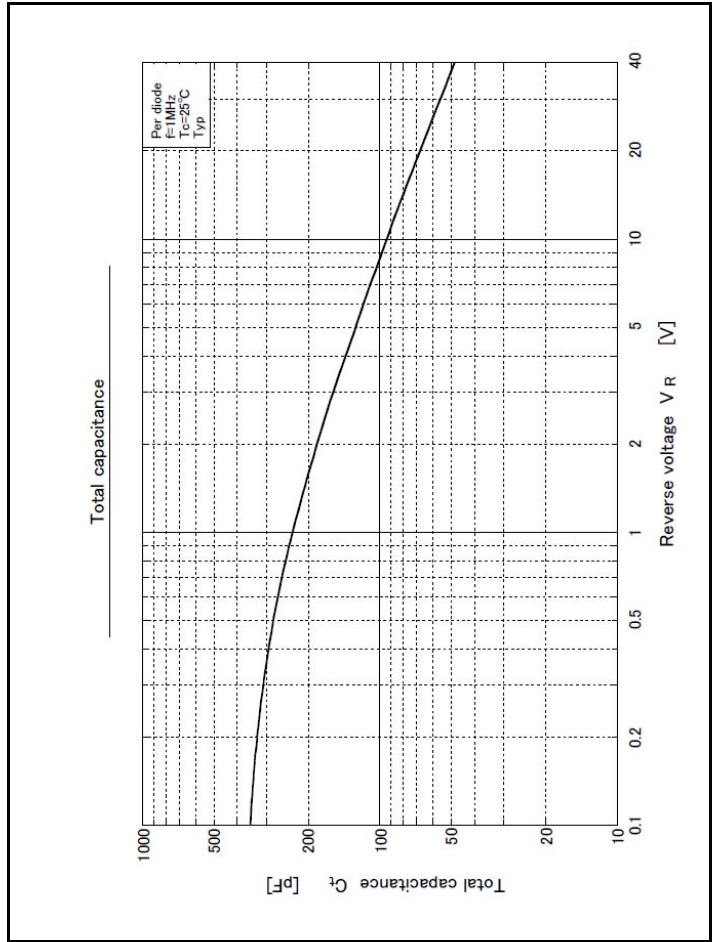
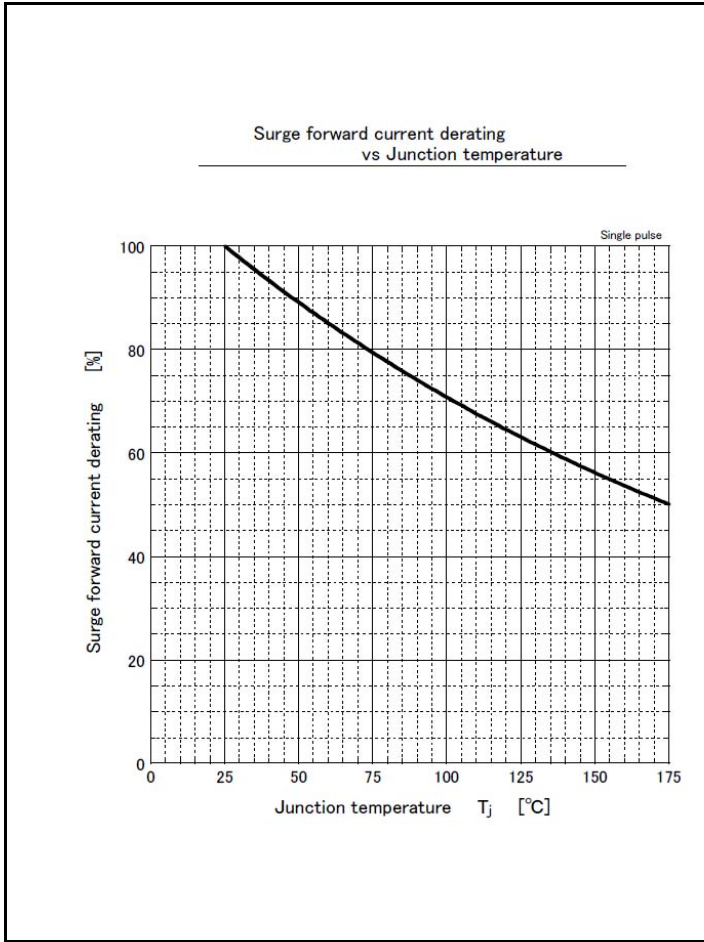


Surge forward current capability



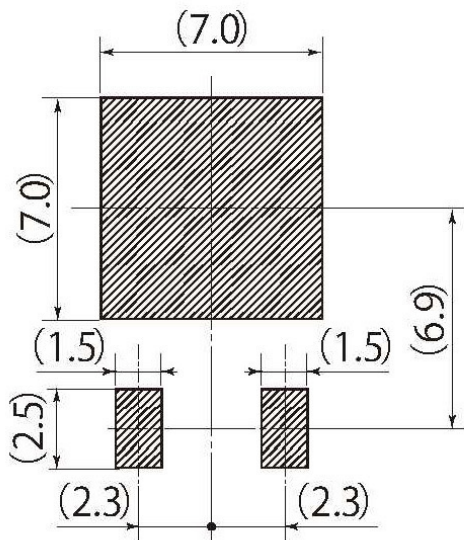
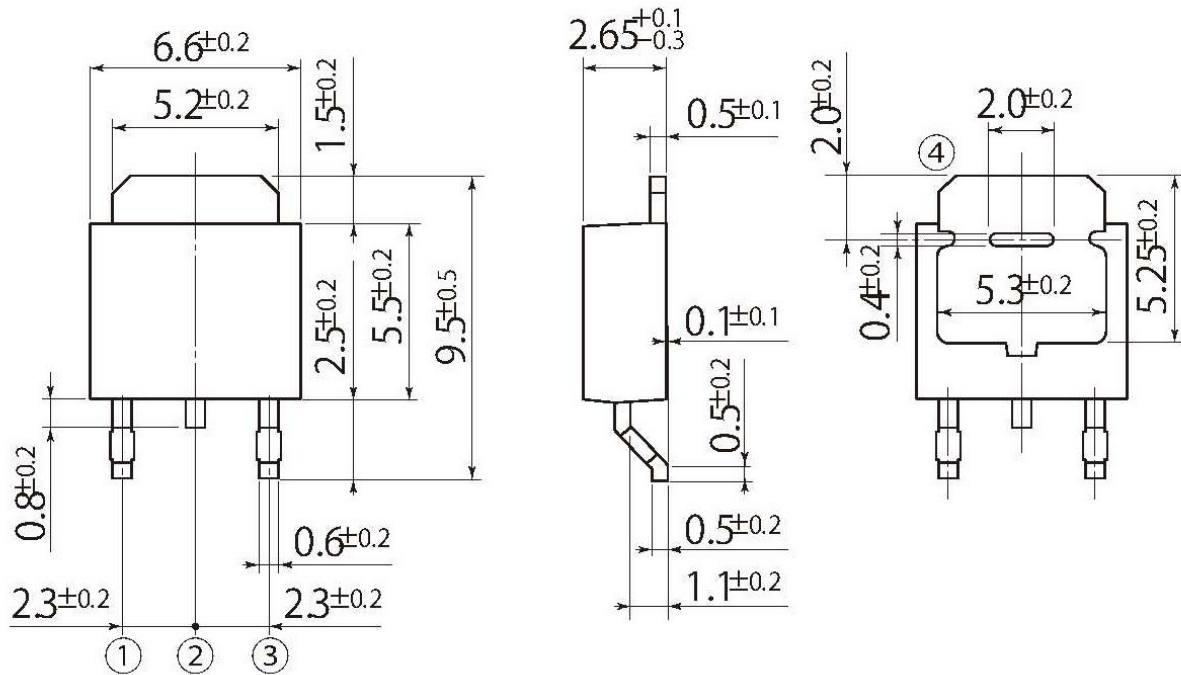
Surge forward current capability





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.