ShinDengen

D6FEC10ST

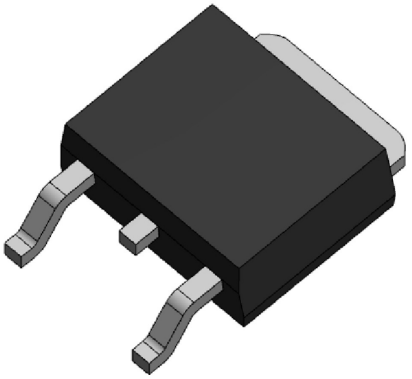
Schottky Barrier Diodes
100V, 6A

Feature

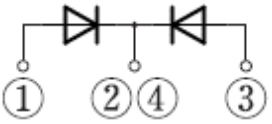
- SMD
- Tj=175°C
- Ultra low I_R
- Based on AEC-Q101
- Pb free terminal
- RoHS:Yes

OUTLINE

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



Equivalent circuit



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

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-55 to 175	°C
Junction temperature	Tj		-55 to 175	°C
Repetitive peak reverse voltage	V_{RRM}		100	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Rating for each diode IF(AV)/2, Tc=154°C ※	6	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive, 1cycle, Peak value, Tj=25°C	100	A
Surge forward current	I_{FSM1}	tp=1ms, Sine wave, Non-repetitive, Peak value, Tj=25°C	180	A

※ ：See the original Specifications

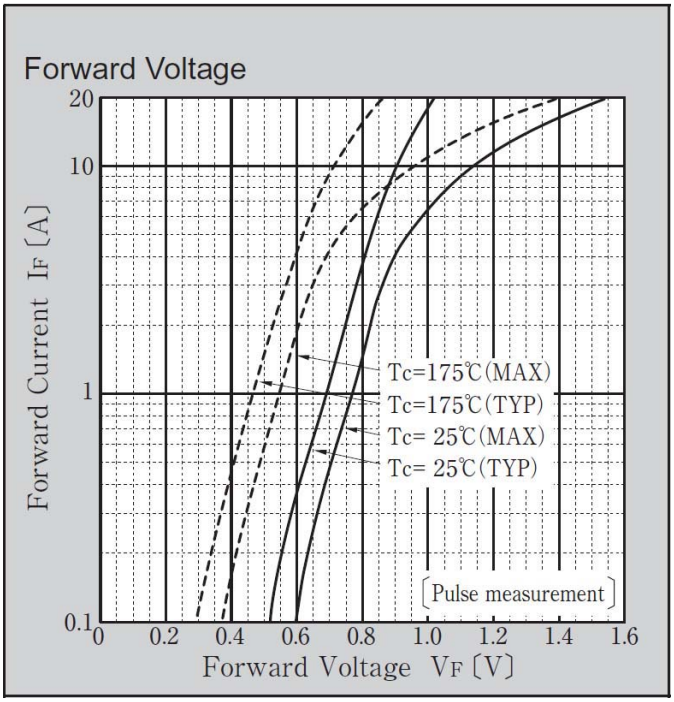
Electrical Characteristics (unless otherwise specified : Tc=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=3A, Pulse measurement, per diode			0.86	V
Reverse current	I_R	VR=100V, Pulse measurement, per diode			0.008	mA
Total capacitance	Ct	f=1MHz, VR=10V, per diode		60		pF
Thermal resistance	Rth(j-c)	Junction to case, With heatsink ※			4	°C/W

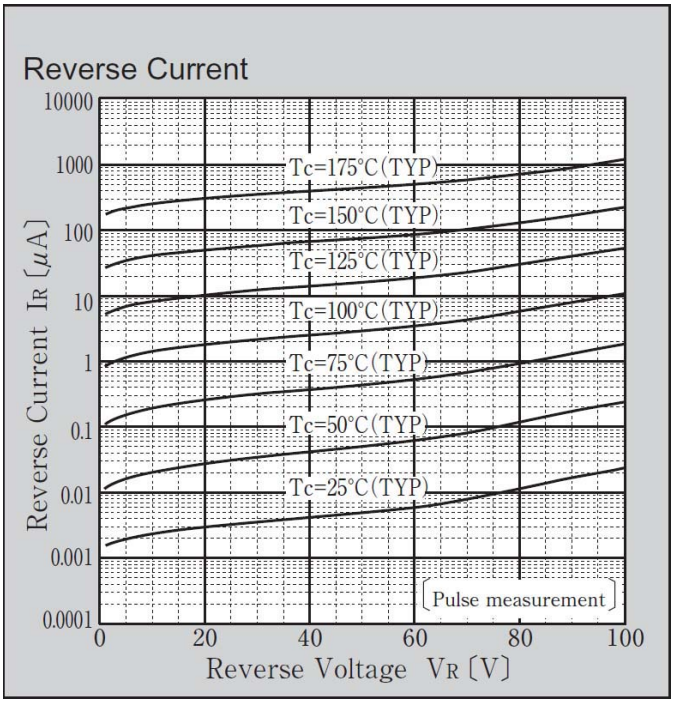
※ ：See the original Specifications

CHARACTERISTIC DIAGRAMS

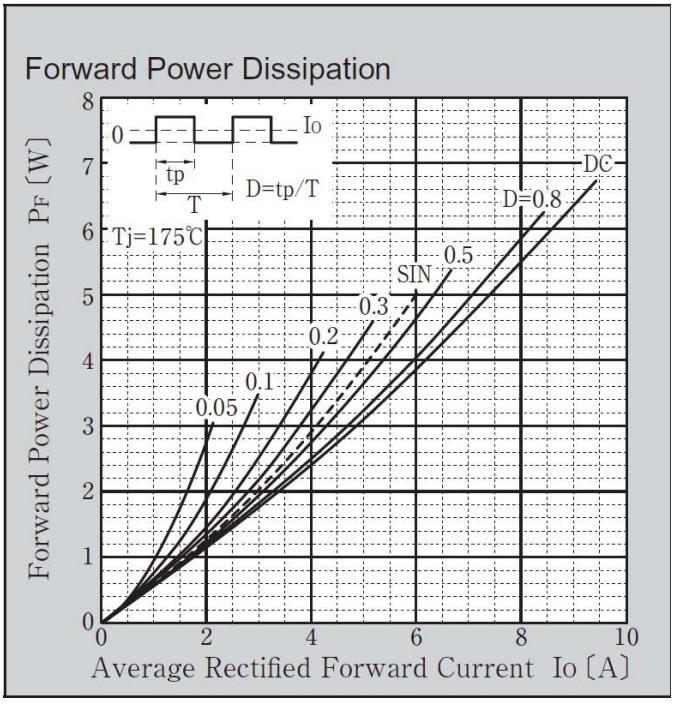
Forward Voltage



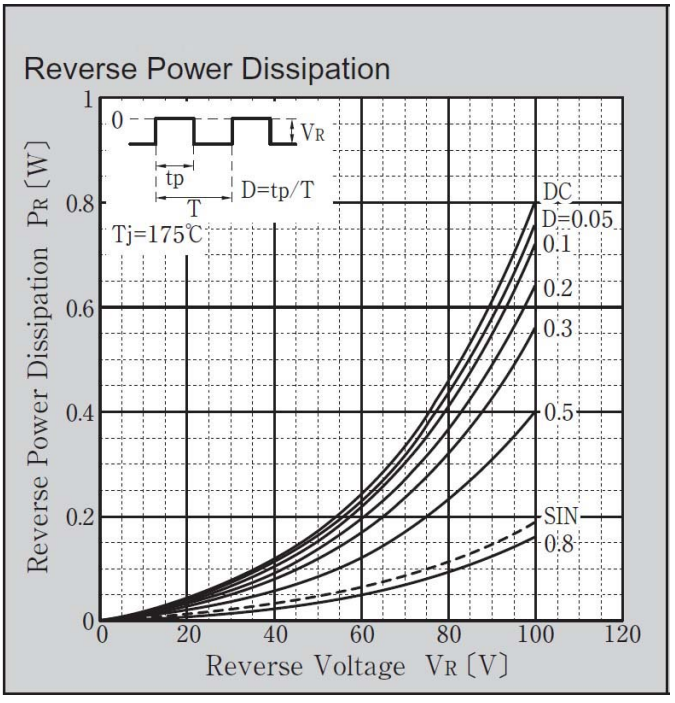
Reverse Current

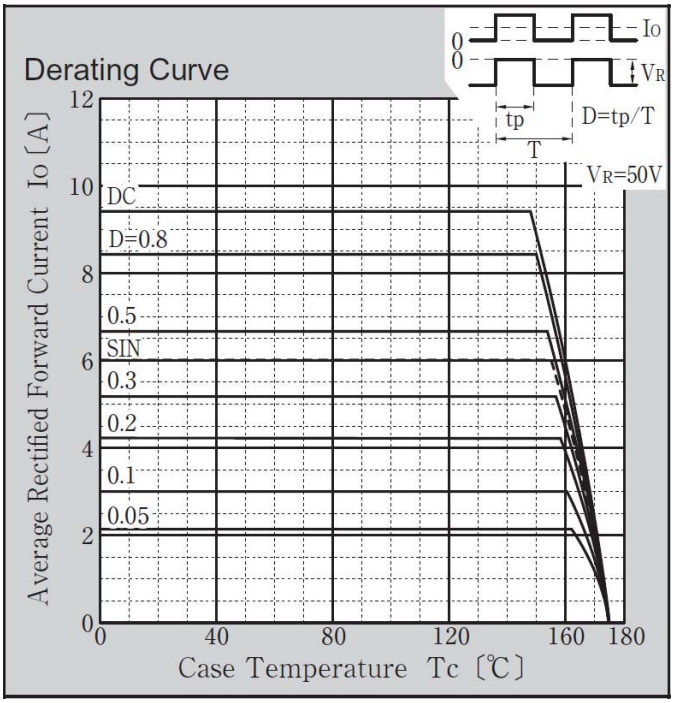


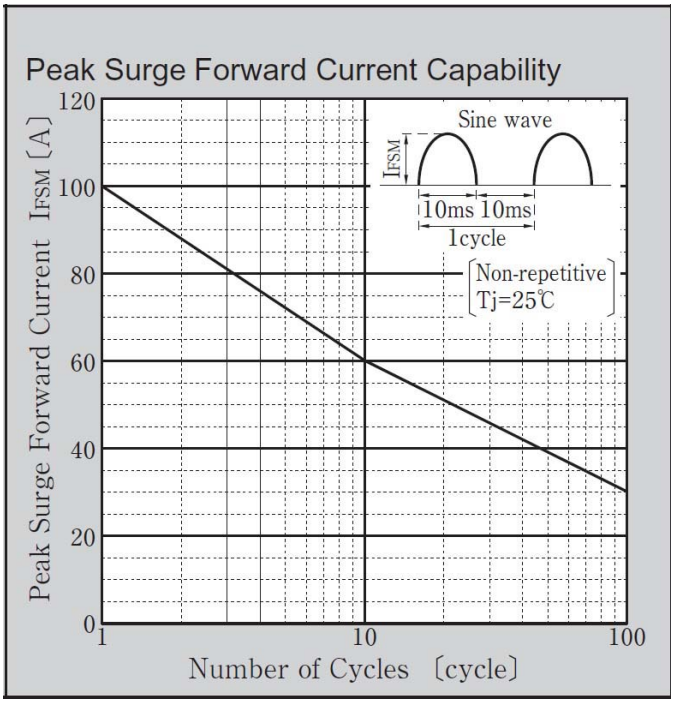
Forward Power Dissipation

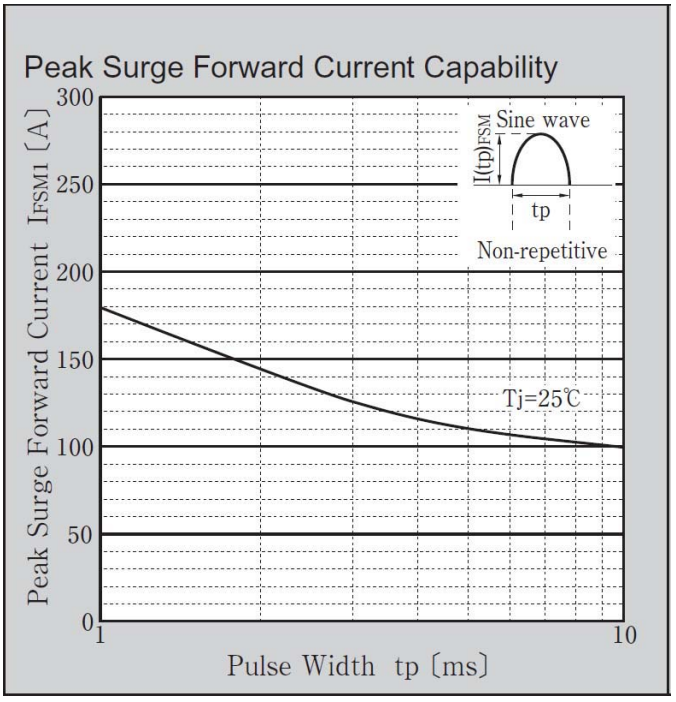


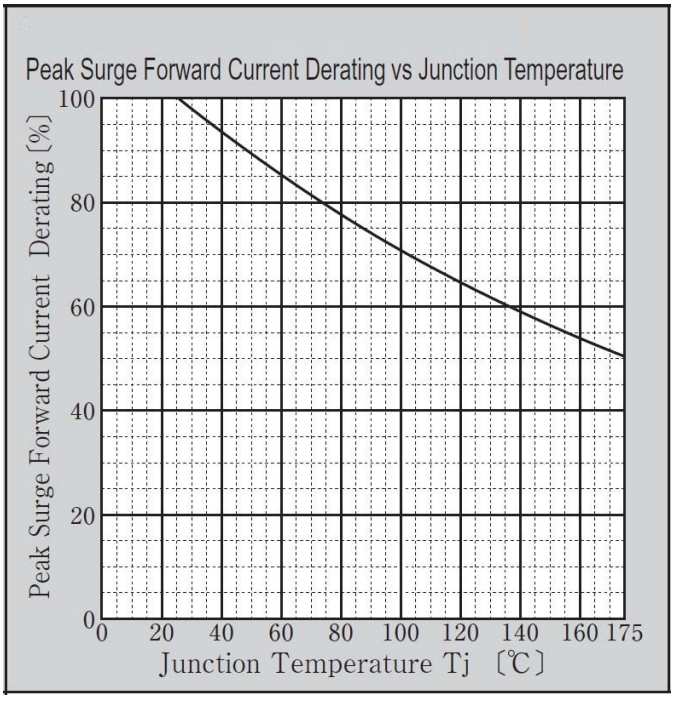
Reverse Power Dissipation

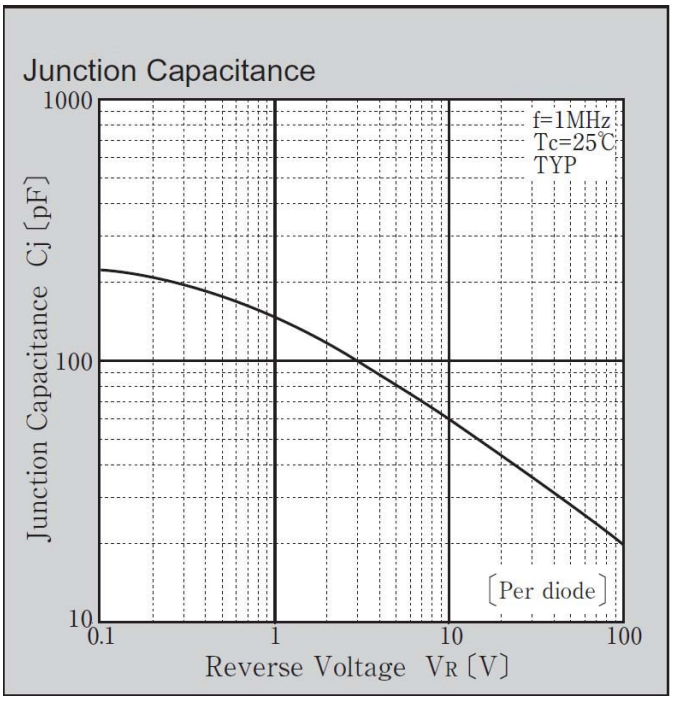


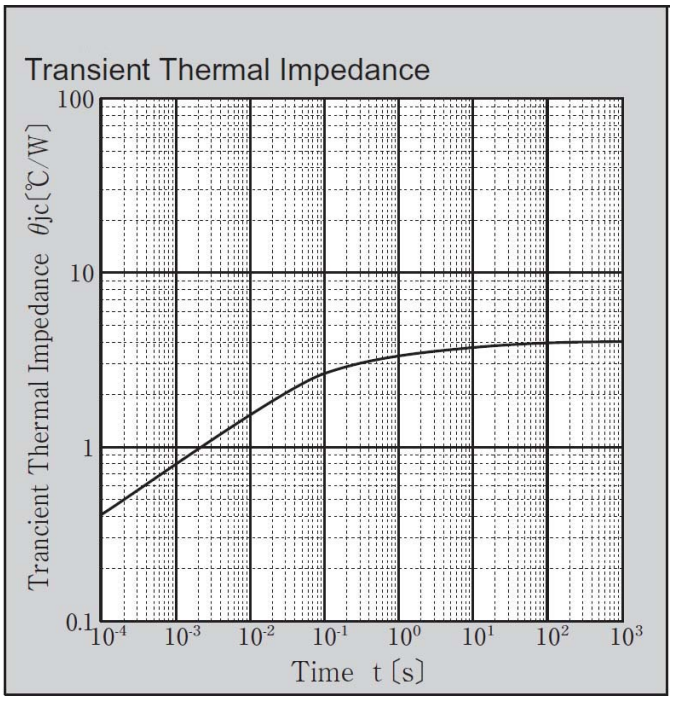

Derating Curve
Io
0
0
VR
tp
T
D=tp/T
VR=50V
DC
D=0.8
0.5
SIN
0.3
0.2
0.1
0.05
Average Rectified Forward Current Io〔A〕
Case Temperature Tc〔℃〕
0
2
4
6
8
10
12
0
40
80
120
160
180


Peak Surge Forward Current Capability
Sine wave
IFSM
10ms 10ms
1cycle
Non-repetitive
Tj=25℃
Peak Surge Forward Current IFSM〔A〕
Number of Cycles〔cycle〕
0
20
40
60
80
100
120
1
10
100


Peak Surge Forward Current Capability
Sine wave
I(tp)FSM
tp
Non-repetitive
Tj=25℃
Peak Surge Forward Current IFSM1〔A〕
Pulse Width tp〔ms〕
0
50
100
150
200
250
300
1
10


Peak Surge Forward Current Derating vs Junction Temperature
Peak Surge Forward Current Derating〔%〕
Junction Temperature Tj〔℃〕
0
20
40
60
80
100
0
20
40
60
80
100
120
140
160
175


Junction Capacitance
1000
100
10
0.1
1
10
100
f=1MHz
Tc=25℃
TYP
〔Per diode〕
Junction Capacitance Cj〔pF〕
Reverse Voltage VR〔V〕


Transient Thermal Impedance
100
10
1
0.1
Trancient Thermal Impedance θjc〔℃/W〕
10-4
10-3
10-2
10-1
100
101
102
103
Time t〔s〕

Outline Dimensions

unit:mm

G3

JEDEC Code	TO-277AB similar
JEITA Code	SC-63
House Name	FE

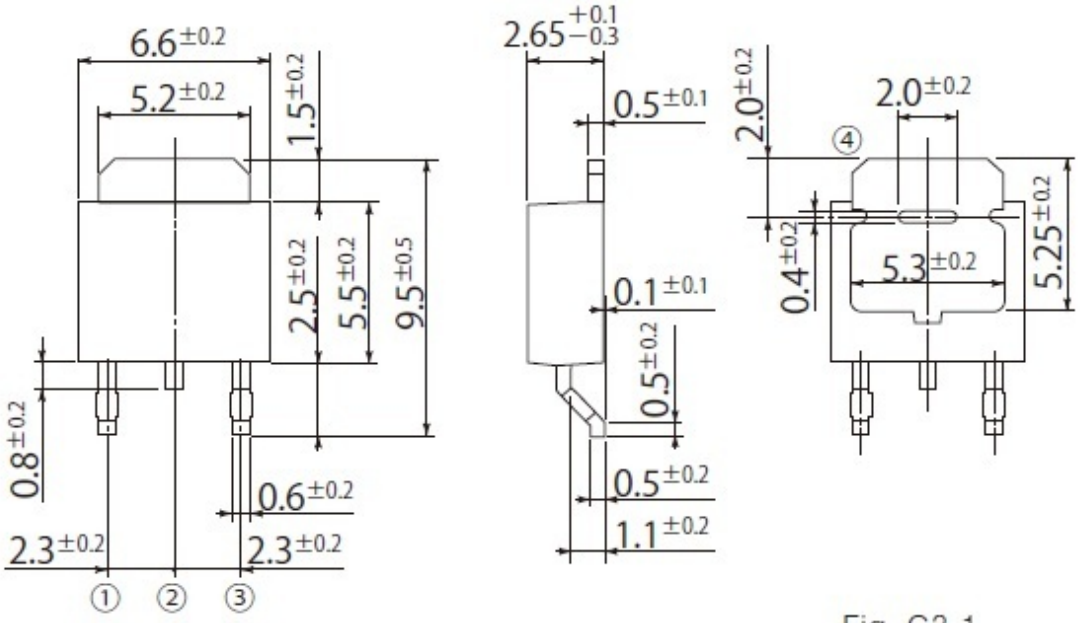
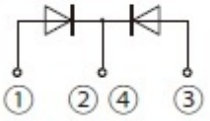
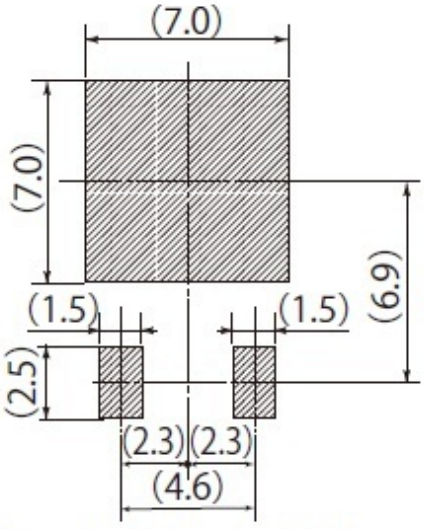


Fig. G3-1





Referential Soldering Pad

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

- The content specified herein is subject to change for improvement without notice.
- If you wish to use any such products, please be sure to refer to the specifications.

U182-1(2026.09)

Notes

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   【Standard applications】
   Computers, office automation and other office equipment, communication terminals, test and measurement equipment, audio/visual equipment, amusement equipment, consumer electronics, machine tools, personal electronic equipment, industrial equipment, etc.
   【Special applications】
   Transportation equipment (vehicles, ships, etc.), trunk-line communication equipment, traffic signal control systems, anti-disaster/crime systems, safety equipment, medical equipment, etc.
   【Specific applications】
   Nuclear reactor control systems, aircraft, aerospace equipment, submarine repeaters, life support equipment and systems, etc.
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