ShinDengen

D3FE60

General Rectifying Diodes
600V, 3.0A

Feature

- Small SMD
- High ESD Capability
- Based on AEC-Q101
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): 2F

Equivalent circuit

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

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-55 to 150	℃
Junction temperature	Tj		-55 to 150	℃
Repetitive peak reverse voltage	V_{RRM}		600	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, Tl=105℃	3	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On alumina substrate, Ta=25℃ ※	1.8	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25℃ ※	1.28	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive 1 cycle peak value, Tj=25℃	150	A
Surge forward current	I_{FSM1}	tp=1ms, sine wave, Non-repetitive, peak value, Tj=25℃	400	A

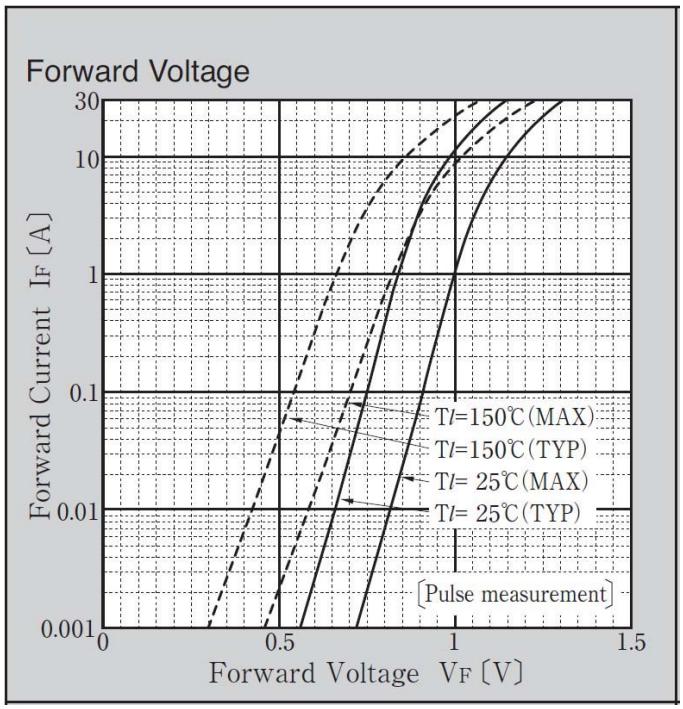
※ :See the original Specifications

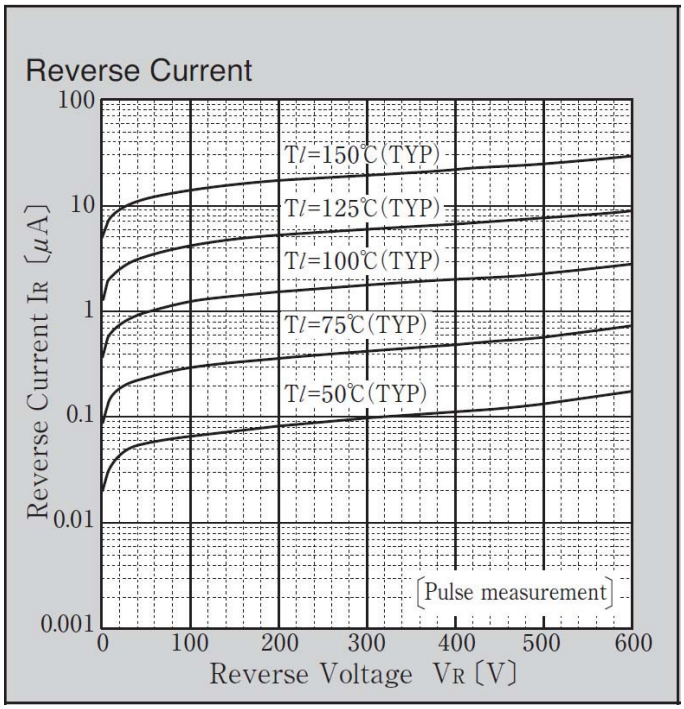
Electrical Characteristics (unless otherwise specified : Tl=25℃)

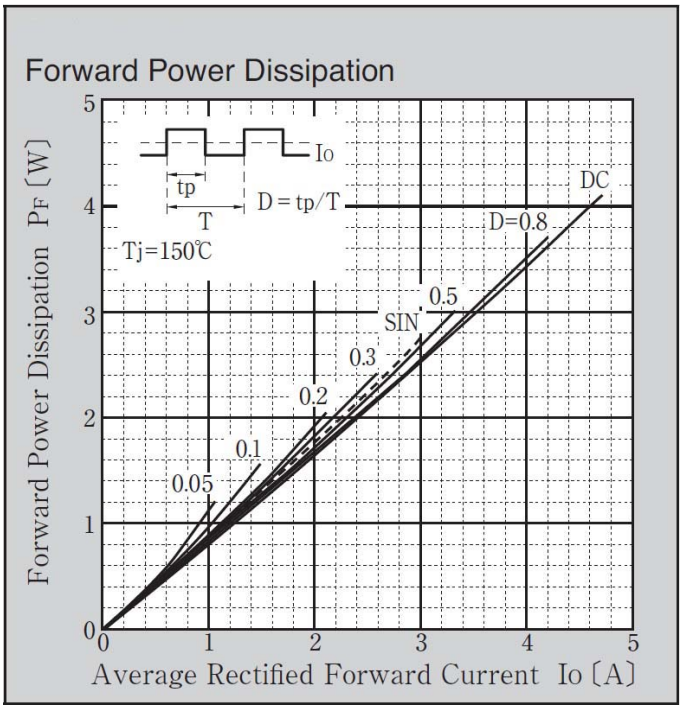
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF＝3A, Pulse measurement			1.05	V
Reverse current	I_R	VR=600V, Pulse measurement			10	μA
Electro static dischange Capability	V_{ESD}	C=330pF, R=330Ω, Polarity±, Aerial discharge		25		kV
Thermal resistance	Rth(j-l)	Junction to lead			16	℃/W
Thermal resistance	Rth(j-a)	Junction to ambient, On alumina substrate ※			80	℃/W
Thermal resistance	Rth(j-a)	Junction to ambient, On glass-epoxy substrate ※			115	℃/W

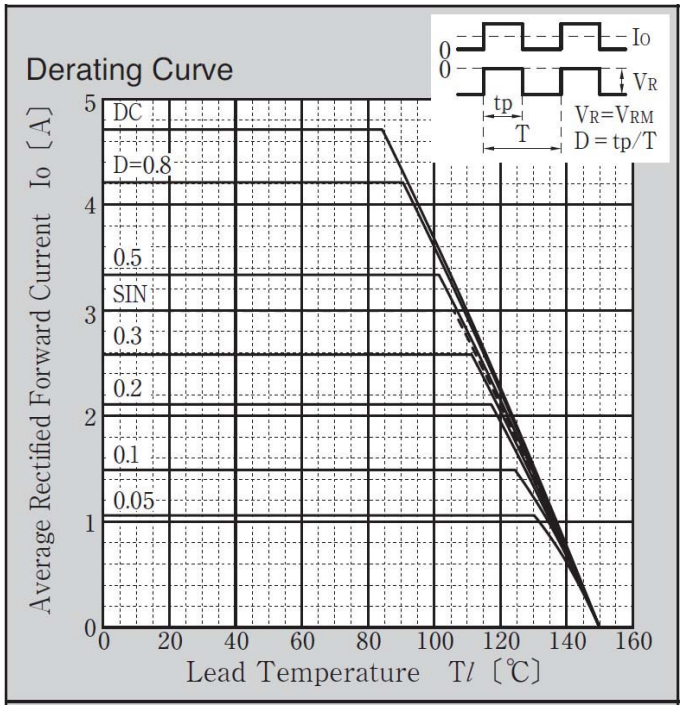
※ ：See the original Specifications

CHARACTERISTIC DIAGRAMS

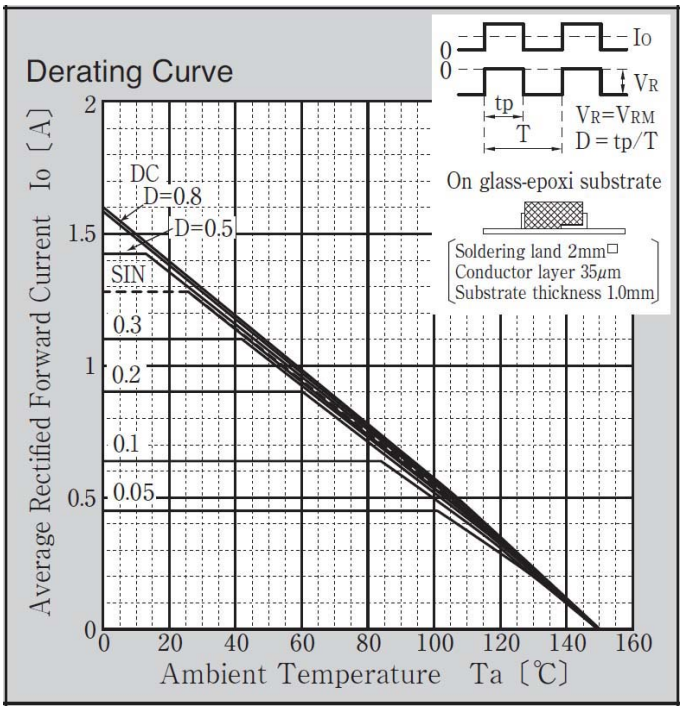




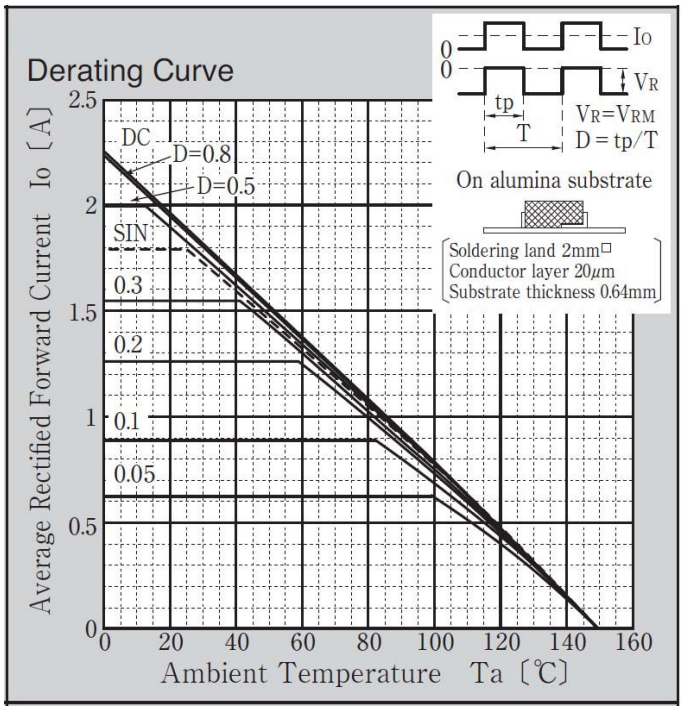




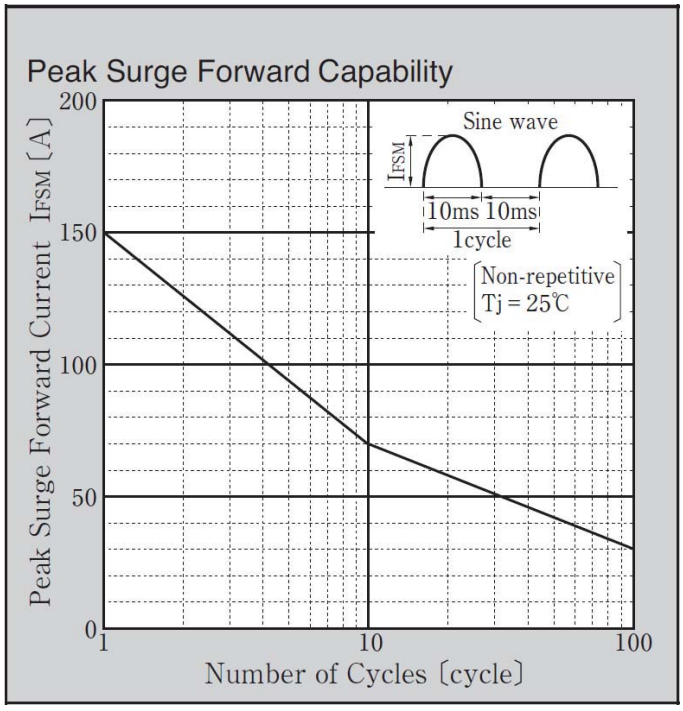
Derating Curve



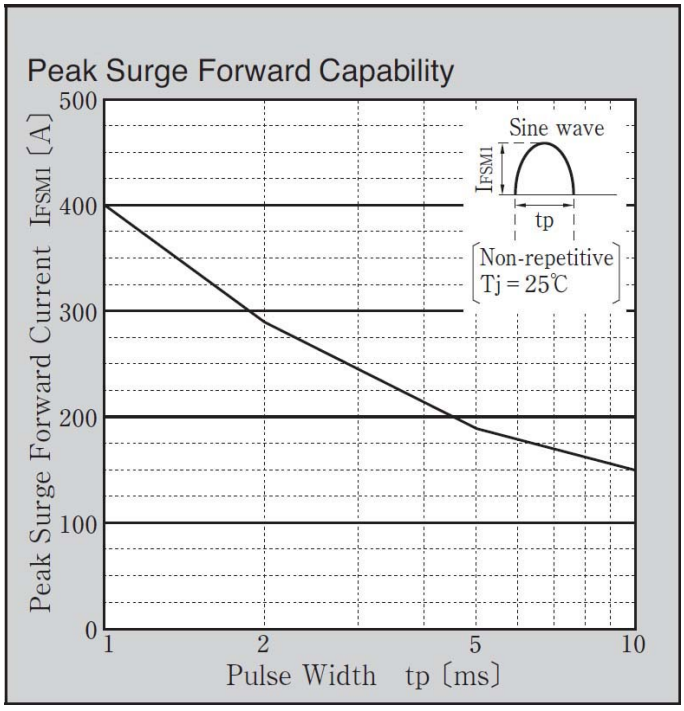
Derating Curve

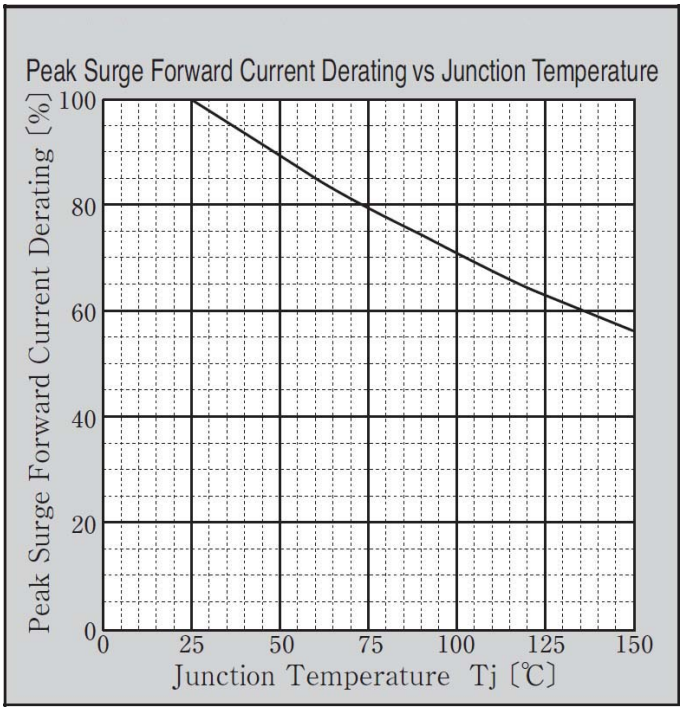


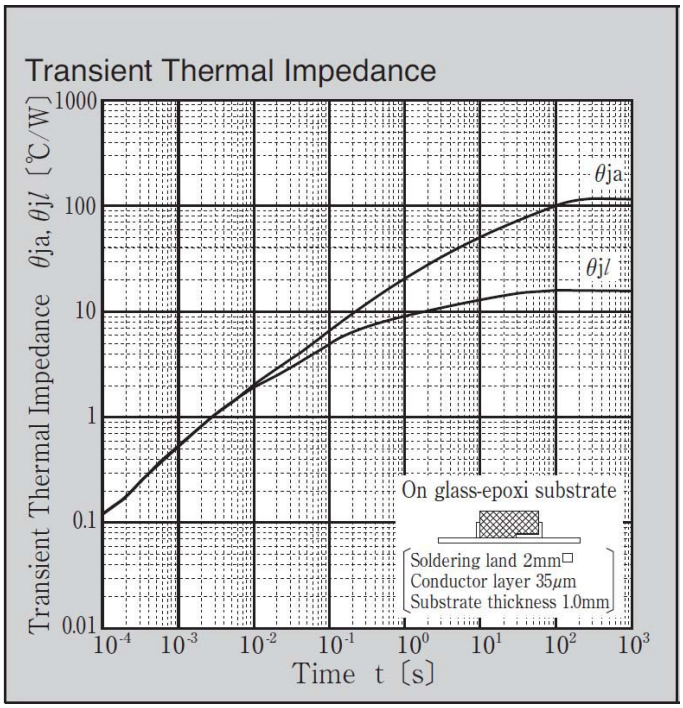
Peak Surge Forward Capability

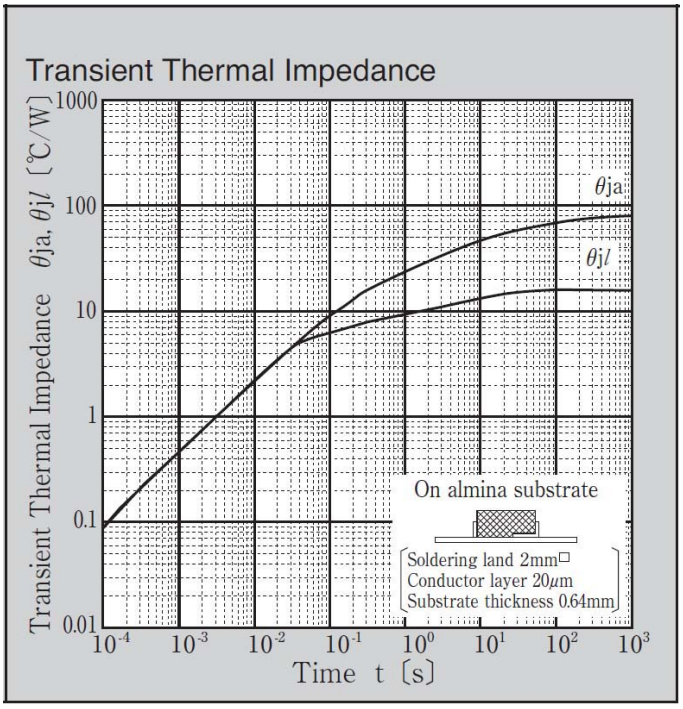


Peak Surge Forward Capability




Peak Surge Forward Current Derating vs Junction Temperature
Peak Surge Forward Current Derating 〔%〕
100
80
60
40
20
0
0
25
50
75
100
125
150
Junction Temperature Tj 〔℃〕


Transient Thermal Impedance
Transient Thermal Impedance θja, θjl 〔℃/W〕
1000
100
10
1
0.1
0.01
θja
θjl
On glass-epoxi substrate
Soldering land 2mm□
Conductor layer 35μm
Substrate thickness 1.0mm
10-4
10-3
10-2
10-1
100
101
102
103
Time t 〔s〕


Transient Thermal Impedance
Transient Thermal Impedance θja, θjl 〔℃/W〕
1000
100
10
1
0.1
0.01
θja
θjl
On almina substrate
Soldering land 2mm□
Conductor layer 20μm
Substrate thickness 0.64mm
10-4
10-3
10-2
10-1
100
101
102
103
Time t 〔s〕

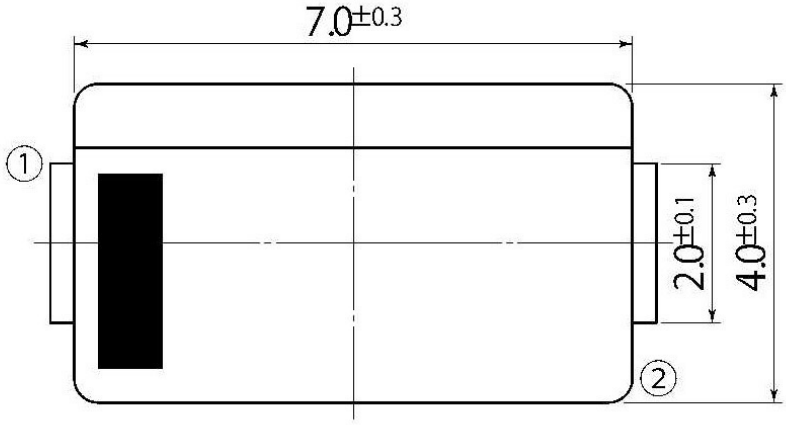
Outline Dimensions

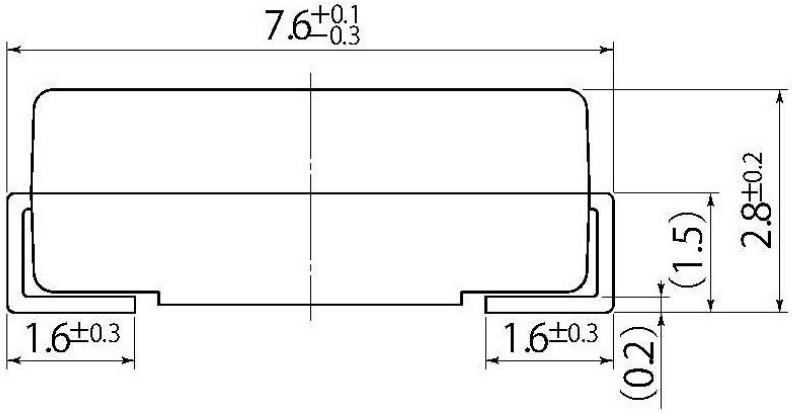
unit:mm

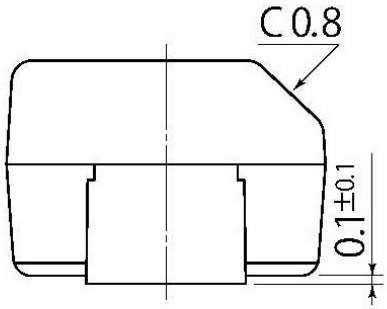
scale: 10/1

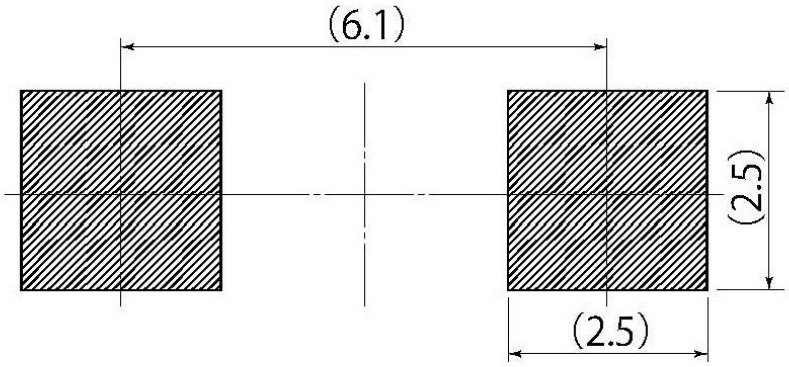
B9

JEDEC Code	–
JEITA Code	–
House Name	2F









Referential Soldering Pad

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

Notes

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