

D3FS6

Schottky Barrier Diodes 60V, 3A

Feature

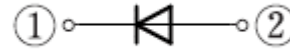
- Small SMD
- High Recovery Speed
- Low V_F
- Available for automotive use
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): 2F



Equivalent circuit



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

Item	Symbol	Conditions	Ratings	Unit
Storage temperature	Tstg		-55 to 150	°C
Junction temperature	Tj		-55 to 150	°C
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, Tl=87°C	3	A
Average forward current	I _{F(AV)}	50Hz sine wave, Resistance load, On alumina substrate, Ta=25°C ※	1.65	A
Average forward current	I _{F(AV)}	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25°C ※	1.05	A
Surge forward current	I _{FSM}	50Hz sine wave, Non-repetitive, 1 cycle, Peak value, Tj=25°C	80	A
Repetitive peak surge reverse power	P _{RRSM}	Pulse width 10μs, Tj=25°C	330	W

※ :See the original Specifications

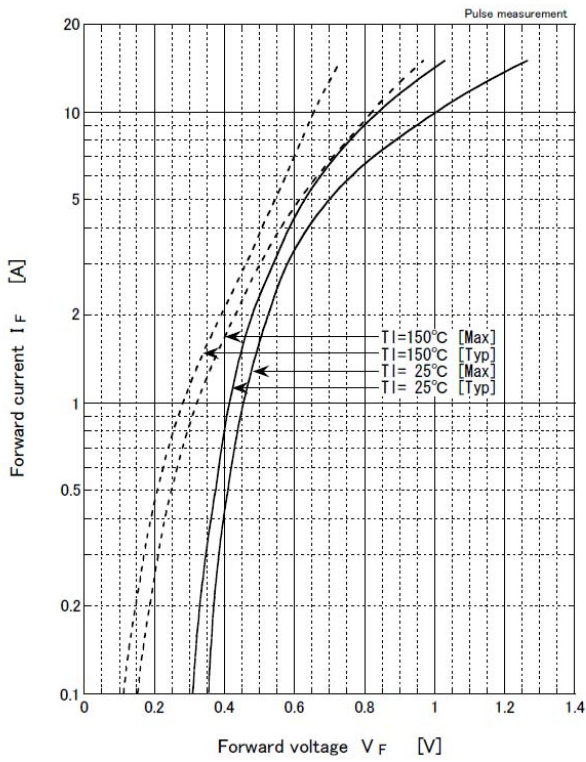
Electrical Characteristics (unless otherwise specified : Tl=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=3A, Pulse measurement			0.58	V
Reverse current	I_R	VR=60V, Pulse measurement			2.5	mA
Total capacitance	C_t	f=1MHz, VR=10V		130		pF
Thermal resistance	Rth(j-l)	Junction to lead			24	°C/W
Thermal resistance	Rth(j-a)	Junction to ambient, On alumina substrate ※			90	°C/W
Thermal resistance	Rth(j-a)	Junction to ambient, On glass-epoxy substrate ※			124	°C/W

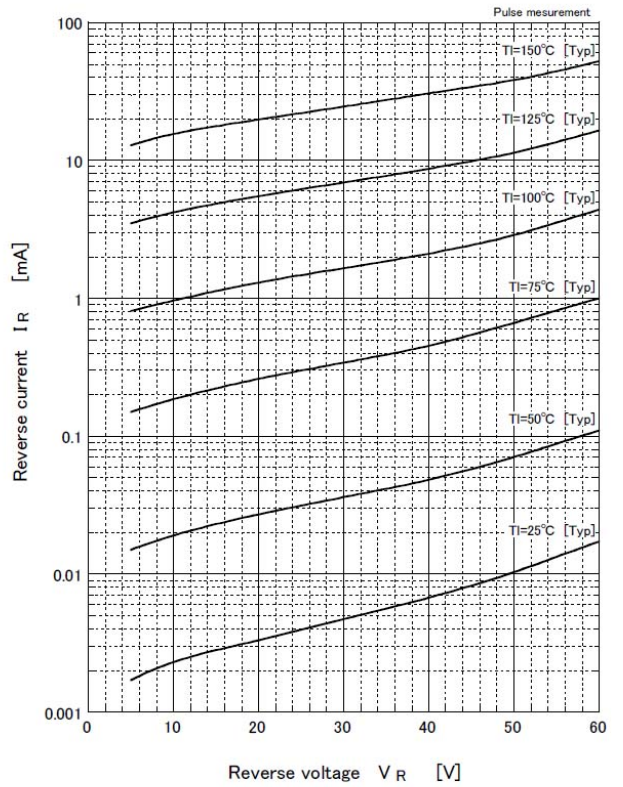
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CHARACTERISTIC DIAGRAMS

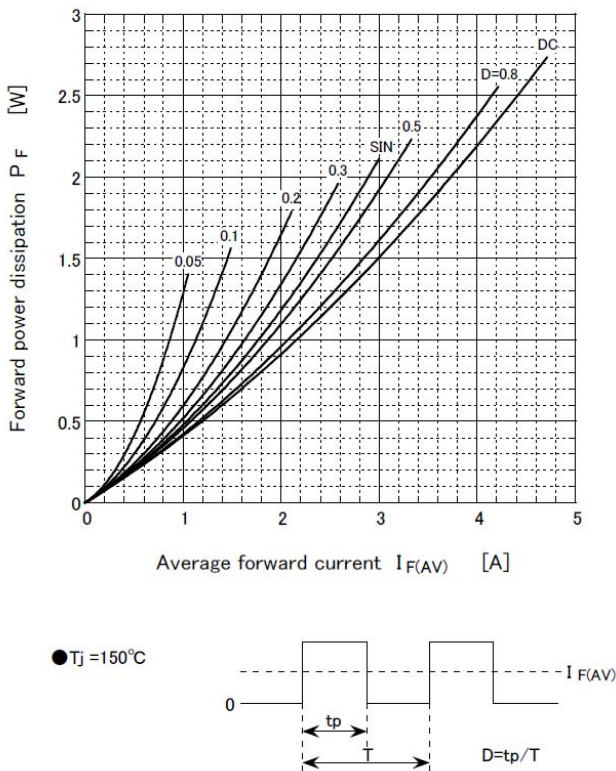
Forward voltage



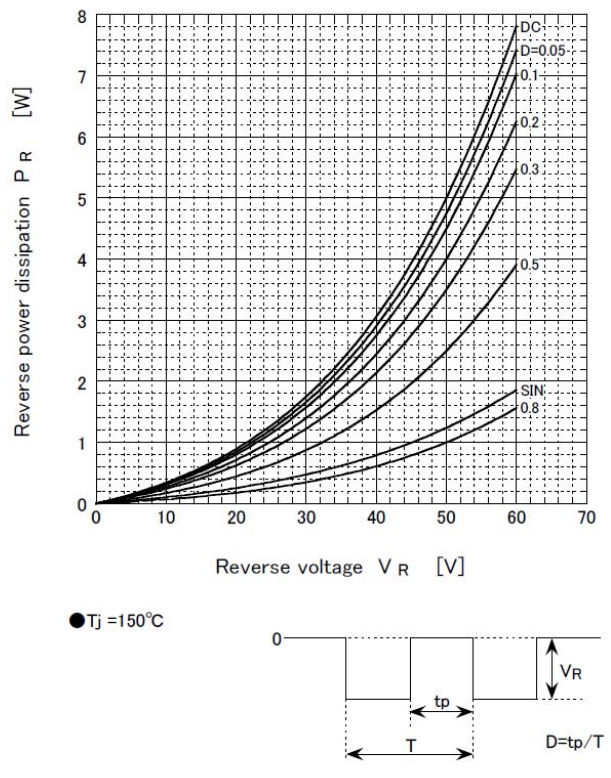
Reverse current



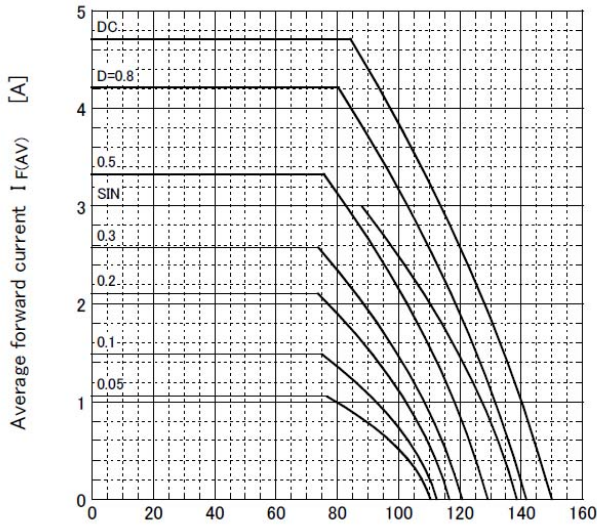
Forward power dissipation



Reverse power dissipation

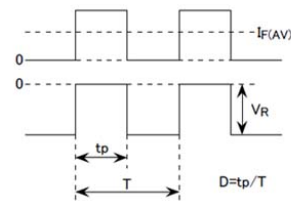


Derating curve

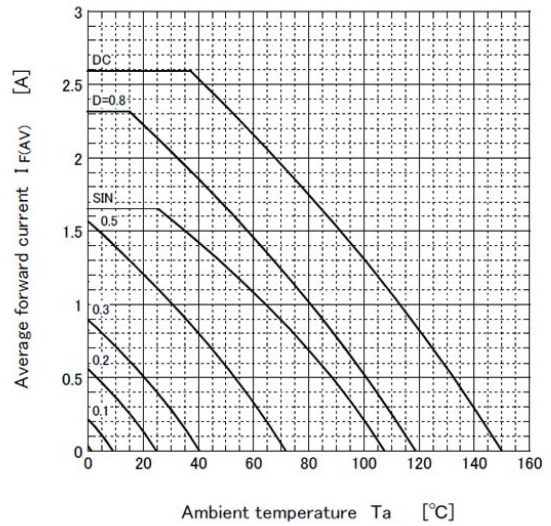


● $V_R = 30V$
R-load
Free in air

Lead temperature T_l [°C]



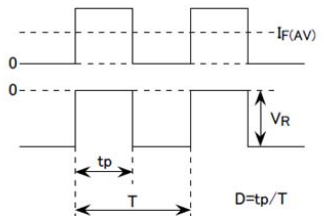
Derating curve



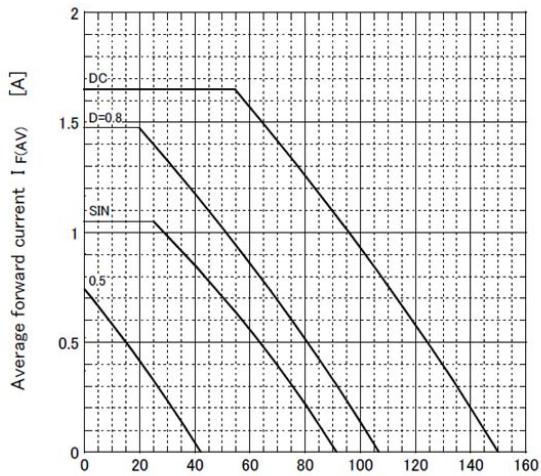
● $V_R = 30V$
R-load
Free in air

● Substrate detail

Type	Alumina
Size	1 inch ²
Thickness	0.64mm
Conductor thickness	20 μ m
Pattern area	44.52mm ²



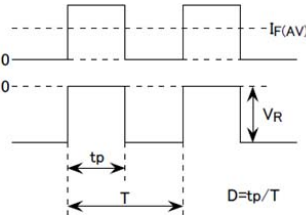
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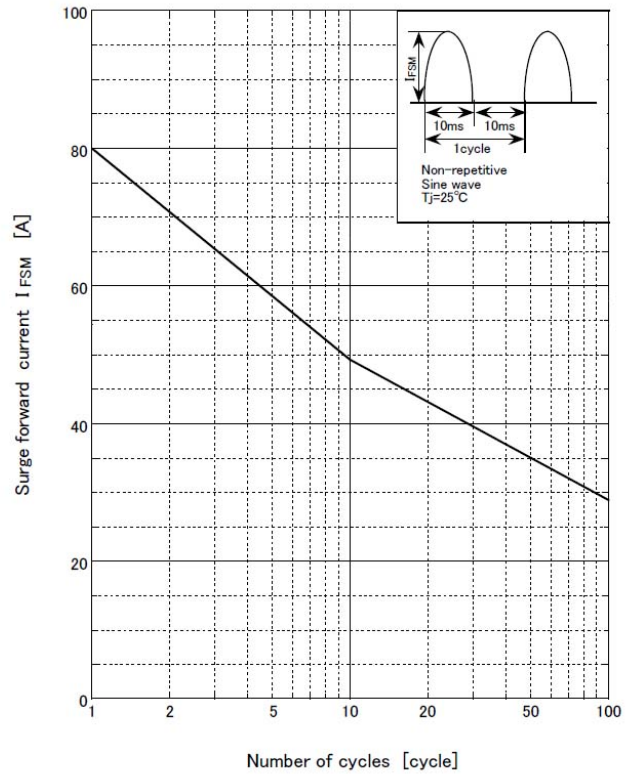
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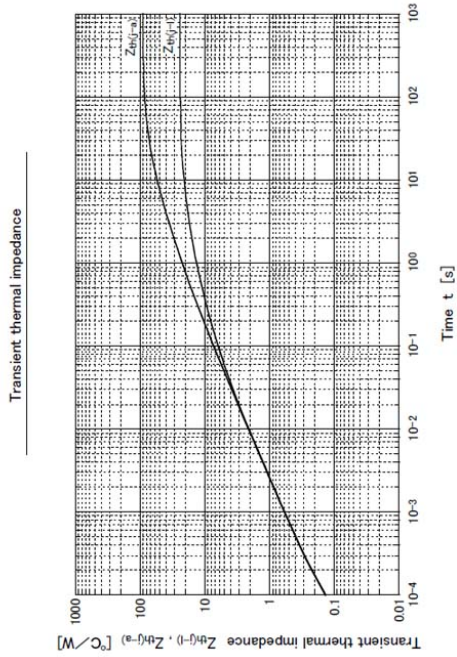
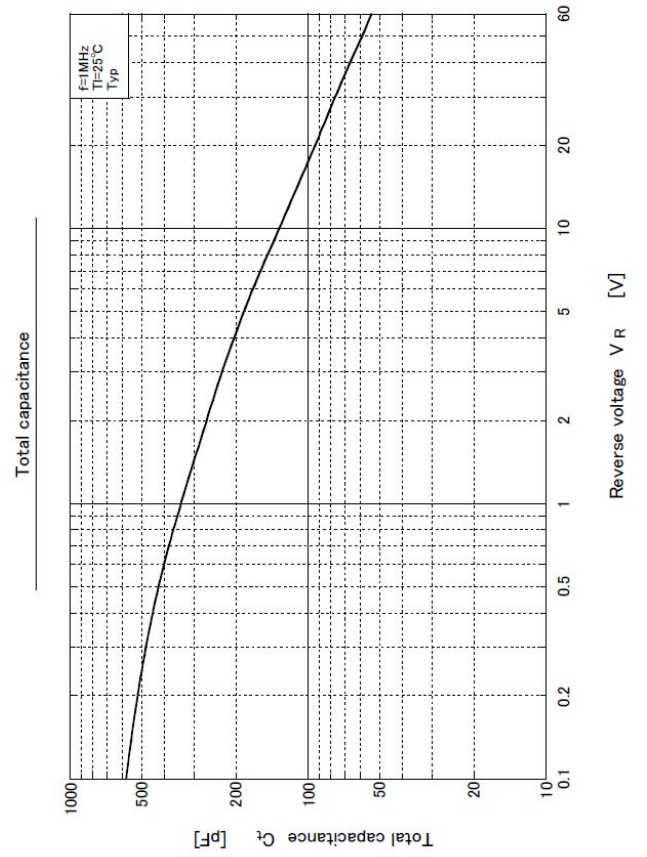
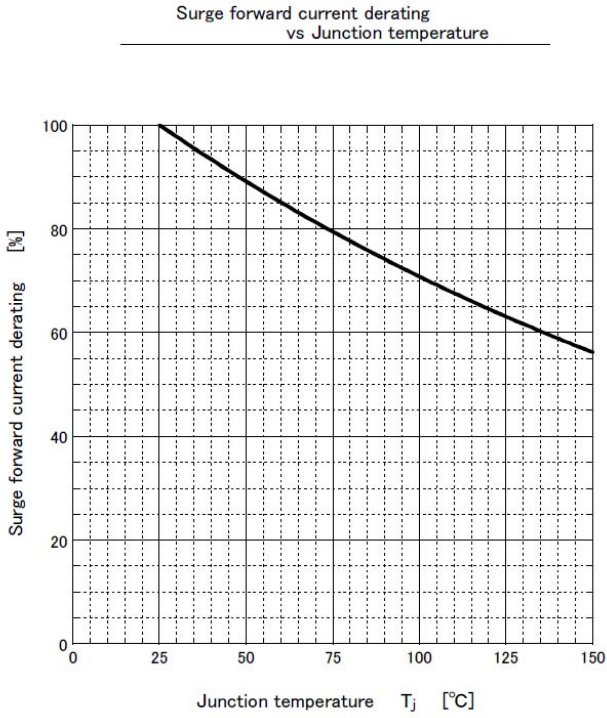
● Substrate detail

Type	Glass-epoxy
Size	1 inch ²
Thickness	1mm
Conductor thickness	35 μ m
Pattern area	44.52mm ²



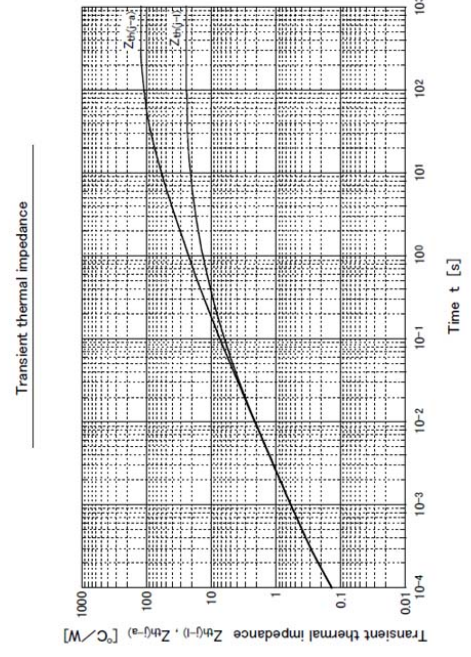
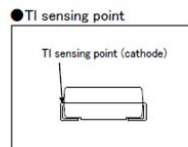
Surge forward current capability





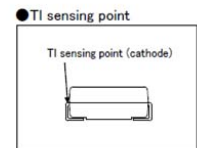
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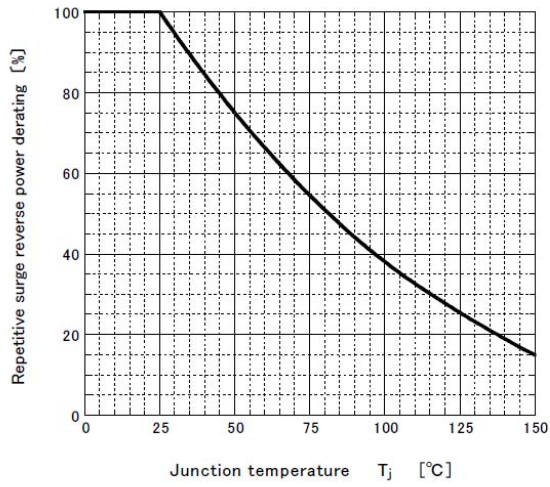


● Substrate detail

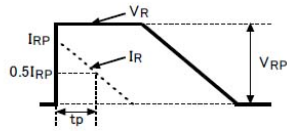
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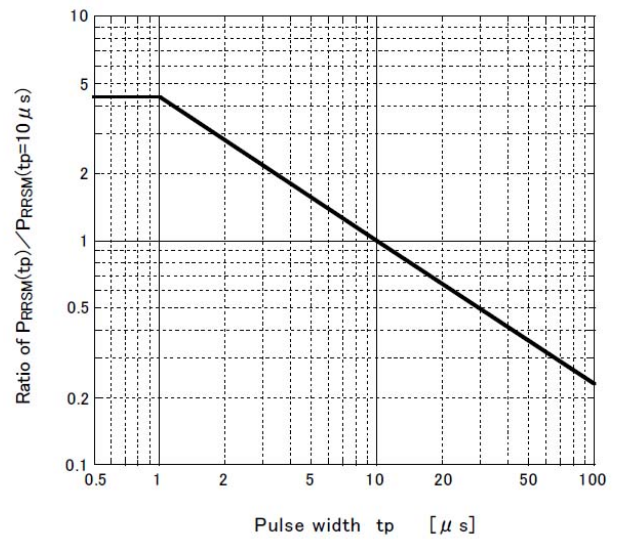
Repetitive surge reverse power derating vs Junction temperature



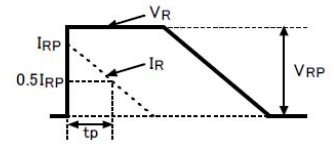
● $P_{RRSM} = I_{RP} \times V_{RP}$



Repetitive surge reverse power capability

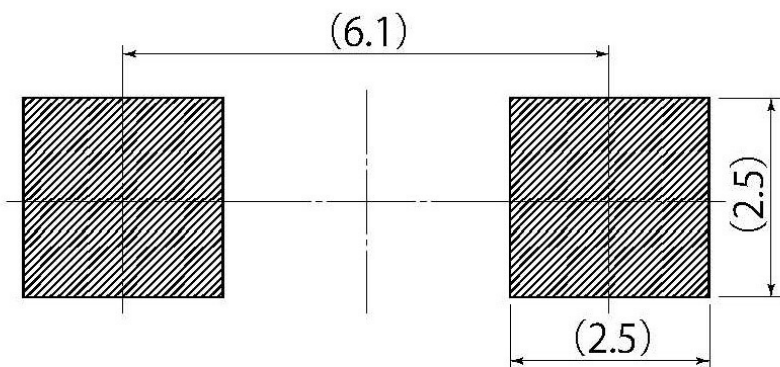
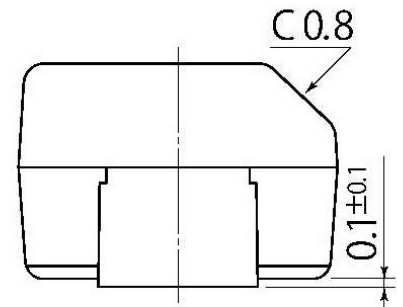
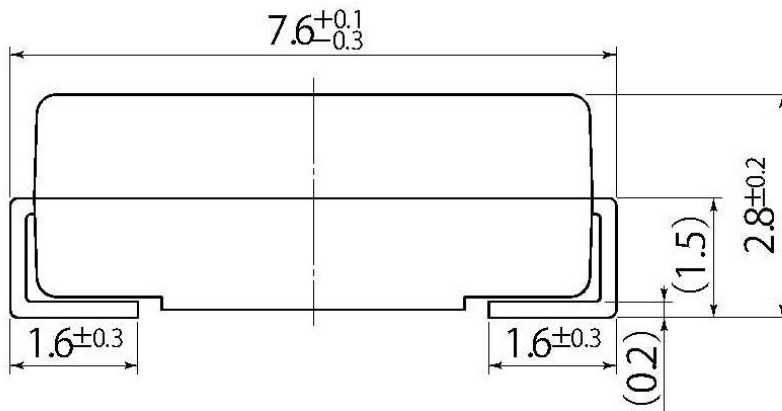
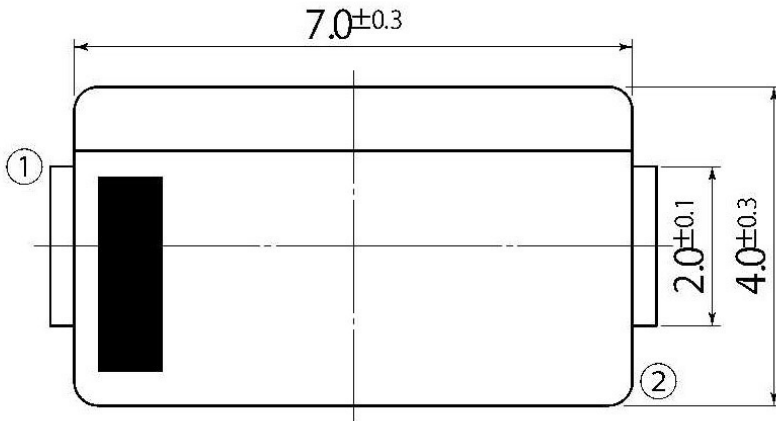


● $P_{RRSM} = I_{RP} \times V_{RP}$



B9

JEDEC Code	—
JEITA Code	—
House Name	2F



Referential Soldering Pad

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