

# D2FS4

## Schottky Barrier Diodes

40V, 1.6A

### Feature

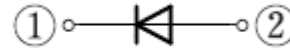
- Small SMD
- High Recovery Speed
- Low  $V_F$
- Available for automotive use
- Pb free terminal
- RoHS:Yes

### OUTLINE

Package (House Name): 2F



### Equivalent circuit



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

Item	Symbol	Conditions	Ratings	Unit
Storage temperature	T <sub>stg</sub>		-55 to 150	°C
Junction temperature	T <sub>j</sub>		-55 to 150	°C
Repetitive peak reverse voltage	V <sub>RRM</sub>		40	V
Repetitive peak surge reverse voltage	V <sub>RRSM</sub>	Pulse width 0.5ms, duty=1/40	45	V
Average forward current	I <sub>F(AV)</sub>	50Hz sine wave, Resistance load, On alumina substrate, Ta=34°C *	1.6	A
Average forward current	I <sub>F(AV)</sub>	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25°C *	1.3	A
Surge forward current	I <sub>FSM</sub>	50Hz sine wave, Non-repetitive, 1 cycle, Peak value, T <sub>j</sub> =125°C	60	A
Repetitive peak surge reverse power	P <sub>RRSM</sub>	Pulse width 10μs, T <sub>j</sub> =25°C	330	W

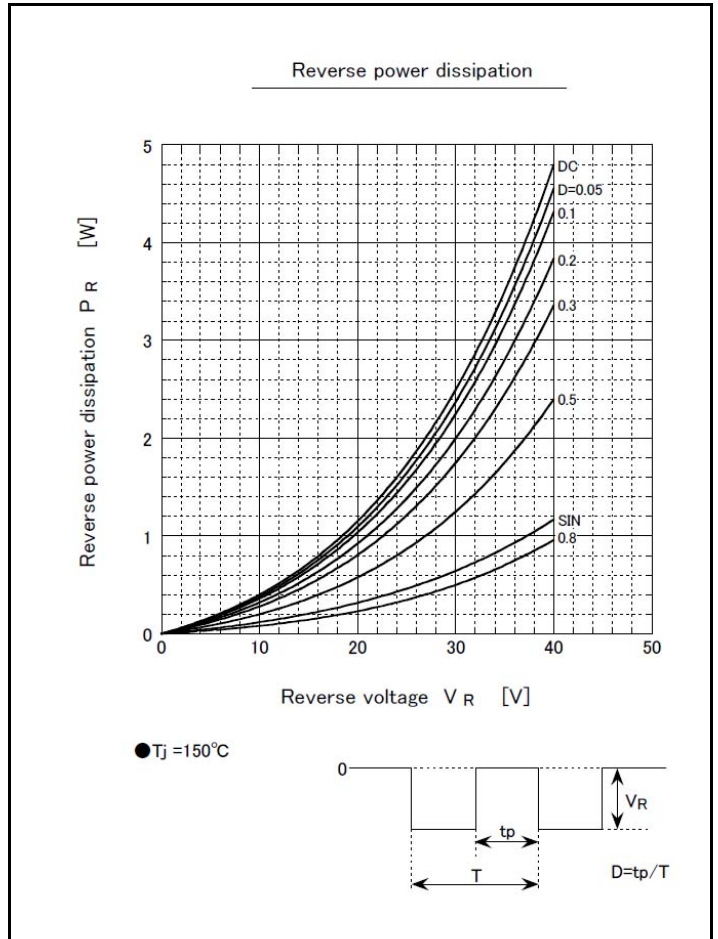
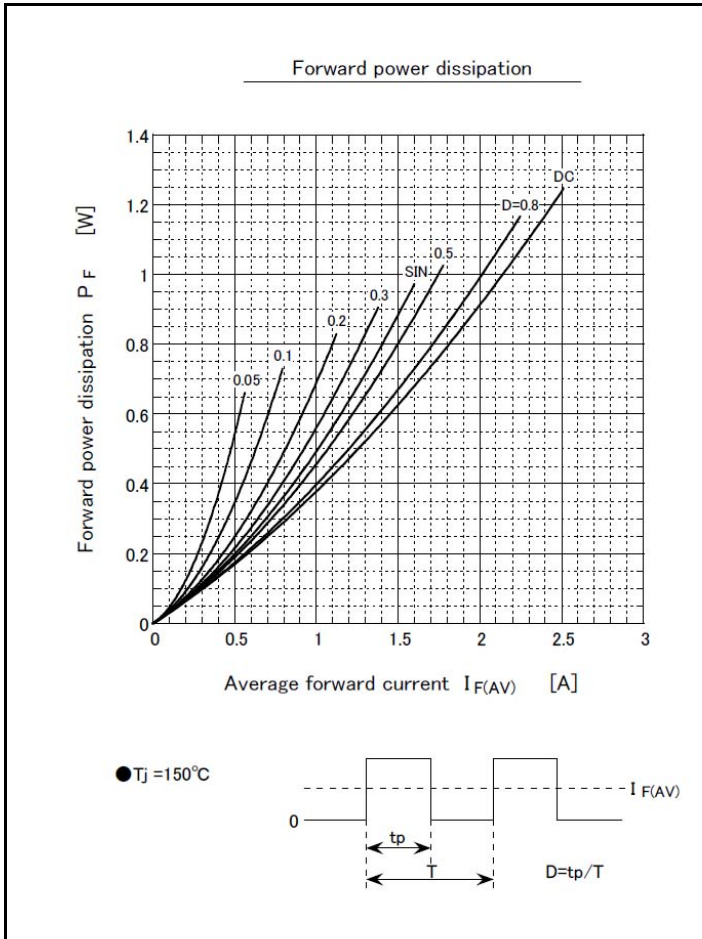
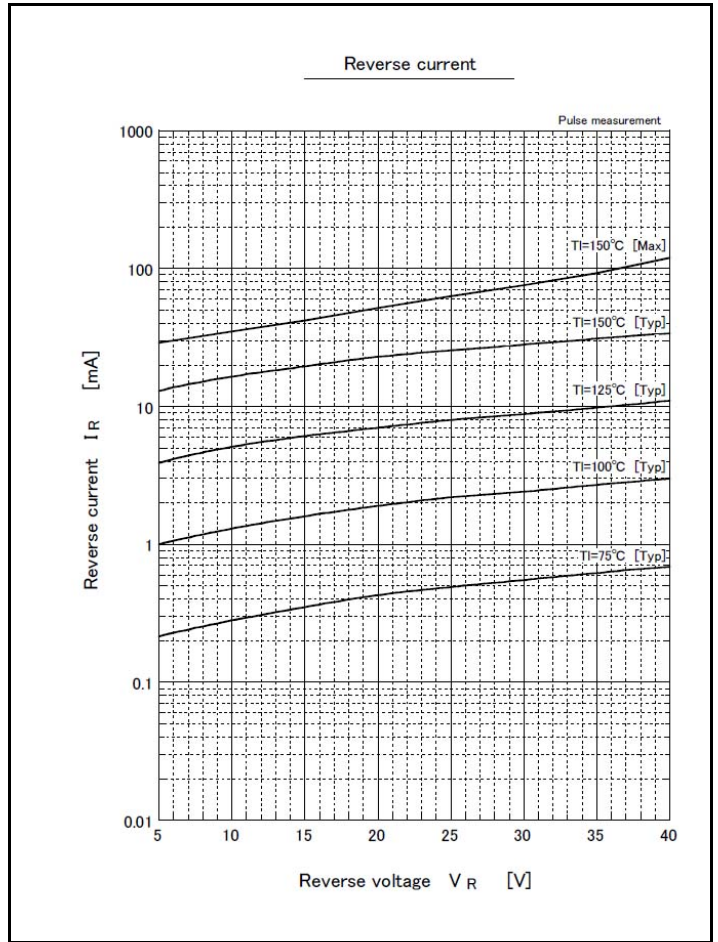
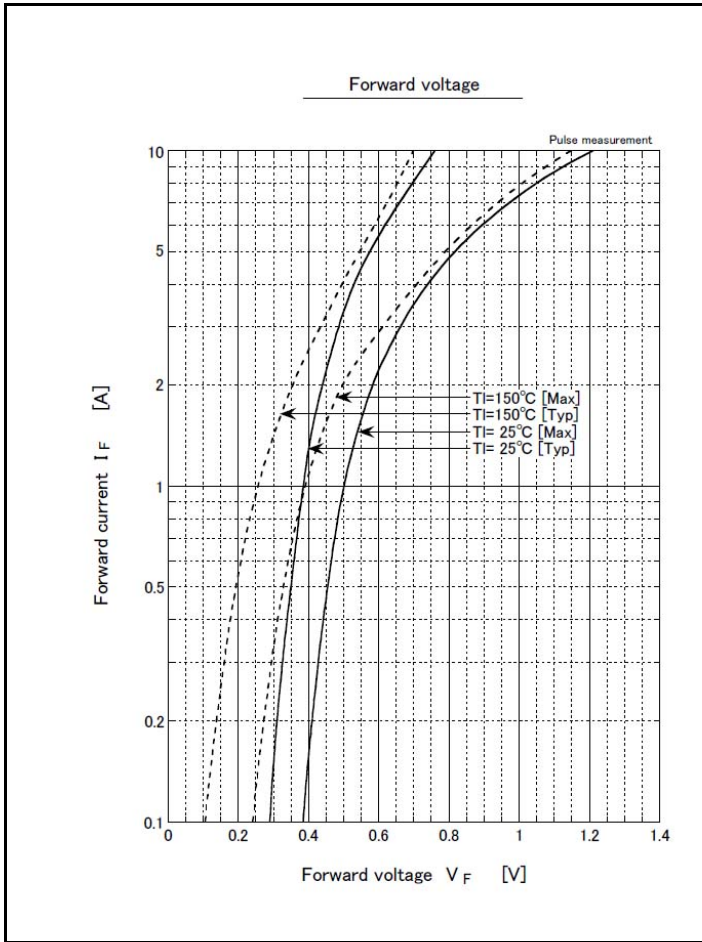
\* :See the original Specifications

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

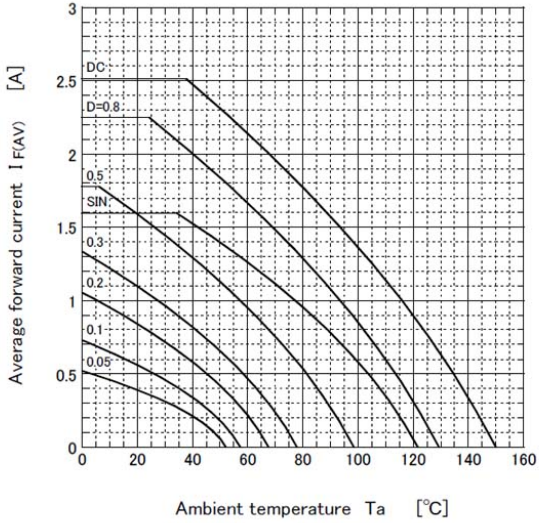
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	$V_F$	$I_F=1.6A$ , Pulse measurement			0.55	V
Reverse current	$I_R$	$V_R=40V$ , Pulse measurement			2.5	mA
Total capacitance	$C_t$	$f=1MHz$ , $V_R=10V$		150		pF
Thermal resistance	$R_{th(j-l)}$	Junction to lead			24	°C/W
Thermal resistance	$R_{th(j-a)}$	Junction to ambient, On alumina substrate ※			90	°C/W
Thermal resistance	$R_{th(j-a)}$	Junction to ambient, On glass-epoxy substrate ※			120	°C/W

※ :See the original Specifications

# CHARACTERISTIC DIAGRAMS



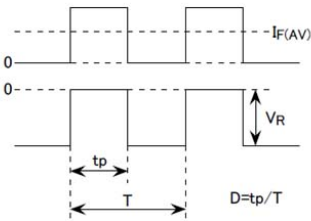
Derating curve



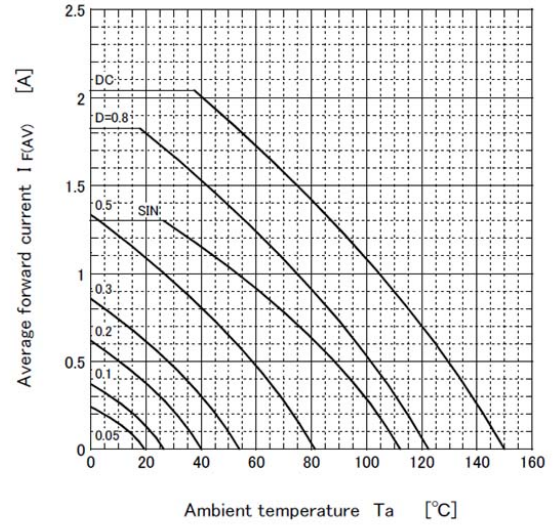
- $V_R = 20V$   
R-load  
Free in air

- Substrate detail

Type	Alumina
Size	1 inch <sup>2</sup>
Thickness	0.64mm
Conductor thickness	20 $\mu$ m
Pattern area	44.52mm <sup>2</sup>



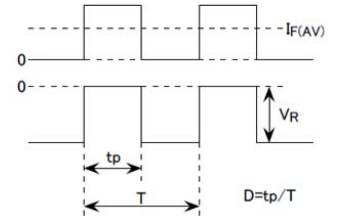
Derating curve



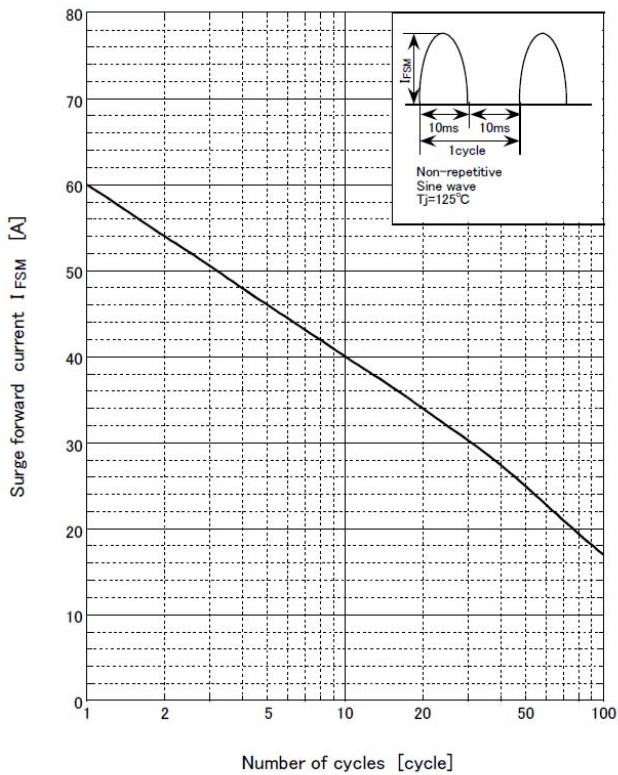
- $V_R = 20V$   
R-load  
Free in air

- Substrate detail

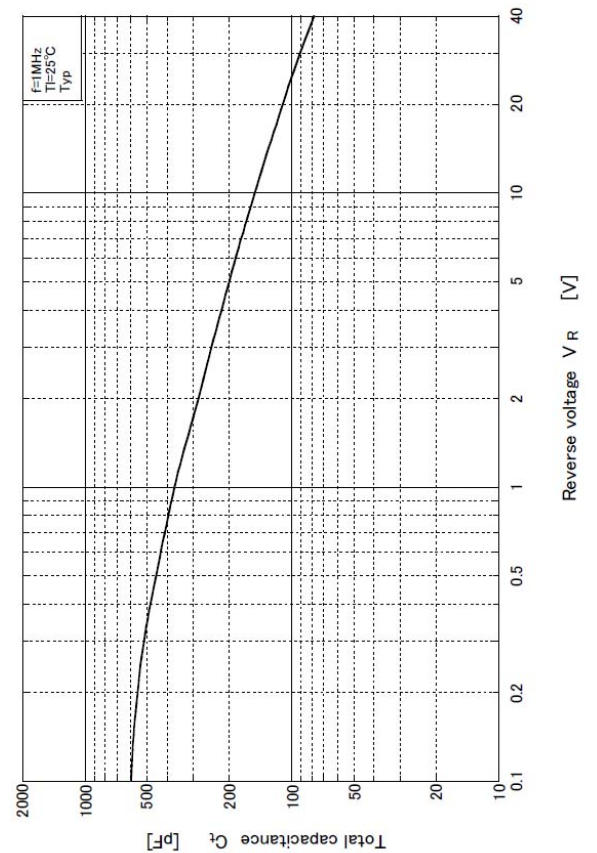
Type	Glass-epoxy
Size	1 inch <sup>2</sup>
Thickness	1mm
Conductor thickness	35 $\mu$ m
Pattern area	44.52mm <sup>2</sup>



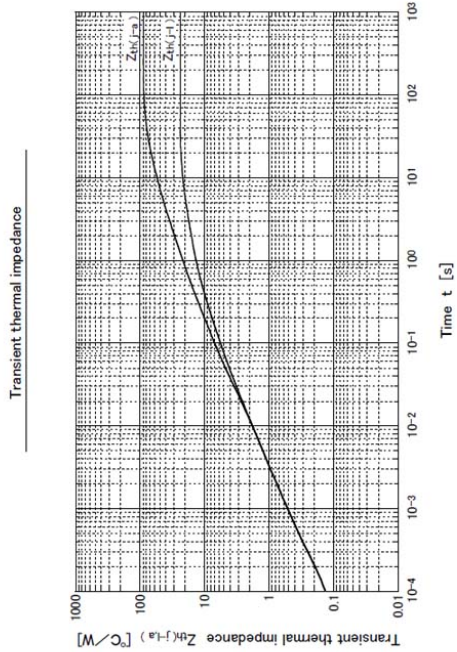
Surge forward current capability



Total capacitance

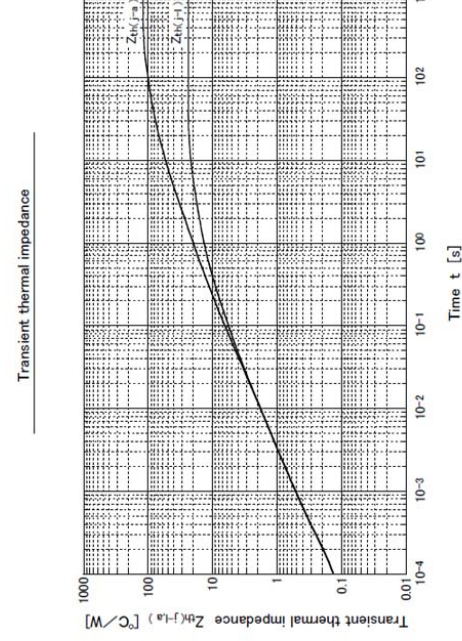
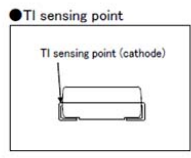






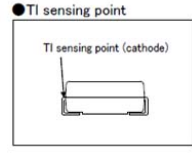
● Substrate detail

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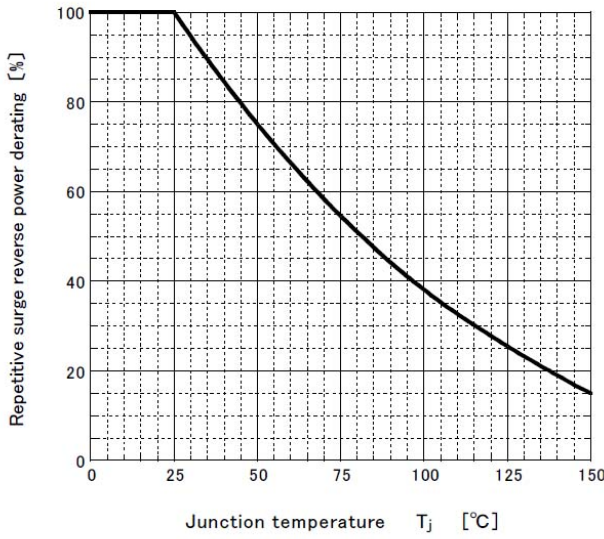


● Substrate detail

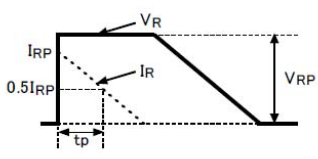
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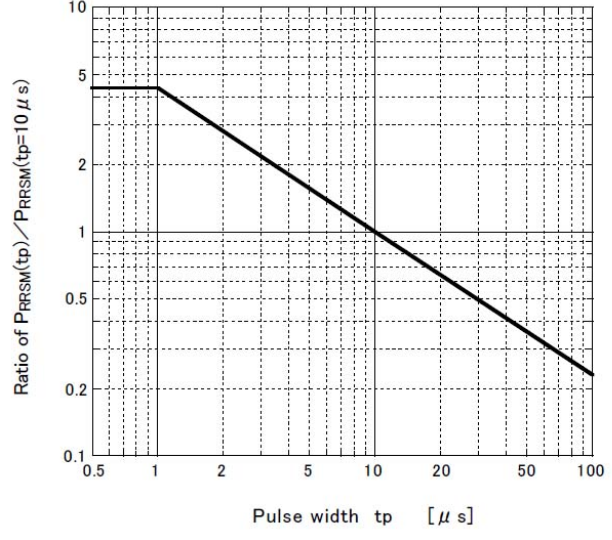
Repetitive surge reverse power derating vs Junction temperature



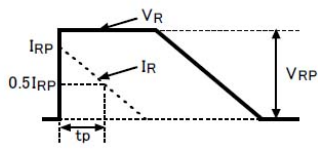
●  $P_{RRSM} = I_{RP} \times V_{RP}$



Repetitive surge reverse power capability

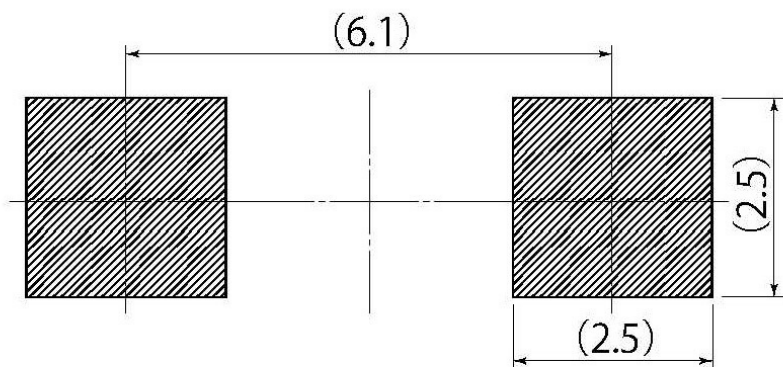
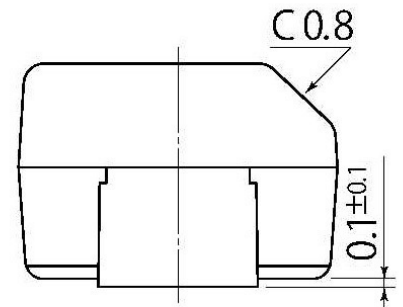
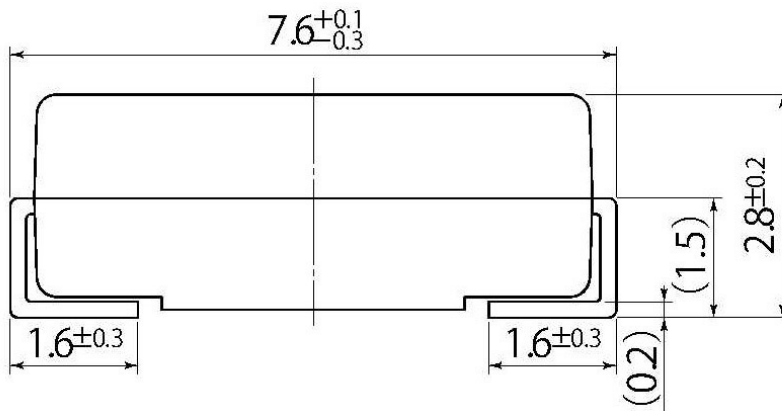
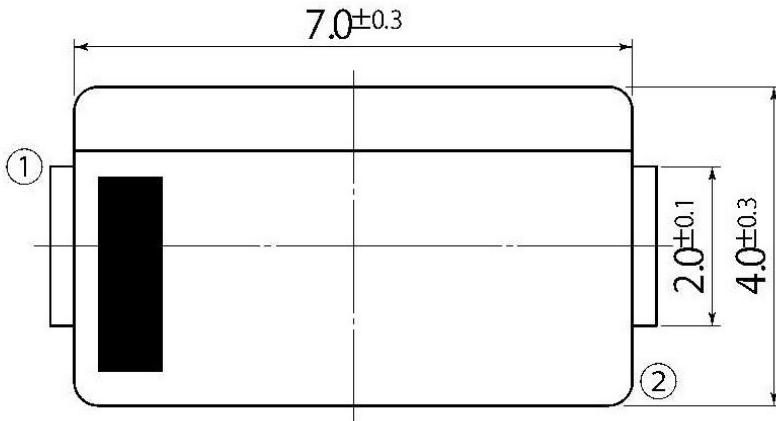


●  $P_{RRSM} = I_{RP} \times V_{RP}$



B9

JEDEC Code	—
JEITA Code	—
House Name	2F



Referential Soldering Pad

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

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