ShinDengen

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℃)

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

※ :See the original Specifications

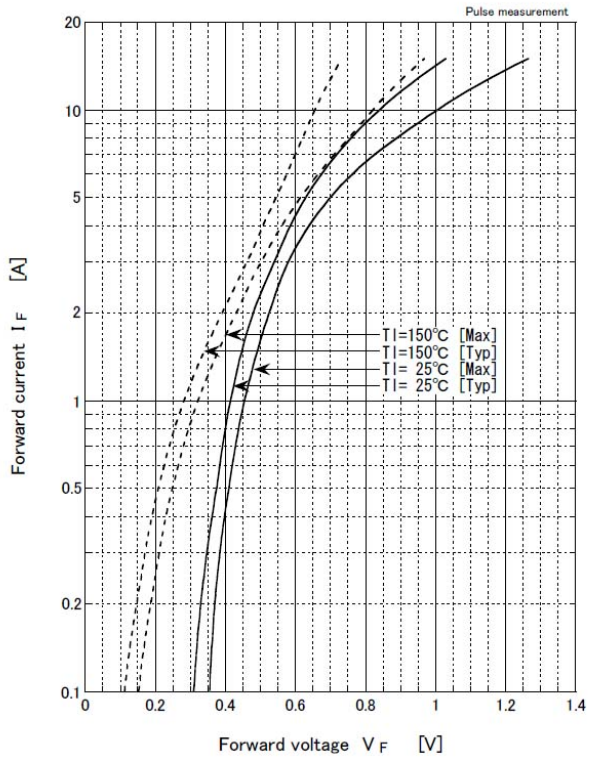
Electrical Characteristics (unless otherwise specified : Tl=25℃)

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

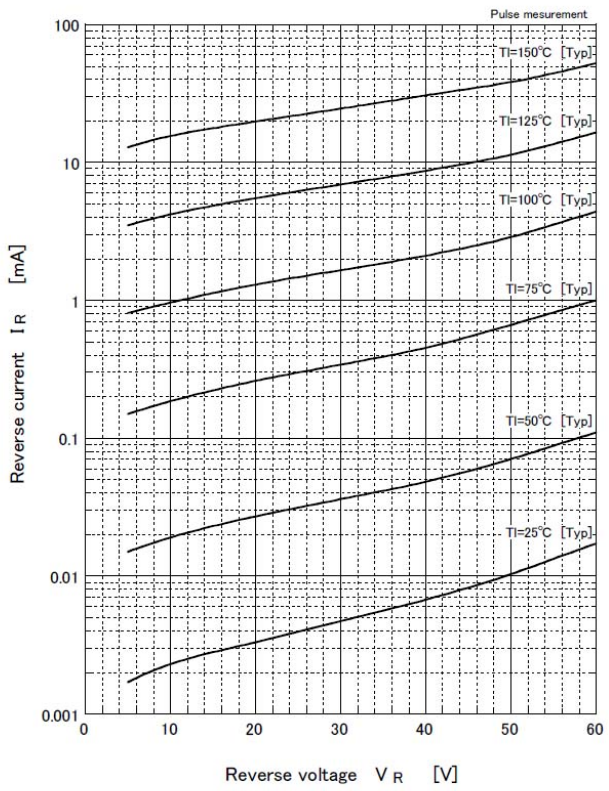
※ ：See the original Specifications

CHARACTERISTIC DIAGRAMS

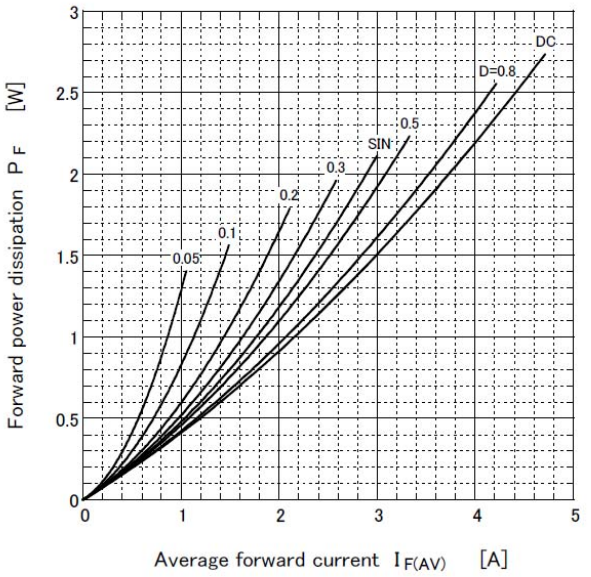
Forward voltage

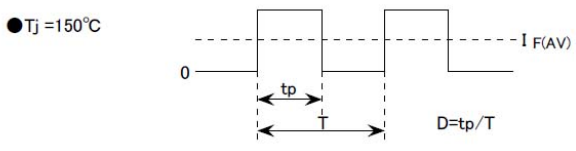


Reverse current

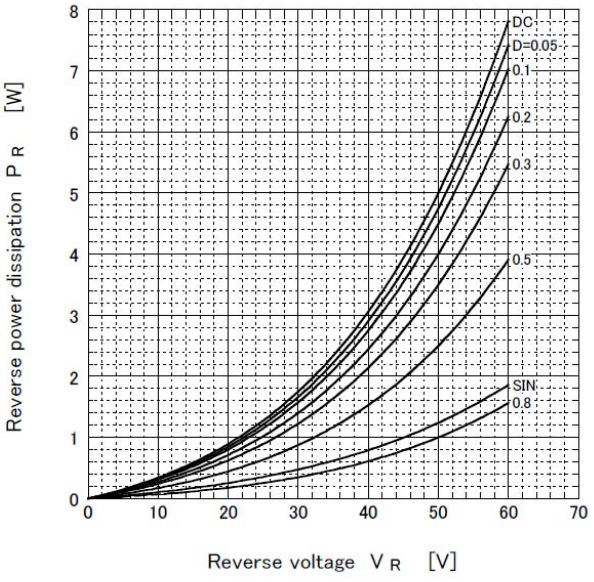


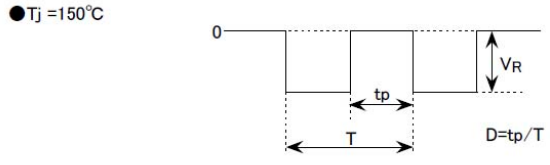
Forward power dissipation



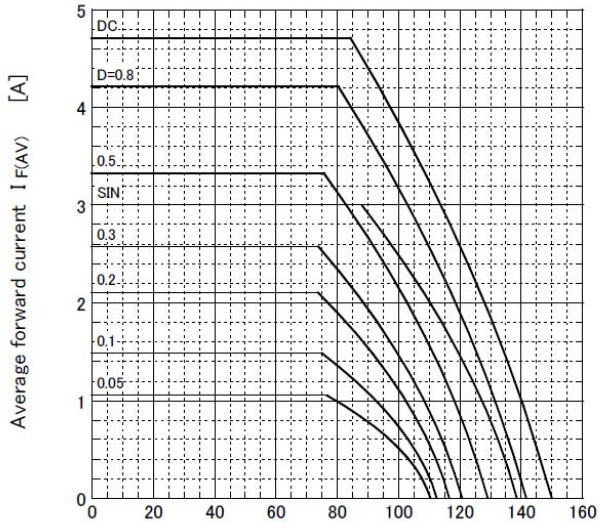


Reverse power dissipation



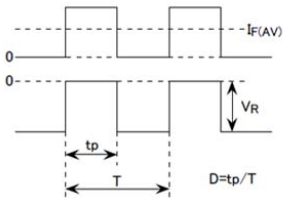


Derating curve

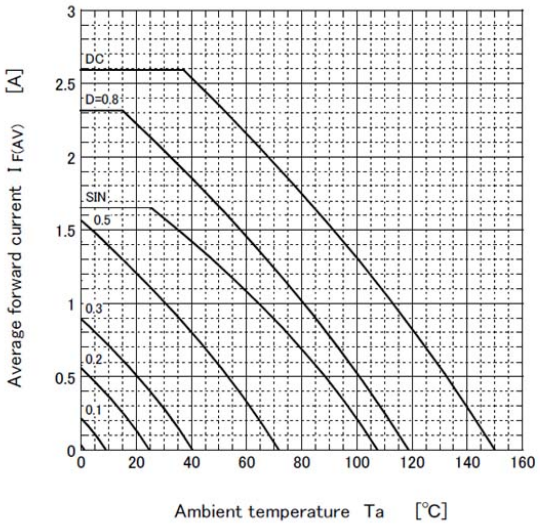


Lead temperature TI [℃]

●V_R = 30V
R-load
Free in air



Derating curve

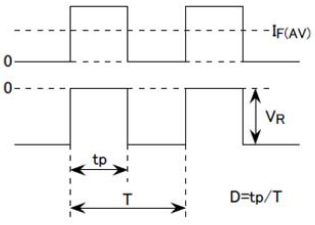


Ambient temperature Ta [℃]

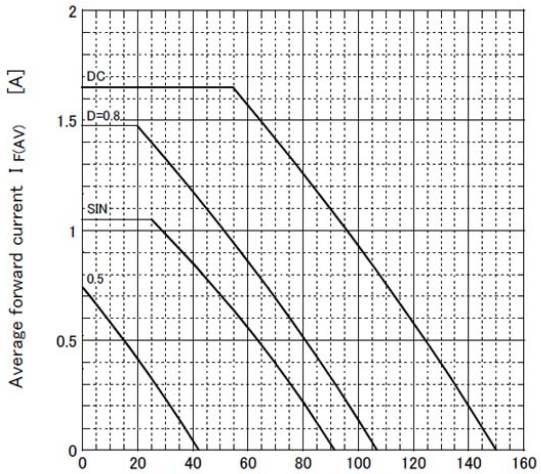
●V_R = 30V
R-load
Free in air

●Substrate detail

Type	Alumina
Size	1 inch²
Thickness	0.64mm
Conductor thickness	20 μm
Pattern area	44.52mm²



Derating curve

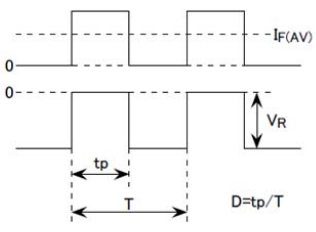


Ambient temperature Ta [℃]

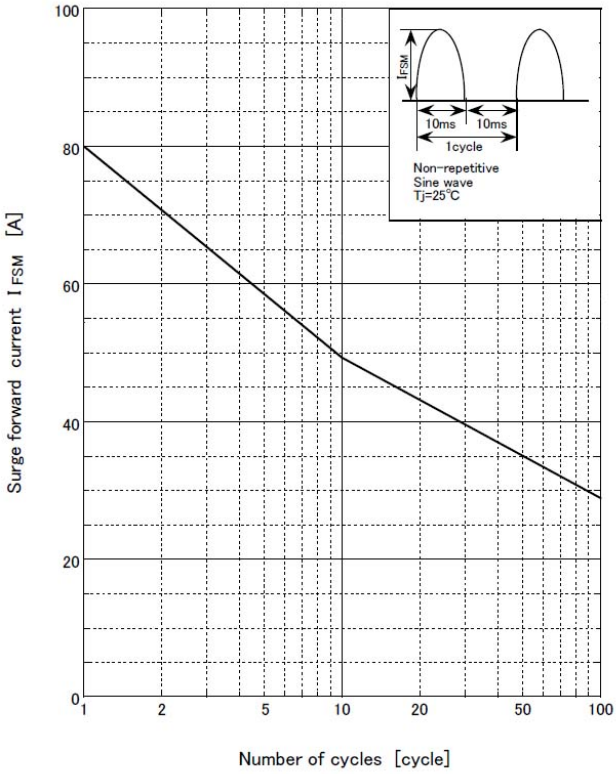
●V_R = 30V
R-load
Free in air

●Substrate detail

Type	Glass-epoxy
Size	1 inch²
Thickness	1mm
Conductor thickness	35 μm
Pattern area	44.52mm²

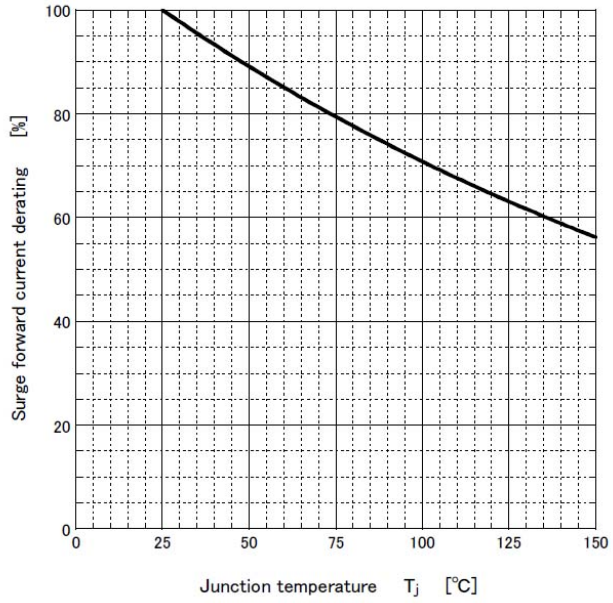


Surge forward current capability

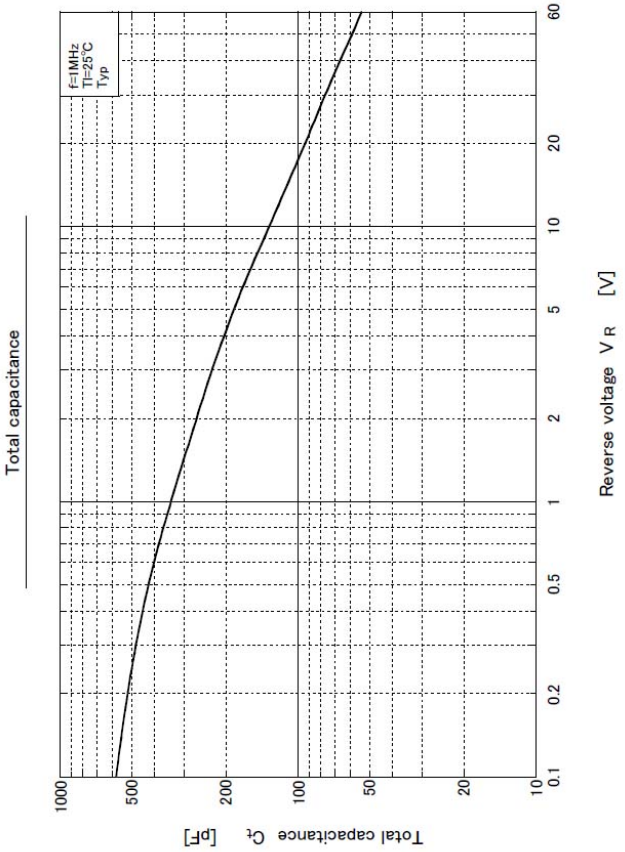


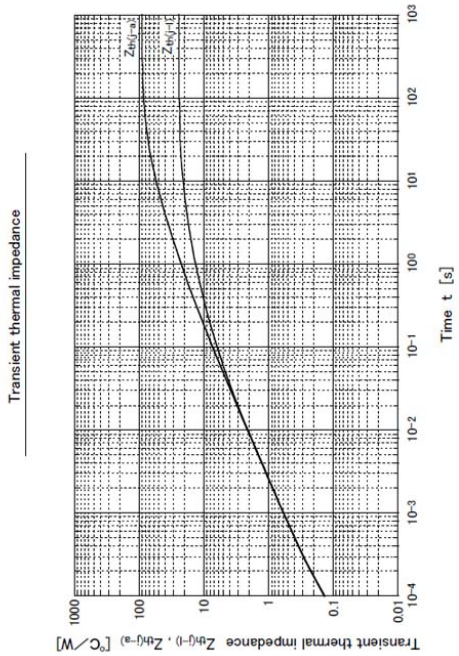
Number of cycles [cycle]

Surge forward current derating
vs Junction temperature



Total capacitance

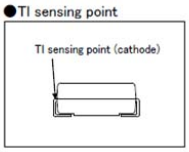


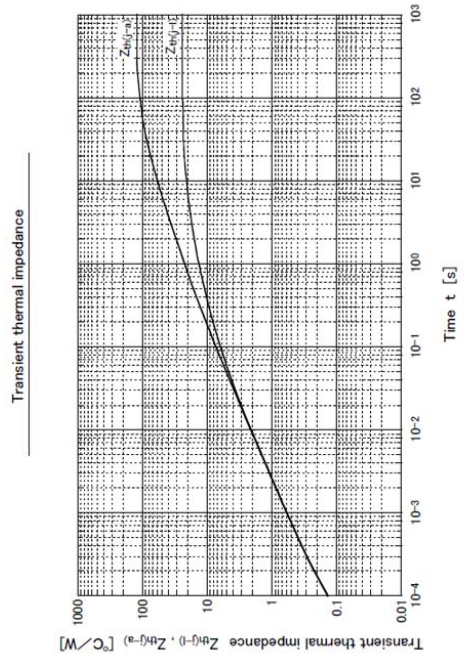


●Substrate detail

Type	Alumina
Size	1 inch²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	44.52mm²

●Tl sensing point

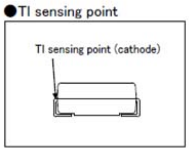




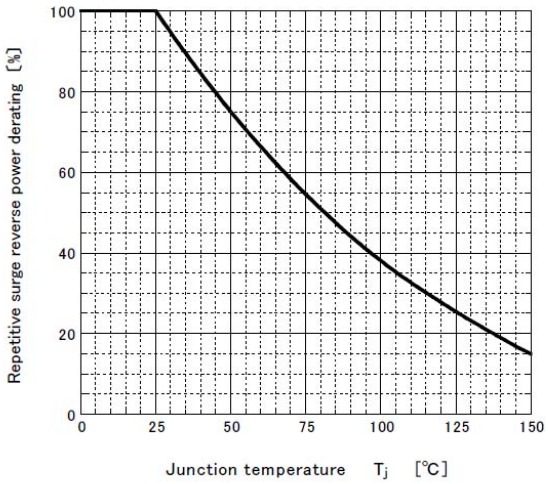
●Substrate detail

Type	Glass-epoxy
Size	1 inch²
Thickness	1mm
Conductor thickness	35μm
Pattern area	44.52mm²

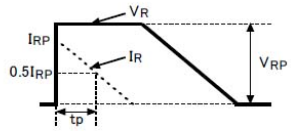
●Tl sensing point



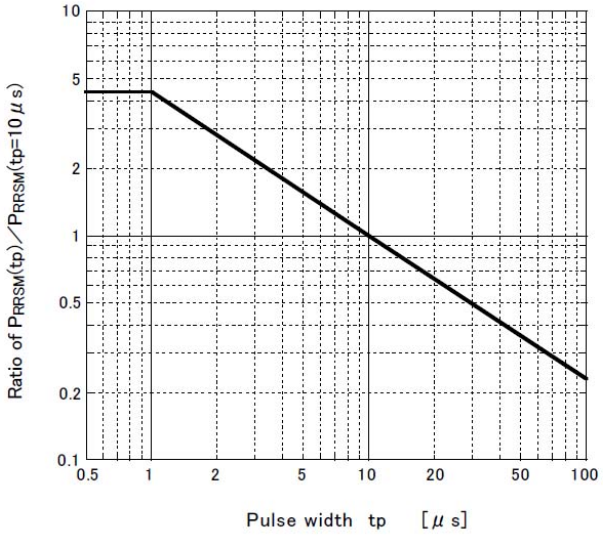
Repetitive surge reverse power derating
vs Junction temperature



● P_{RRSM}= I_{RP} × V_{RP}



Repetitive surge reverse power capability



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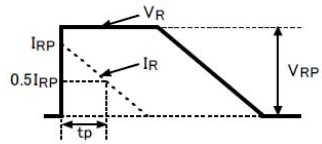


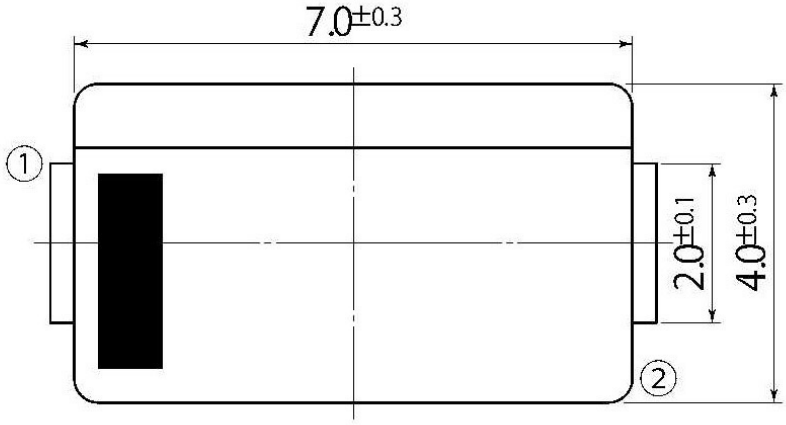
Outline Dimensions

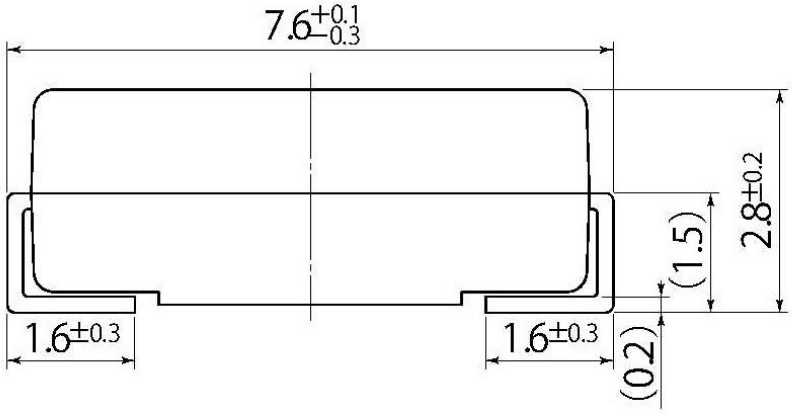
unit:mm

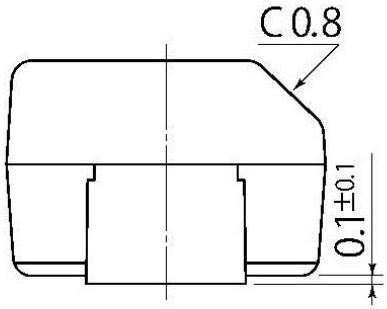
scale: 10/1

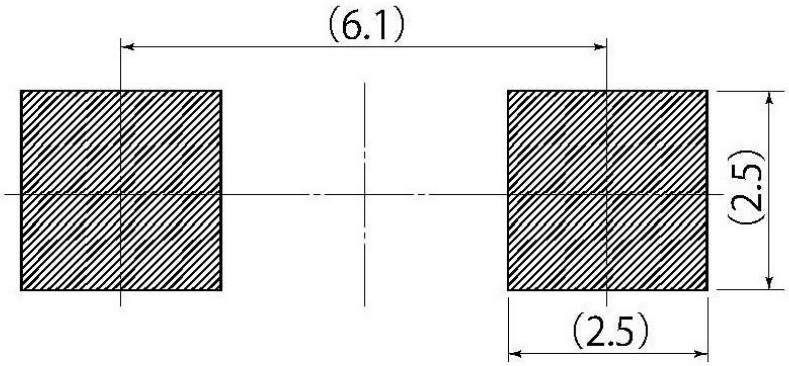
B9

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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