ShinDengen

D20FR4R5S

Schottky Barrier Diodes
45V, 20A

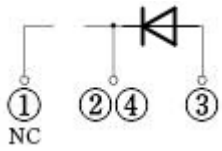
Feature

- Permit high current with a small package
- Low V_F
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): FR
Package (JEDEC Code): TO-252AA similar

Equivalent circuit



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

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-55 to 150	℃
Junction temperature	Tj		-55 to 150	℃
Repetitive peak reverse voltage	V_{RRM}		45	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load,Tc=116℃ ※	20	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive, 1cycle, Peak value, Tj=25℃	300	A

※ ：See the original Specifications

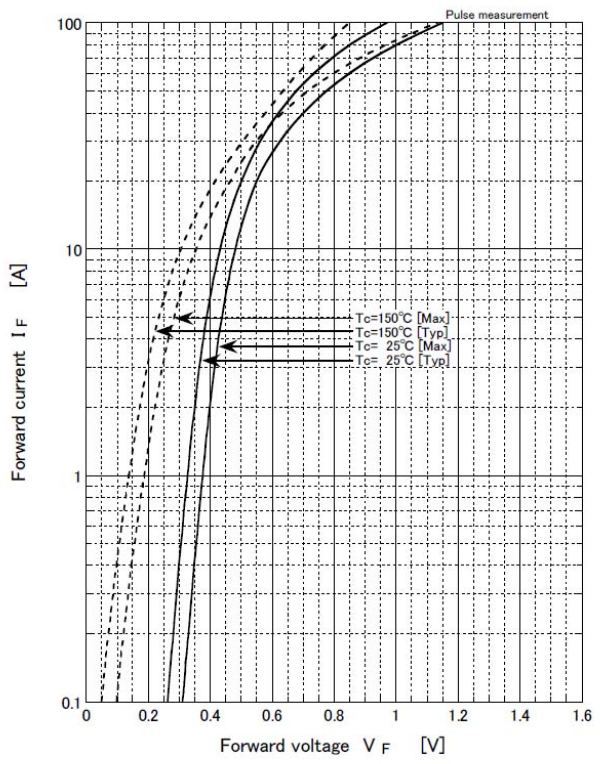
Electrical Characteristics (unless otherwise specified : Tc=25℃)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=20A, Pulse measurement			0.55	V
Reverse current	I_R	VR=45V, Pulse measurement			2.8	mA
Total capacitance	Ct	f=1MHz, VR=10V		625		pF
Thermal resistance	Rth(j-c)	Junction to case, With heatsink ※			2.2	℃/W

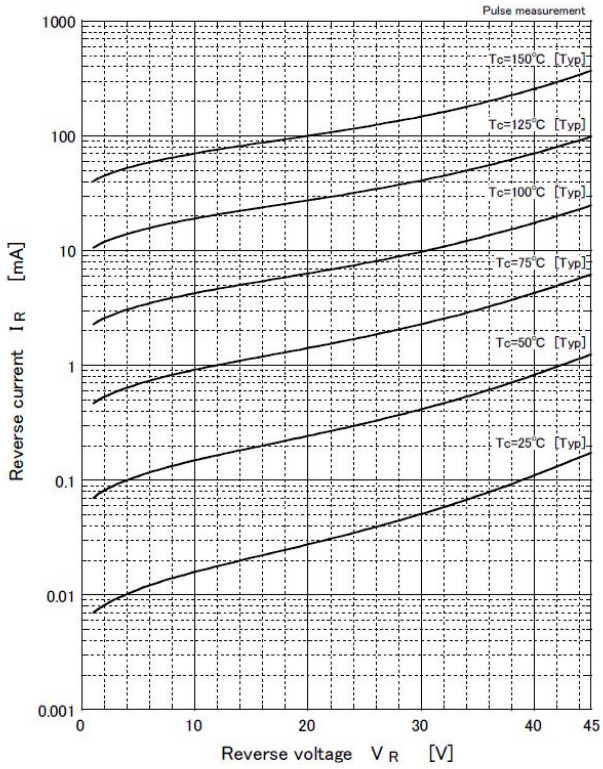
※ ：See the original Specifications

CHARACTERISTIC DIAGRAMS

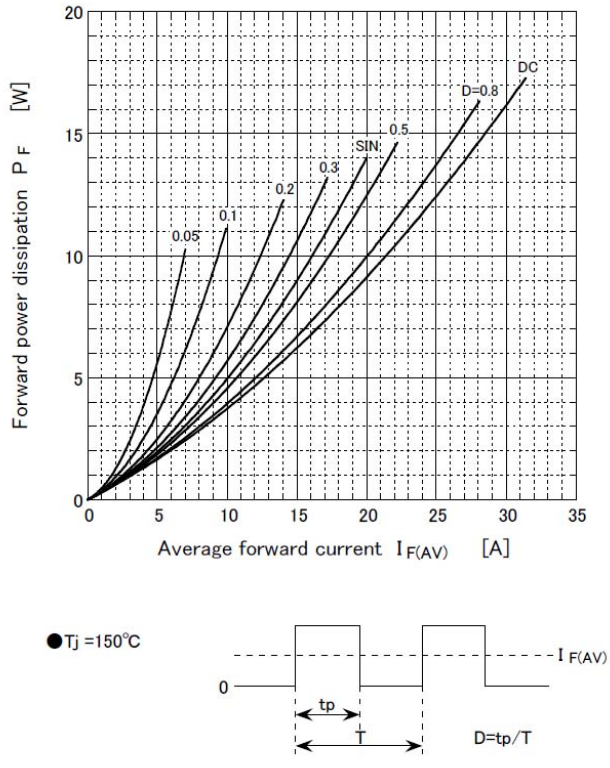
Forward voltage



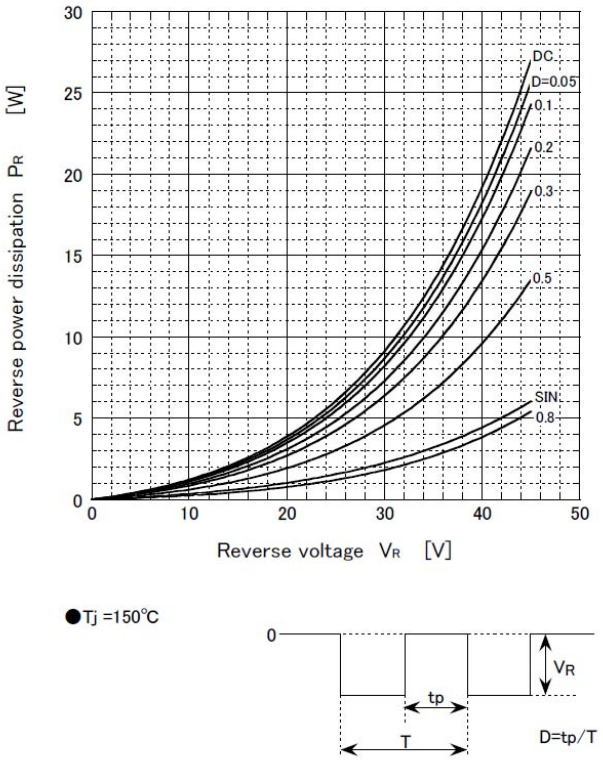
Reverse current



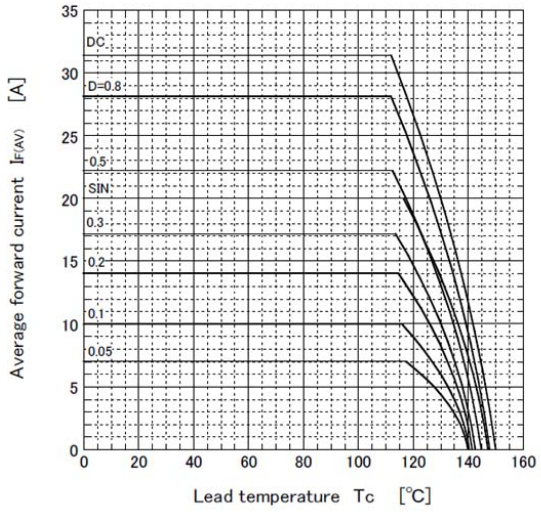
Forward power dissipation



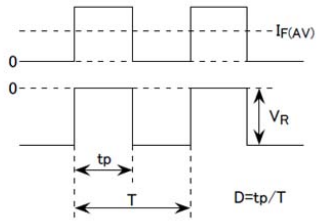
Reverse power dissipation



Derating curve



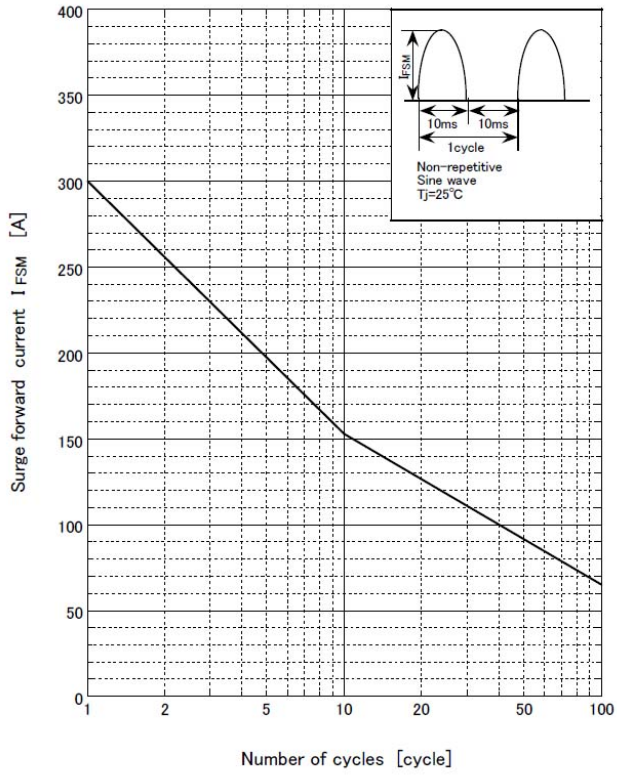
●V_R = 22.5V
R-load
With heatsink



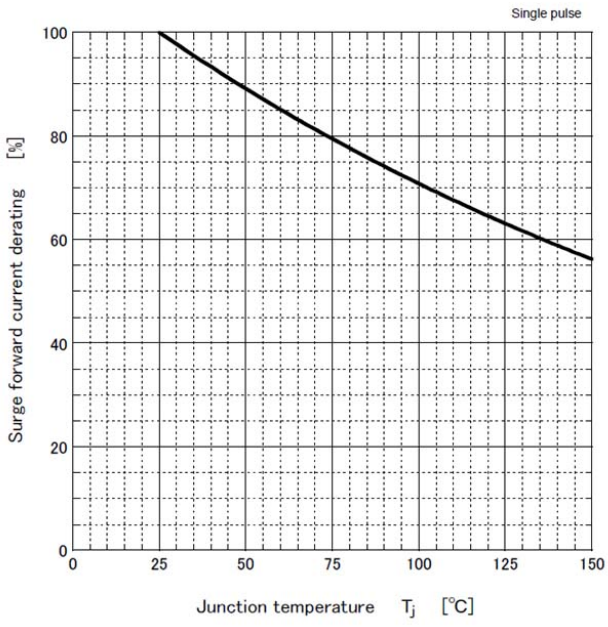
●Substrate detail

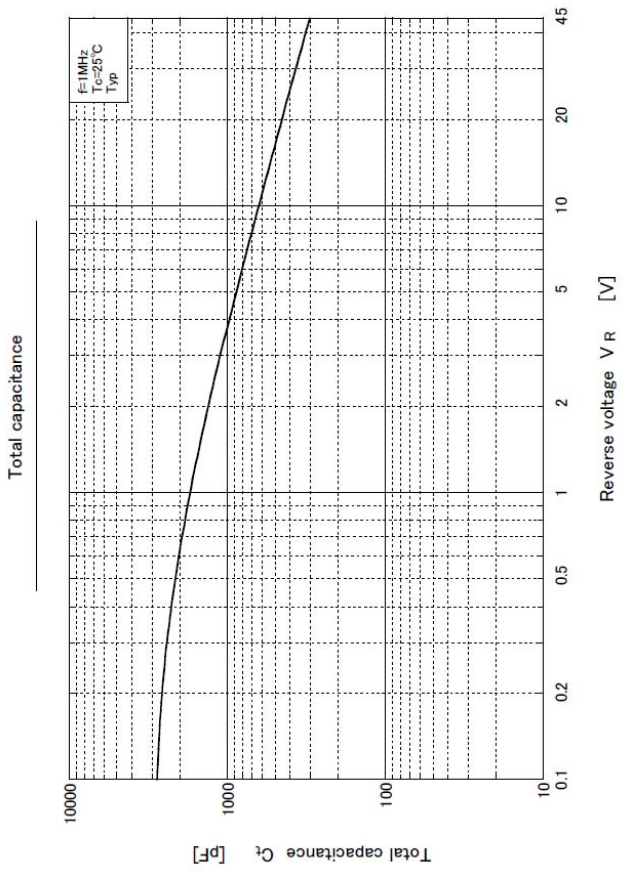
Type	Alumina
Size	1 inch²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	65mm²

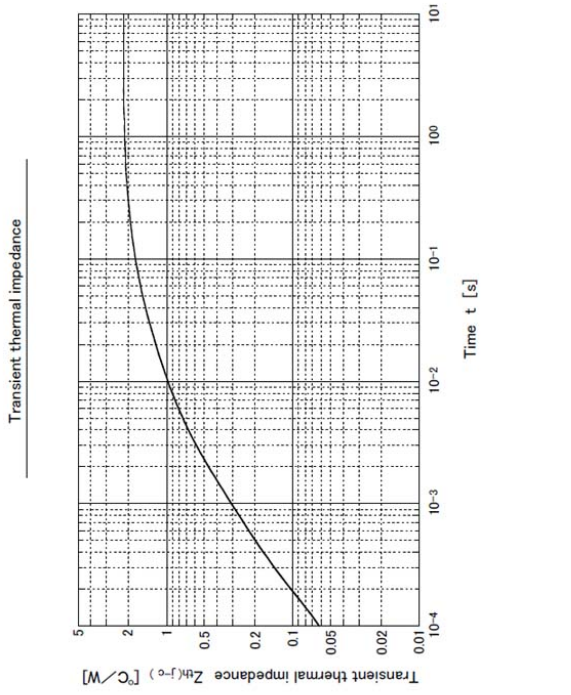
Surge forward current capability



Surge forward current derating
vs Junction temperature



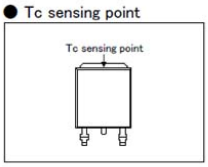




●Substrate detail

Type	Alumina
Size	1 inch²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	65mm²

● Tc sensing point



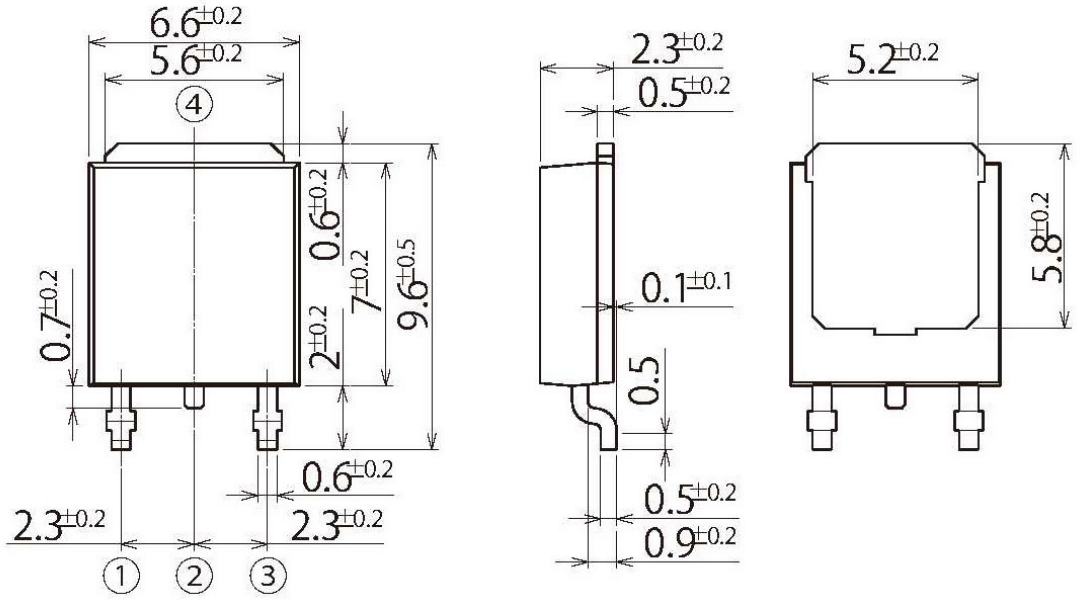
Outline Dimensions

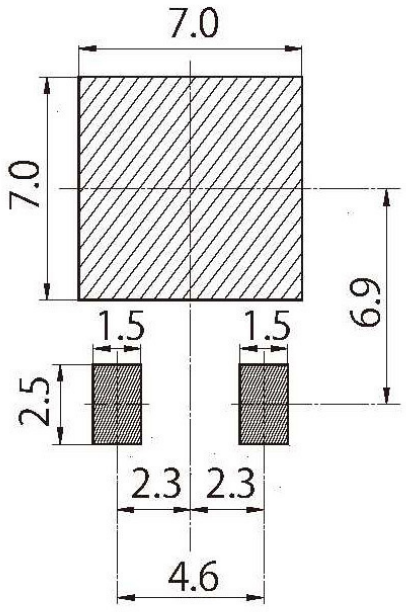
unit:mm

scale: 4/1

G5

JEDEC Code	TO-252AA similar
JEITA Code	–
House Name	FR





Referential Soldering Pad

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

Notes

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