ShinDengen

D10FY60VE

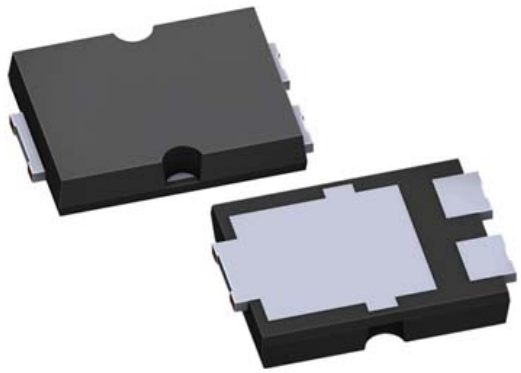
General Rectifying Diodes
600V, 10A

Feature

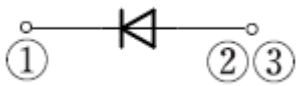
- Permit high current with a small package
- Based on AEC-Q101
- Halogen free
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): FY
Package (JEDEC Code): TO-277A 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}		600	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, With heatsink, Tl=120℃ ※	10	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On alumina substrate, Ta=25℃ ※	2.2	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25℃ ※	2.1	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive 1 cycle peak value, Tj=25℃	220	A
Surge forward current	I_{FSM1}	tp=1ms, sine wave, Non-repetitive, peak value, Tj=25℃	450	A

※ ：See the original Specifications

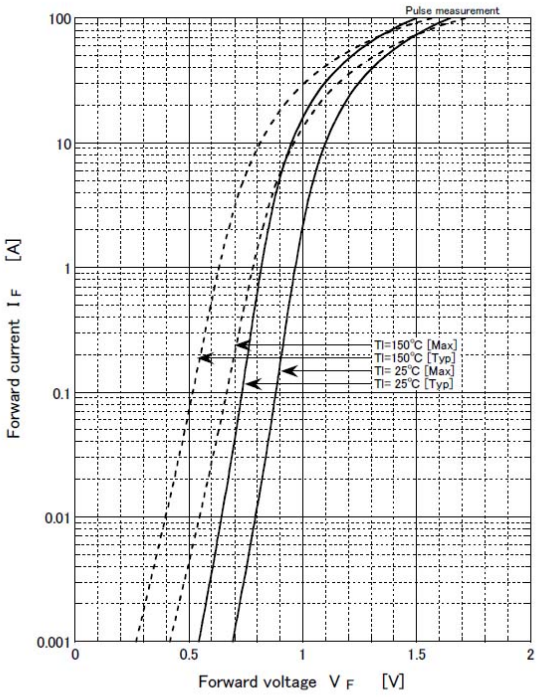
Electrical Characteristics (unless otherwise specified : Tc=25℃)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF＝10A, Pulse measurement			1.1	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, With heatsink ※			2.7	℃/W
Thermal resistance	Rth(j-a)	Junction to ambient, On alumina substrate ※			60	℃/W
Thermal resistance	Rth(j-a)	Junction to ambient, On glass-epoxy substrate ※			65	℃/W

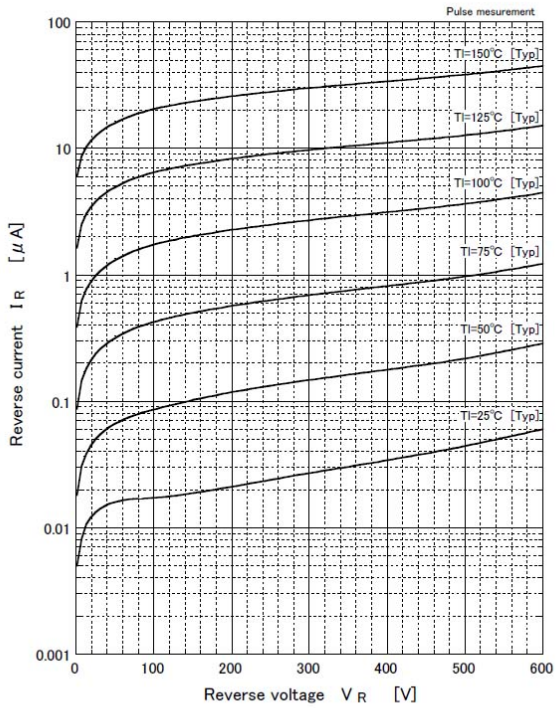
※ ：See the original Specifications

CHARACTERISTIC DIAGRAMS

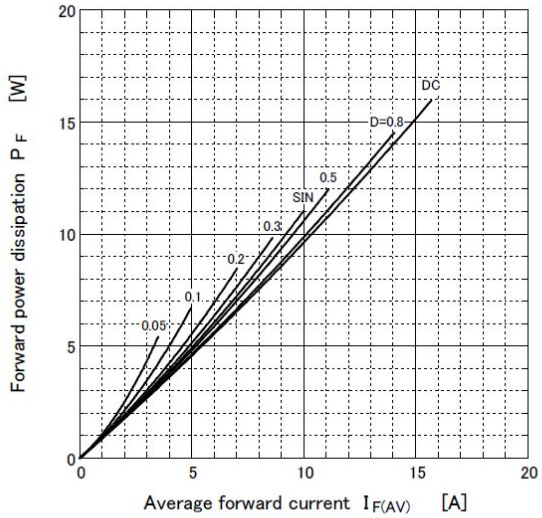
Forward voltage



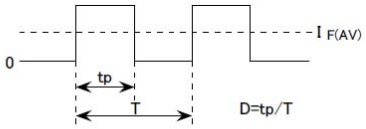
Reverse current



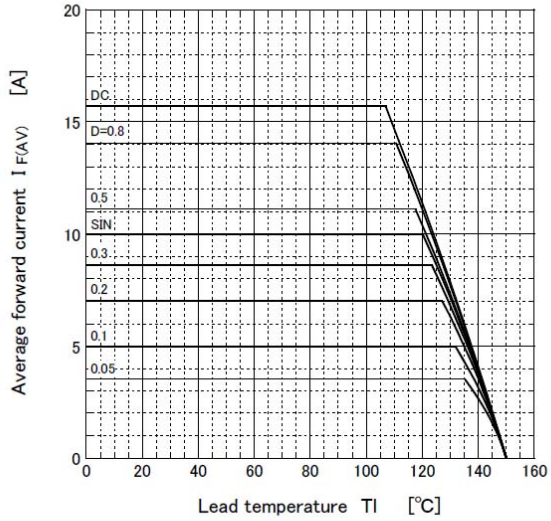
Forward power dissipation



●Tj =150℃



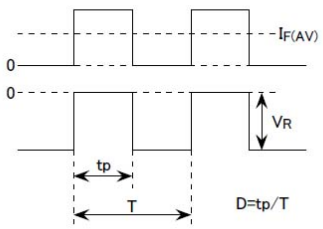
Derating curve



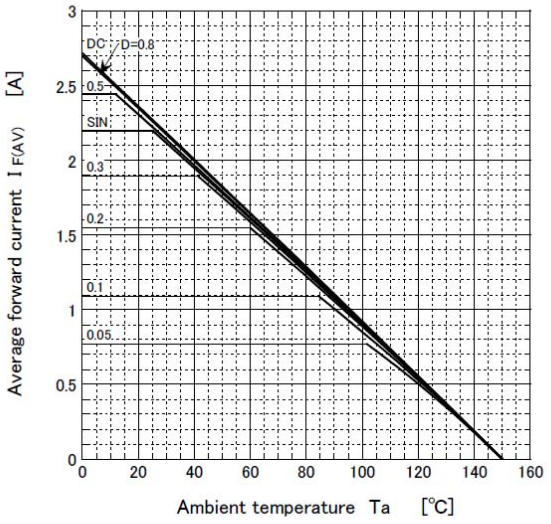
●VR = 600V
R-load
With heatsink

●Substrate detail

Type	Alumina
Size	1 inch²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	400mm²



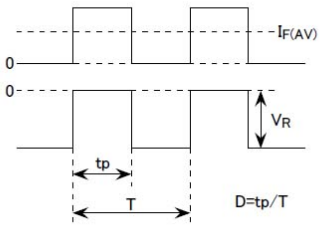
Derating curve



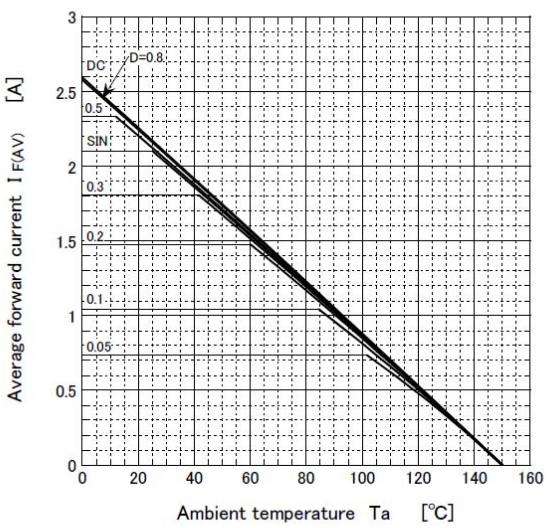
●V_R = 600V
R-load
Free in air

●Substrate detail

Type	Alumina
Size	1 inch²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	400mm²



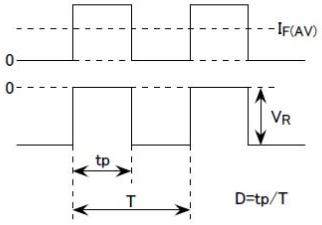
Derating curve



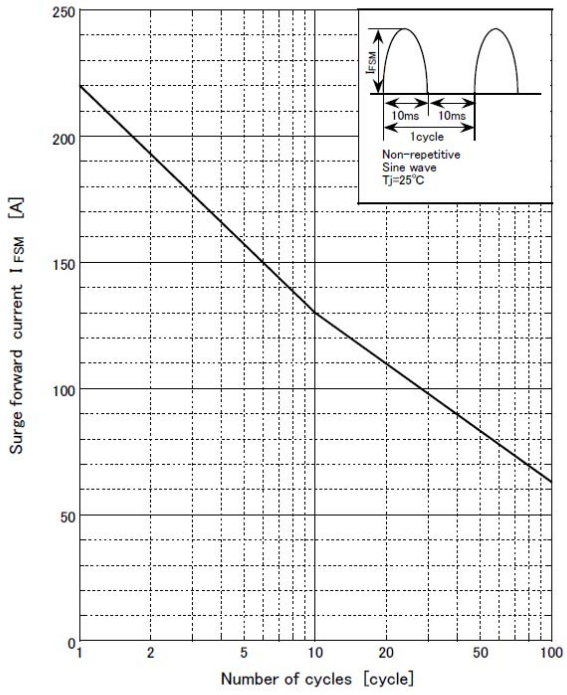
●V_R = 600V
R-load
Free in air

●Substrate detail

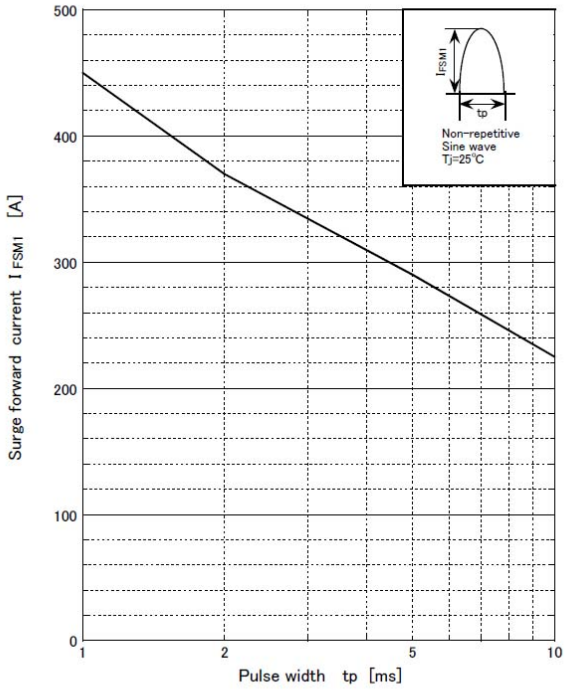
Type	Glass-epoxy
Size	1 inch²
Thickness	1mm
Conductor thickness	35μm
Pattern area	400mm²



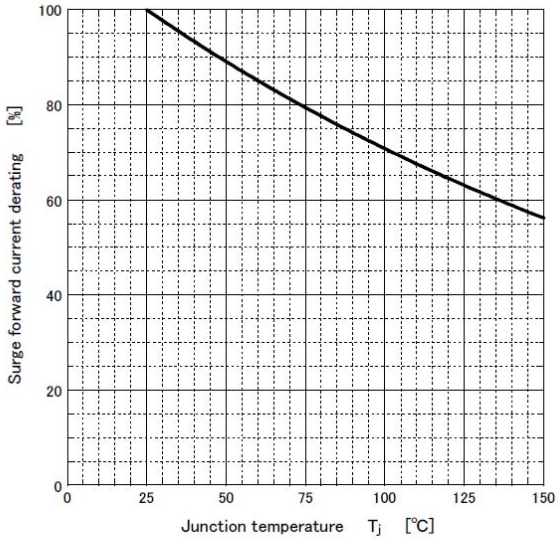
Surge forward current capability



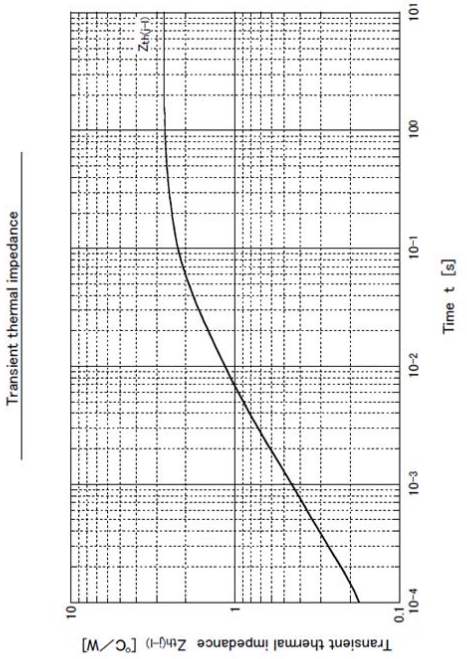
Surge forward current capability



Surge forward current derating
vs Junction temperature



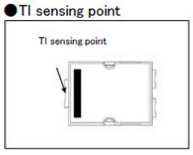
Transient thermal impedance



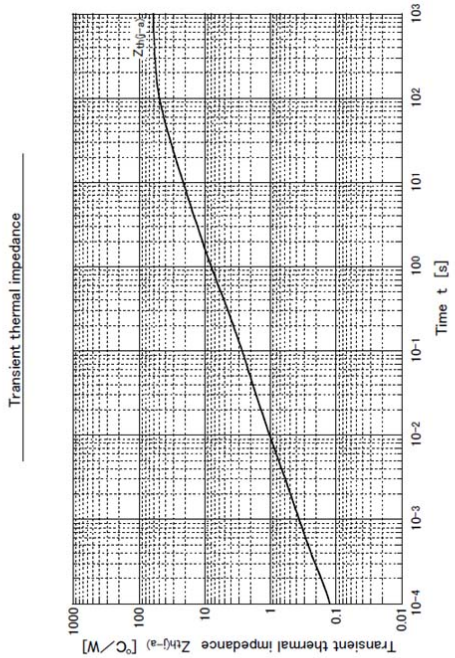
●Substrate detail

Type	Alumina
Size	1 inch²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	400mm²

●Tl sensing point



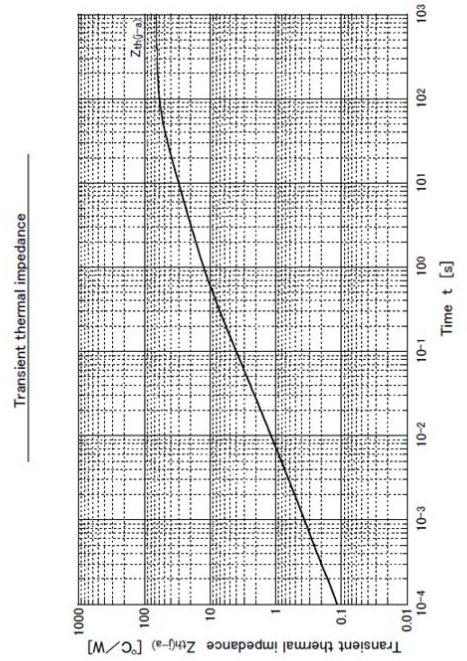
Transient thermal impedance



●Substrate detail

Type	Alumina
Size	1 inch²
Thickness	0.64mm
Conductor thickness	20μm
Pattern area	400mm²

Transient thermal impedance



●Substrate detail

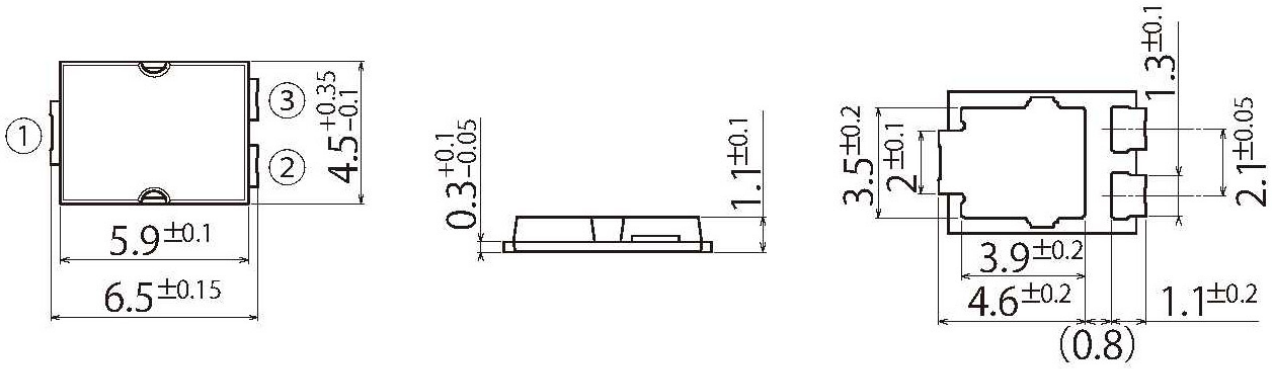
Type	Glass-epoxy
Size	1 inch²
Thickness	1mm
Conductor thickness	35μm
Pattern area	400mm²

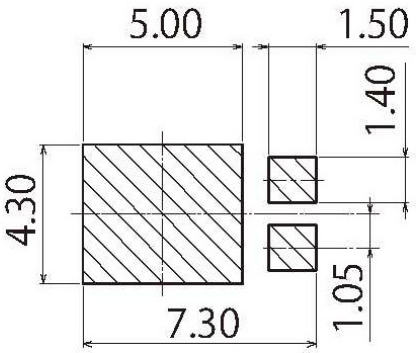
Outline Dimensions

unit:mm

G4

JEDEC Code	TO-277A similar
JEITA Code	–
House Name	FY





Referential Soldering Pad

Notes

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