ShinDengen

D5FY6ST

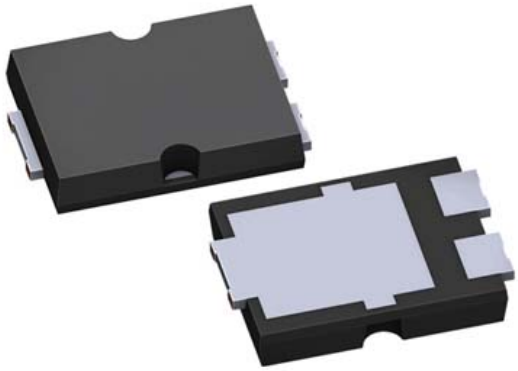
Schottky Barrier Diodes
60V, 5A

Feature

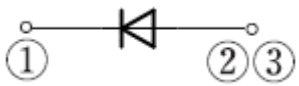
- Permit high current with a small package
- Tj=175℃
- Ultra low I_R
- Based on AEC-Q101
- Halogen free
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): FY
Package (JEDEC Code): TO-277A similar



Equivalent circuit



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

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-55 to 175	℃
Junction temperature	Tj		-55 to 175	℃
Repetitive peak reverse voltage	V_{RRM}		60	V
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, With heatsink ,Tl=164℃ ※	5	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On alumina substrate, Ta=25℃ ※	3.7	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25℃ ※	3.5	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive, 1cycle, Peak value, Tj=25℃	210	A

※ :See the original Specifications

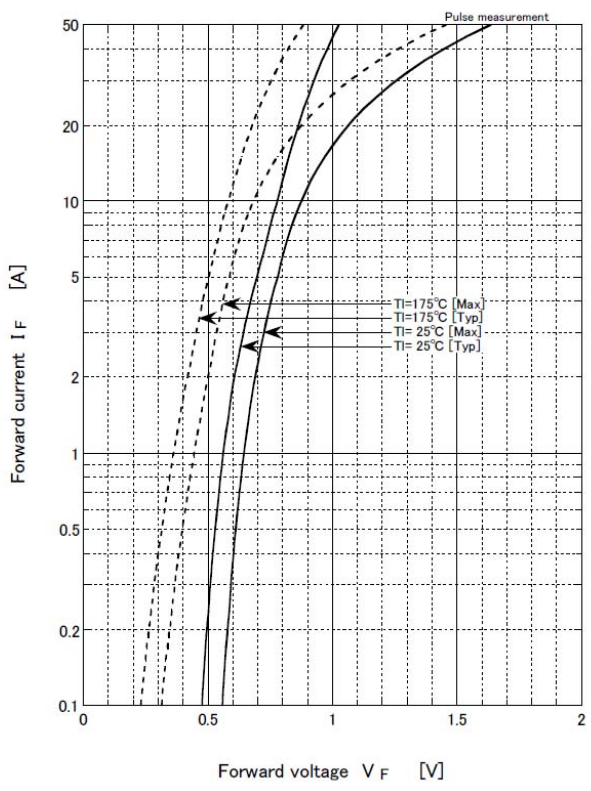
Electrical Characteristics (unless otherwise specified : Tl=25℃)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=5A, Pulse measurement			0.78	V
Reverse current	I_R	VR=60V, Pulse measurement			0.015	mA
Total capacitance	Ct	f=1MHz, VR=10V		148		pF
Thermal resistance	Rth(j-l)	Junction to lead, With heatsink ※			3	℃/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

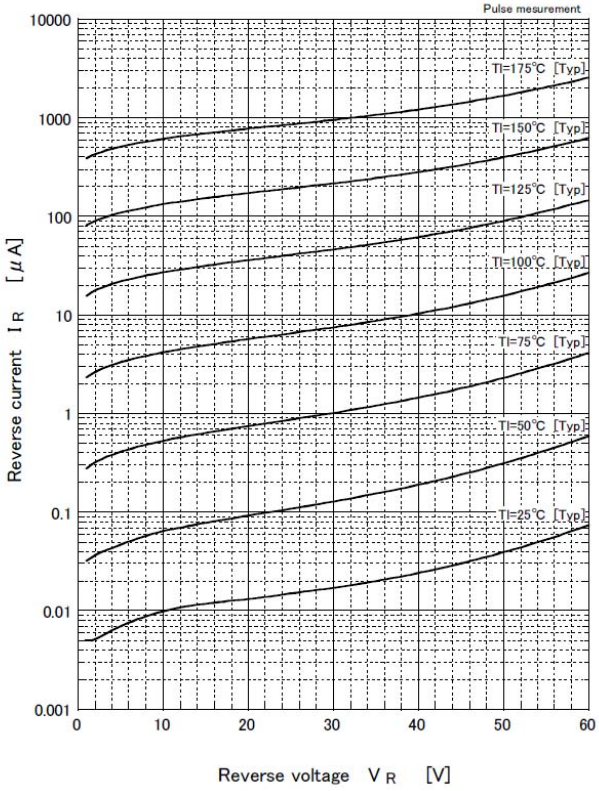
※ ：See the original Specifications

CHARACTERISTIC DIAGRAMS

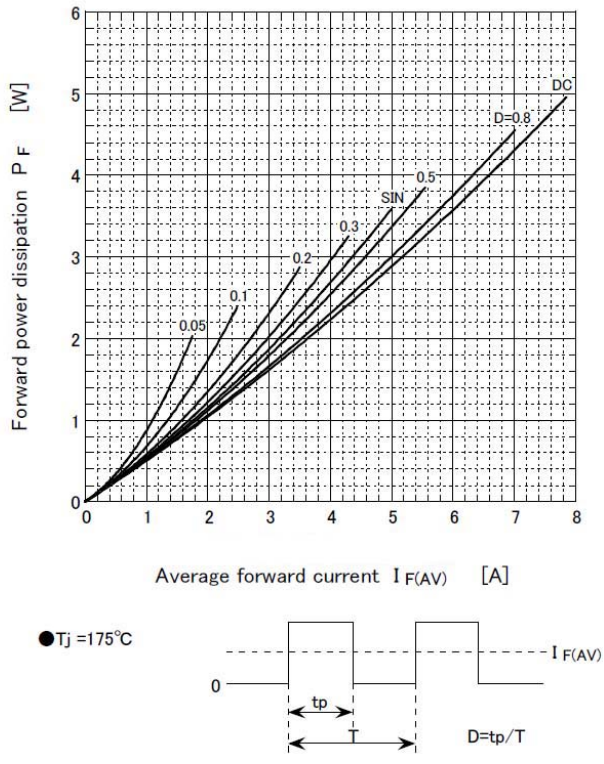
Forward voltage



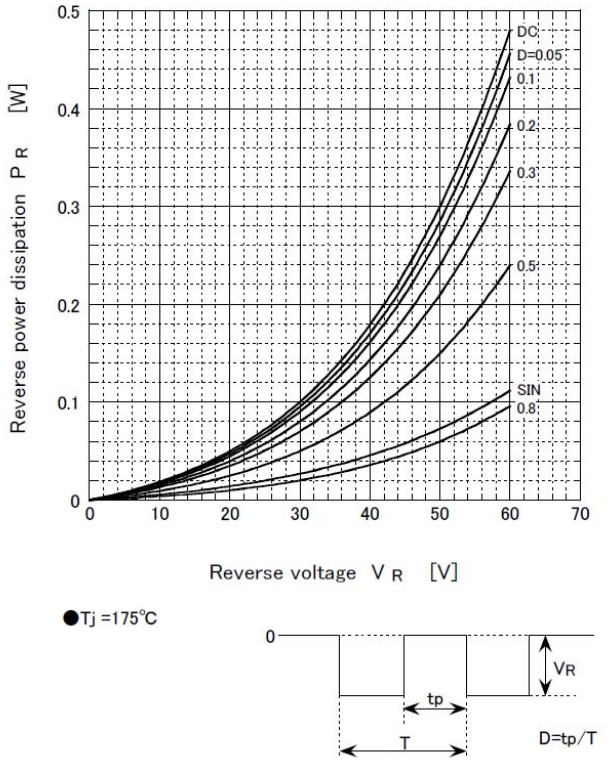
Reverse current



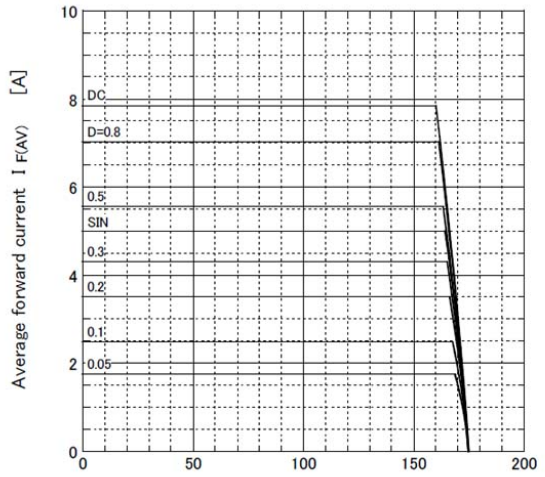
Forward power dissipation



Reverse power dissipation



Derating curve

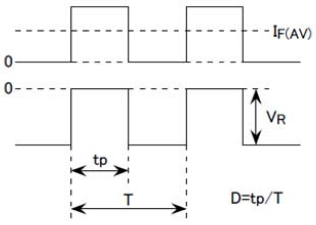


●V_R = 30V

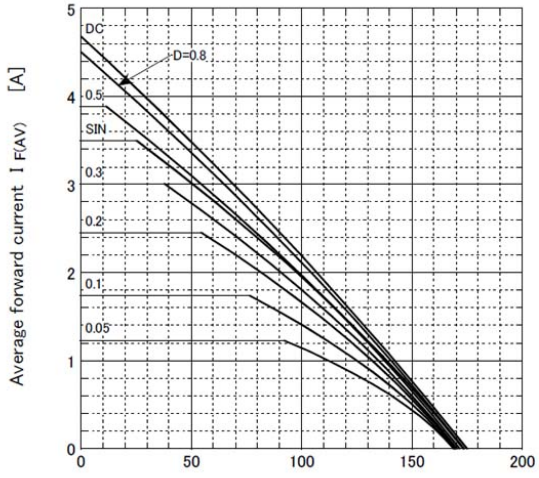
R-load
With heatsink

●Substrate detail

Item	
Substrate	Alumina
Substrate thickness	1mm
Conductor thickness	20μm
Pattern area	400mm²



Derating curve

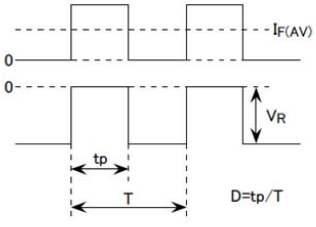


●V_R = 30V

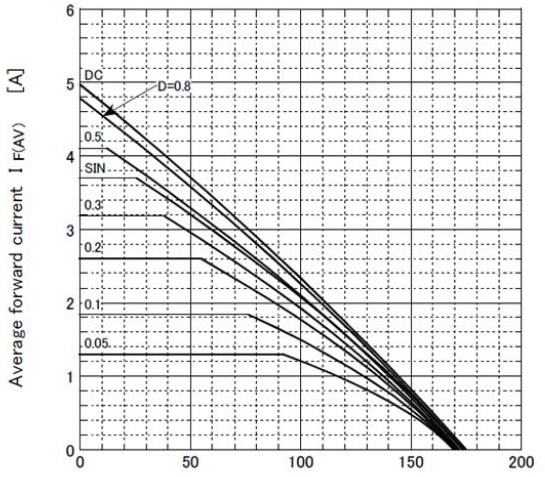
R-load
Free in air

●Substrate detail

Item	
Substrate	Alumina
Substrate thickness	1mm
Conductor thickness	20μm
Pattern area	400mm²



Derating curve

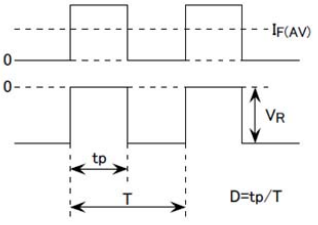


●V_R = 30V

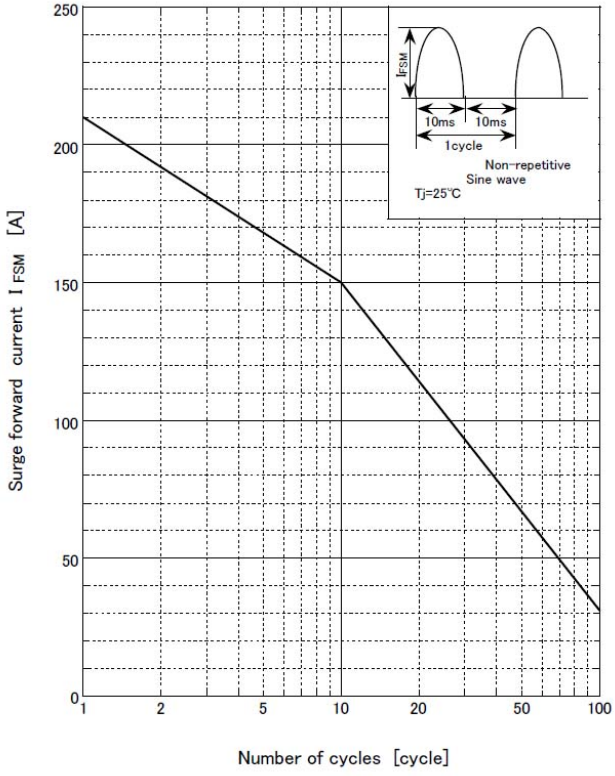
R-load
Free in air

●Substrate detail

Item	
Substrate	Glass-epoxy
Substrate thickness	1mm
Conductor thickness	35μm
Pattern area	400mm²



Surge forward current capability



Total capacitance

Transient thermal impedance

● Substrate detail

Item	
Substrate	Alumina
Substrate thickness	1mm
Conductor thickness	20μm
Pattern area	400mm²

Transient thermal impedance

● Substrate detail

Item	
Substrate	Alumina
Substrate thickness	1mm
Conductor thickness	20μm
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Transient thermal impedance

● Substrate detail

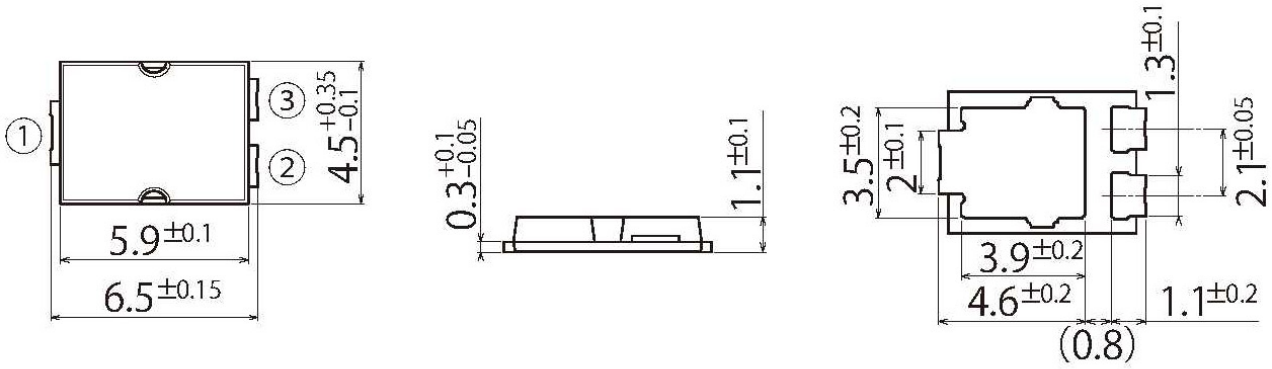
Item	
Substrate	Glass-epoxy
Substrate thickness	1mm
Conductor thickness	35μm
Pattern area	400mm²

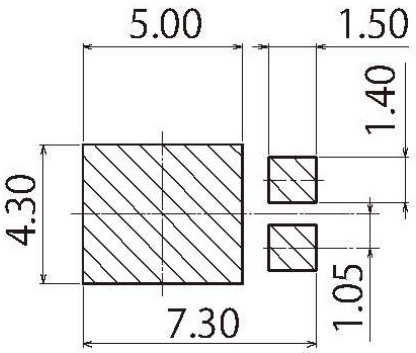
Outline Dimensions

unit:mm

G4

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





Referential Soldering Pad

Notes

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   Transportation equipment (vehicles, ships, etc.), trunk-line communication equipment, traffic signal control systems, anti-disaster/crime systems, safety equipment, medical equipment, etc.
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