ShinDengen

D5FY60K

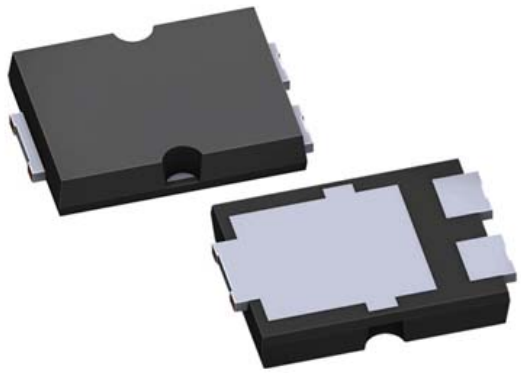
Fast Recovery Diodes
600V, 5A

Feature

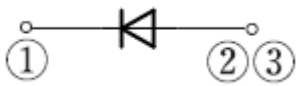
- Permit high current with a small package
- High Voltage
- High Recovery Speed
- Based on AEC-Q101
- Halogen free
- Pb free terminal
- RoHS:Yes

OUTLINE

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



Equivalent circuit



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

Item	Symbol	Conditions	Ratings	Unit
Storage temperrature	Tstg		-55 to 175	℃
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=130℃ ※	5	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On alumina substrate, Ta=25℃ ※	2	A
Average forward current	I_F(AV)	50Hz sine wave, Resistance load, On glass-epoxy substrate, Ta=25℃ ※	1.9	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive 1 cycle, Peak value, Tj=25℃	200	A
Surge forward current	I_{FSM1}	tp=1ms, Sine wave, Non-repetitive, Peak value, Tj=25℃	390	A

※ ：See the original Specifications

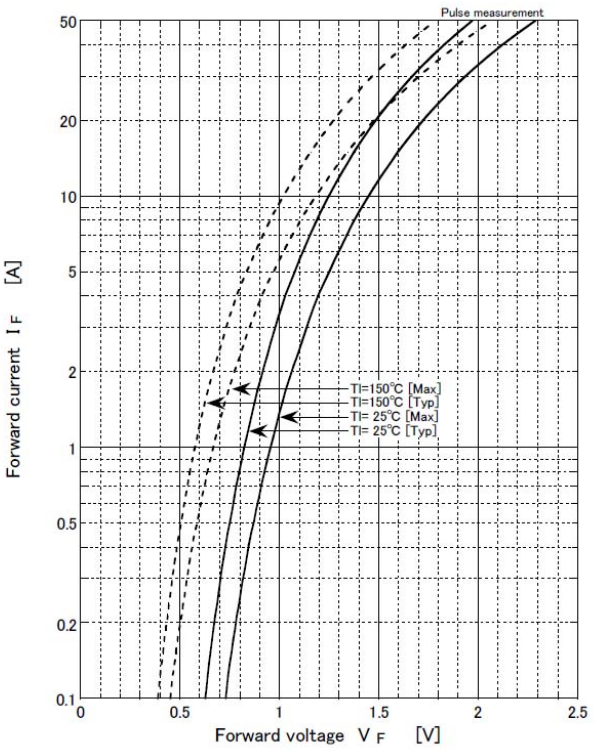
Electrical Characteristics (unless otherwise specified : Tl=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=5A, Pulse measurement			1.25	V
Reverse current	I_R	VR=600V, Pulse measurement			10	μA
Reverse recovery time	trr	IF=0.5A, IR=1.0A, 0.25IR			95	ns
Total capacitance	Ct	f=1MHz, VR=10V		60		pF
Thermal resistance	Rth(j-l)	Junction to lead, With heatsink ※			2.8	°C/W
Thermal resistance	Rth(j-a)	Junction to ambient, On alumina substrate ※			60	°C/W
Thermal resistance	Rth(j-a)	Junction to ambient, On glass-epoxy substrate ※			65	°C/W

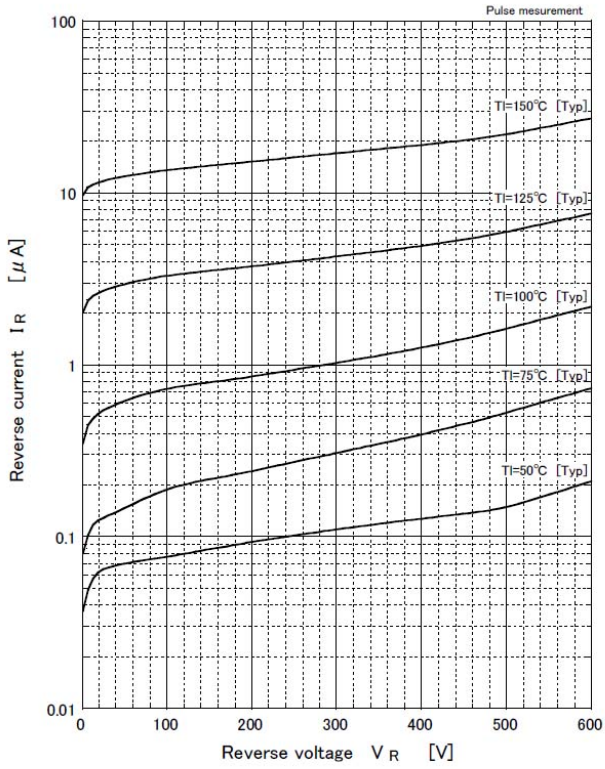
※ :See the original Specifications

CHARACTERISTIC DIAGRAMS

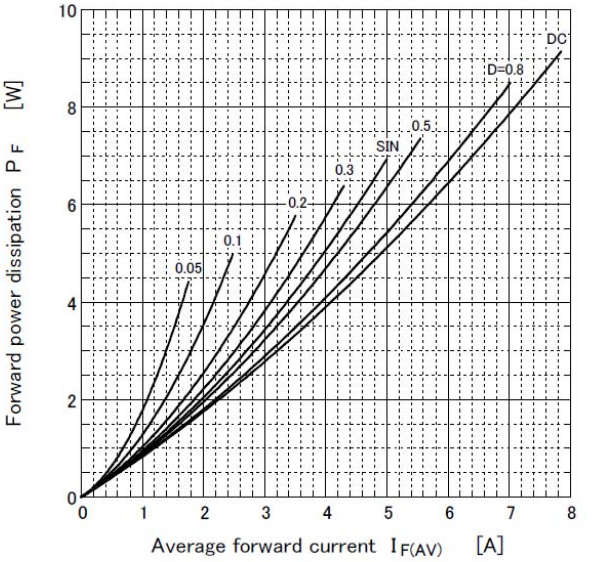
Forward voltage



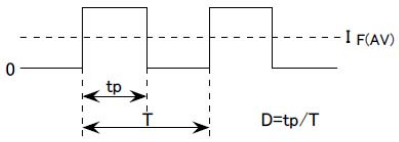
Reverse current



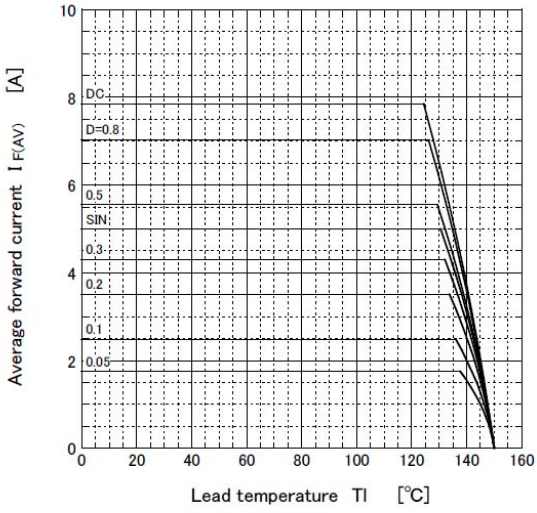
Forward power dissipation



●Tj =150℃



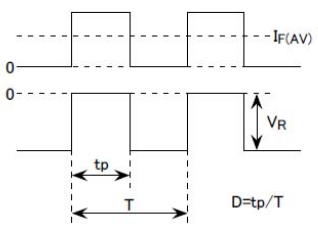
Derating curve



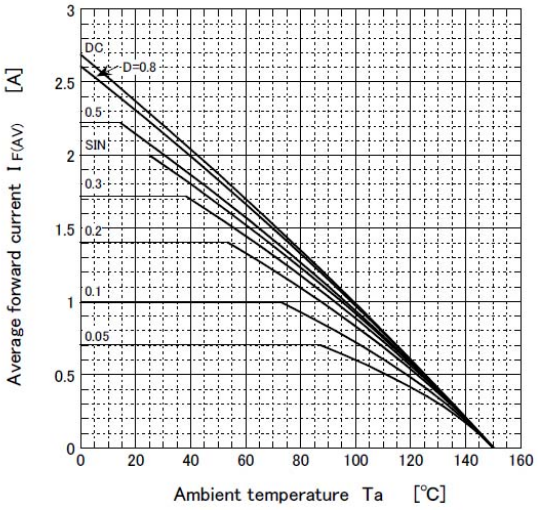
●V_R = 600V
R-load
With heatsink

●Substrate detail

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



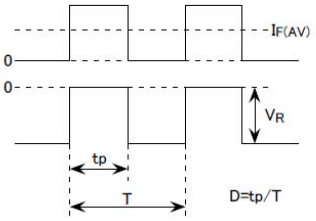
Derating curve



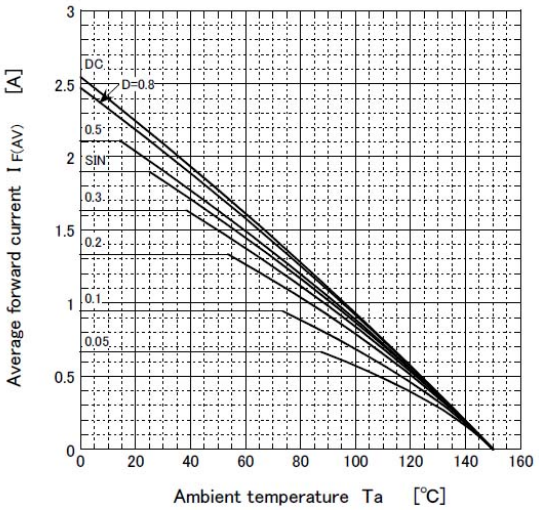
●V_R = 600V
R-load
Free in air

●Substrate detail

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



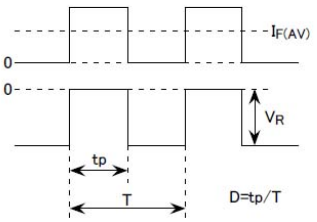
Derating curve



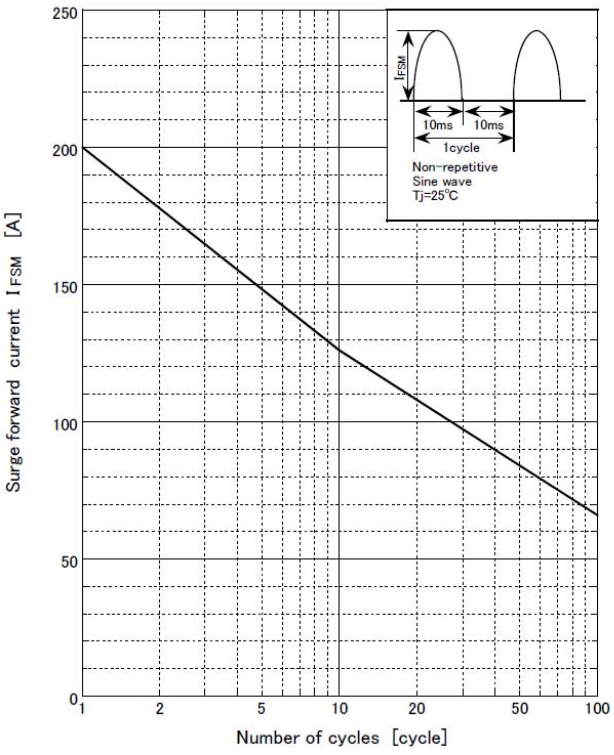
●V_R = 600V
R-load
Free in air

●Substrate detail

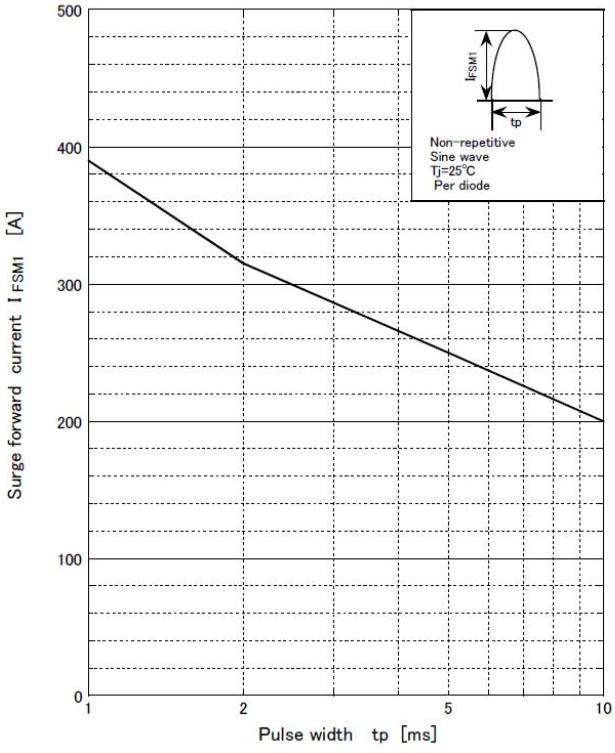
Item	
Substrate	Glass-epoxy
Substrate thickness	1mm
Conductor thickness	35μm
Pattern area	400mm²



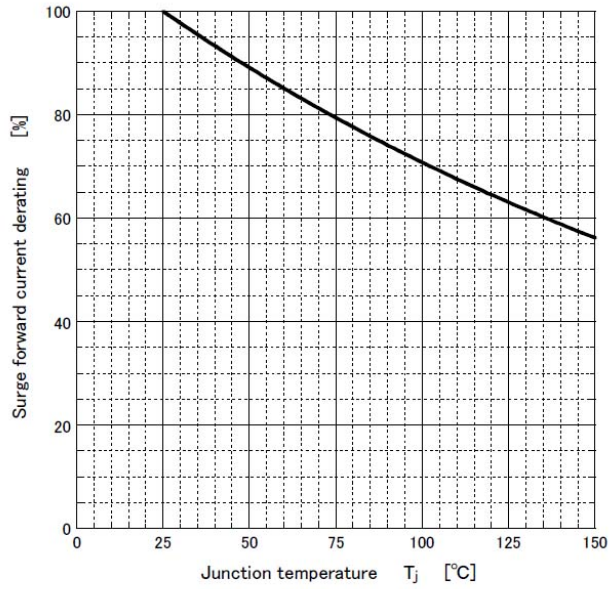
Surge forward current capability



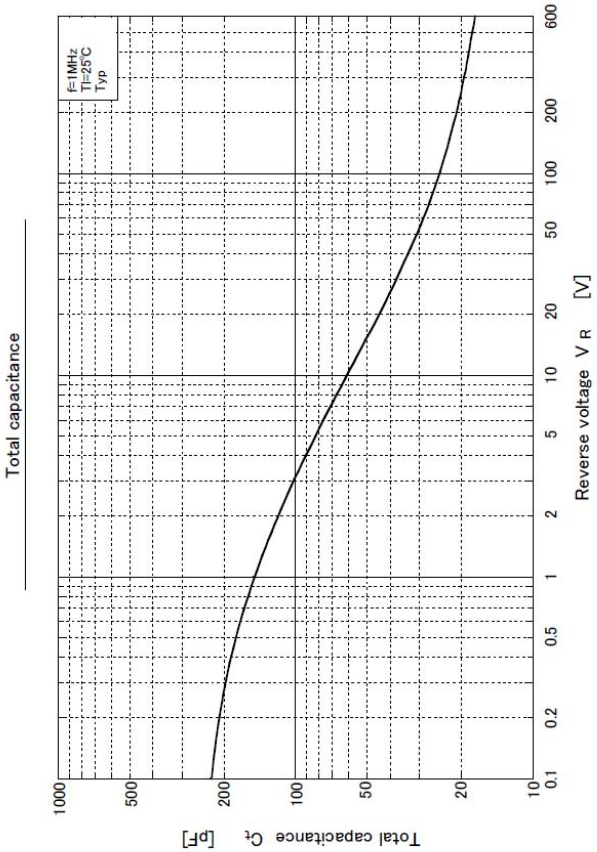
Surge forward current capability



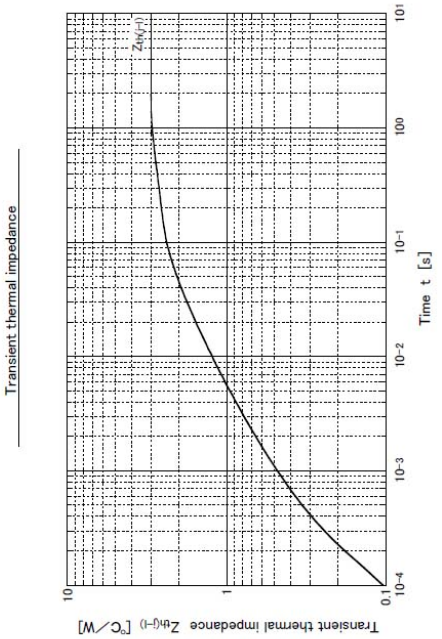
Surge forward current derating
vs Junction temperature



Total capacitance



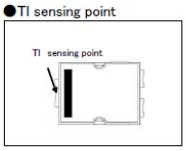
Transient thermal impedance



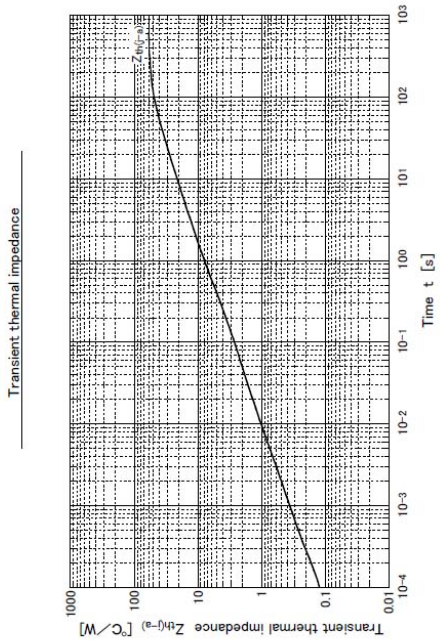
●Substrate detail

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

●Tl sensing point



Transient thermal impedance



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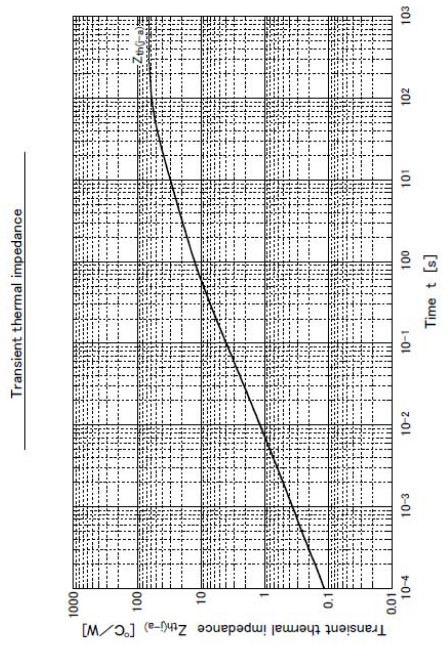


●Substrate detail

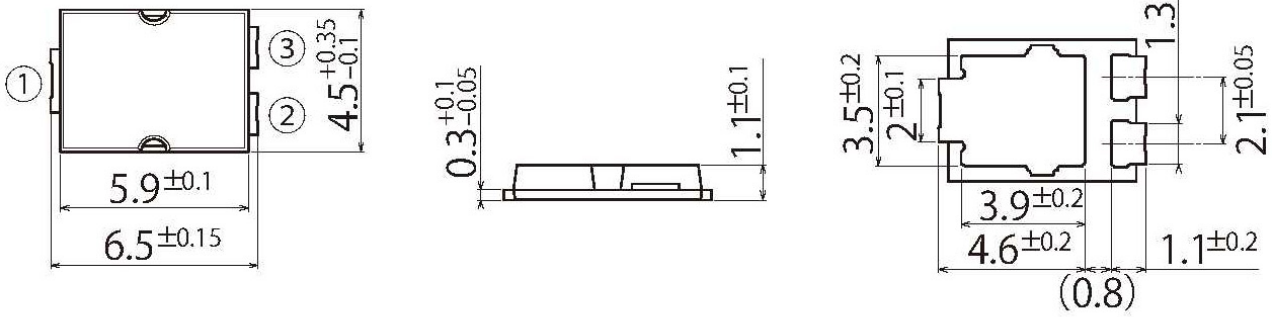
Item	
Substrate	Glass-epoxy
Substrate thickness	1mm
Conductor thickness	35μm
Pattern area	400mm²

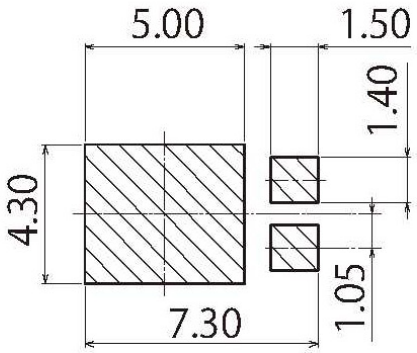
Outline Dimensions

unit:mm

G4

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





Referential Soldering Pad

Notes

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