

D10FY6ST

Schottky Barrier Diodes

60V, 10A

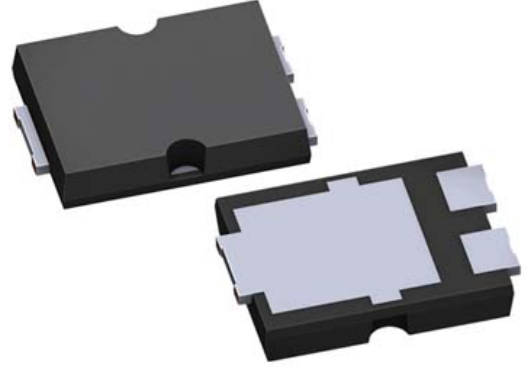
Feature

- Permit high current with a small package
- $T_j=175^{\circ}\text{C}$
- 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 : $T_I=25^{\circ}\text{C}$)

Item	Symbol	Conditions	Ratings	Unit
Storage temperature	T_{stg}		-55 to 175	$^{\circ}\text{C}$
Junction temperature	T_j		-55 to 175	$^{\circ}\text{C}$
Repetitive peak reverse voltage	V_{RRM}		60	V
Average forward current	$I_F(AV)$	50Hz sine wave, Resistance load, With heatsink, $T_I=154^{\circ}\text{C}$ *	10	A
Average forward current	$I_F(AV)$	50Hz sine wave, Resistance load, On alumina substrate, $T_a=25^{\circ}\text{C}$ *	4.1	A
Average forward current	$I_F(AV)$	50Hz sine wave, Resistance load, On glass-epoxy substrate, $T_a=25^{\circ}\text{C}$ *	3.9	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive, 1 cycle, Peak value, $T_j=25^{\circ}\text{C}$	230	A

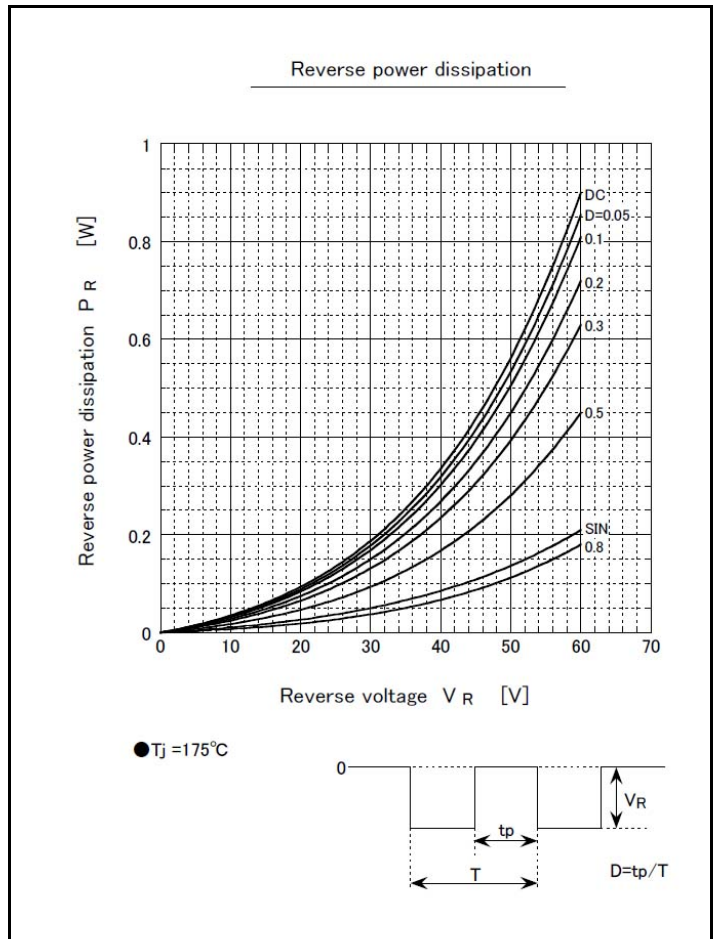
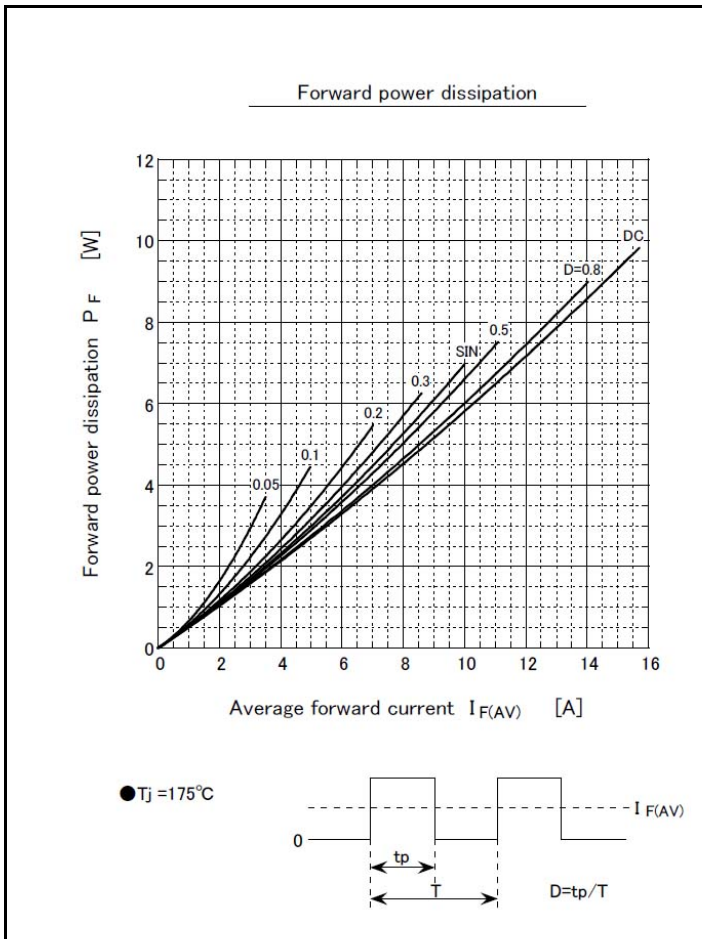
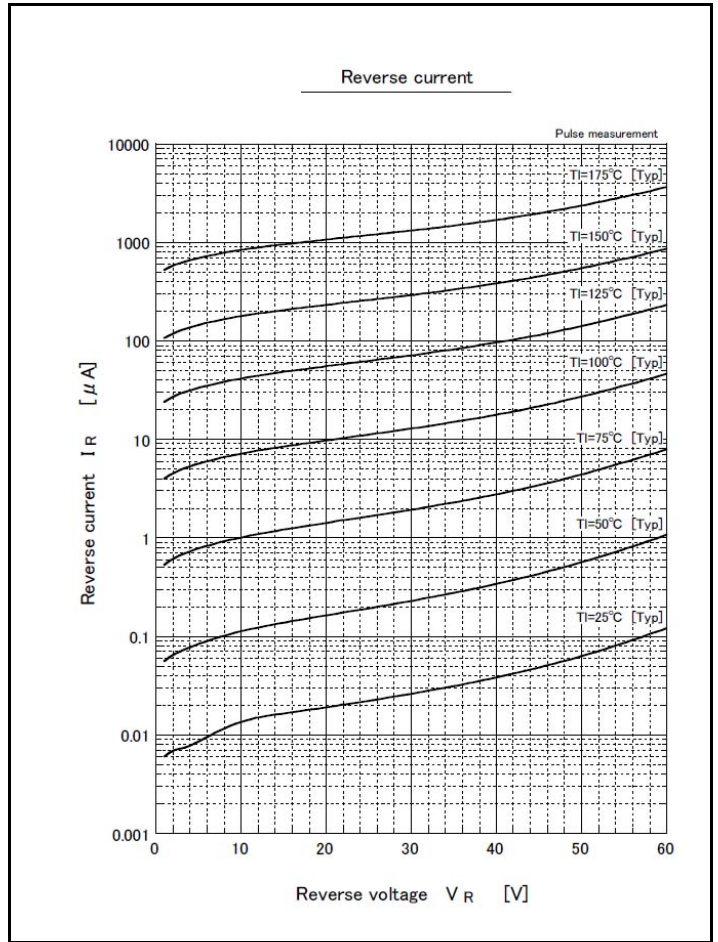
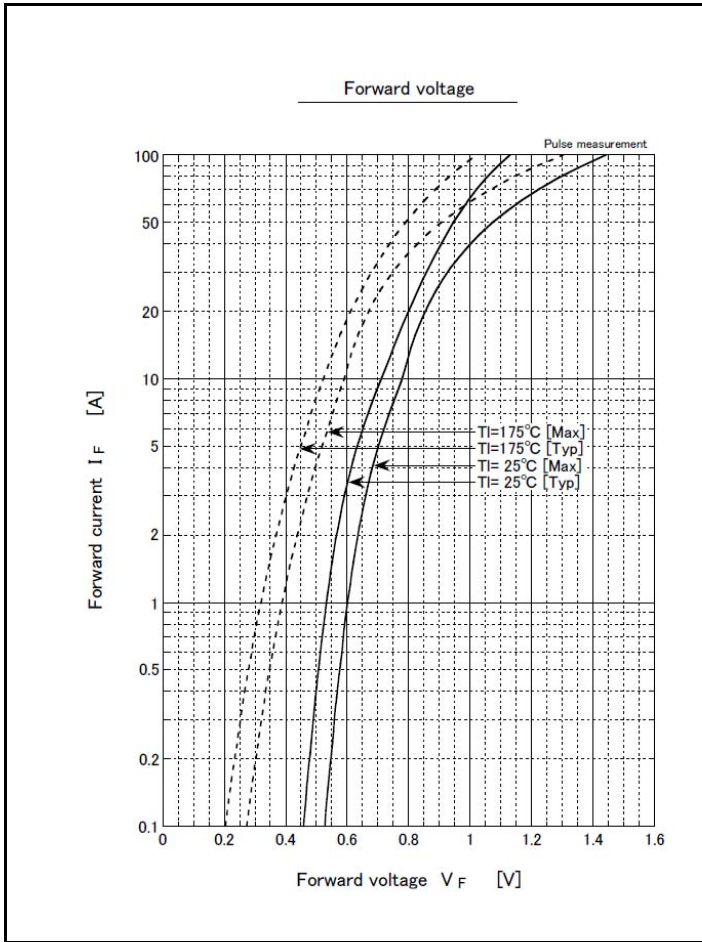
* : See the original Specifications

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

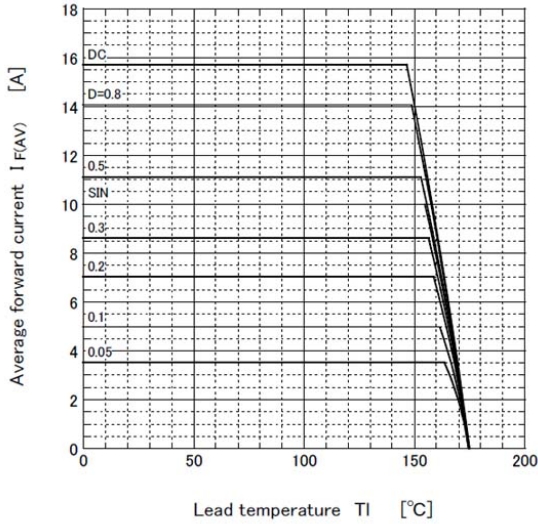
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=10A, Pulse measurement			0.78	V
Reverse current	I_R	VR=60V, Pulse measurement			0.03	mA
Total capacitance	C_t	f=1MHz, VR=10V		263		pF
Thermal resistance	Rth(j-l)	Junction to lead, With heatsink *			2.9	°C/W
Thermal resistance	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



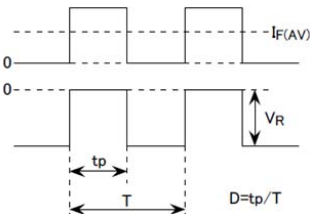
Derating curve



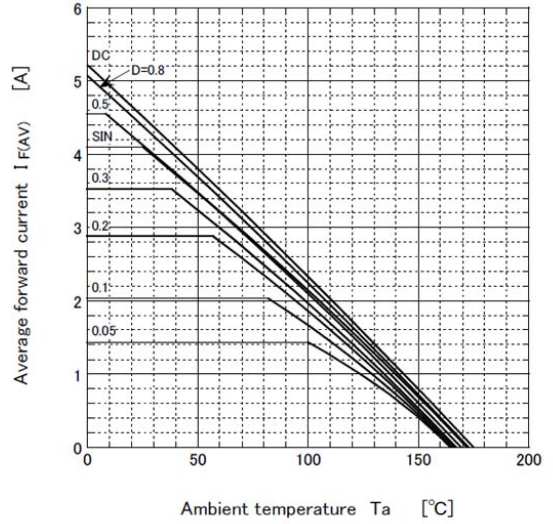
- $V_R = 30V$
R-load
With heatsink

- Substrate detail

Type	Alumina
Size	1 inch ²
Thickness	1mm
Conductor thickness	20 μm
Pattern area	400mm ²



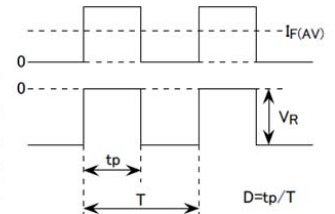
Derating curve



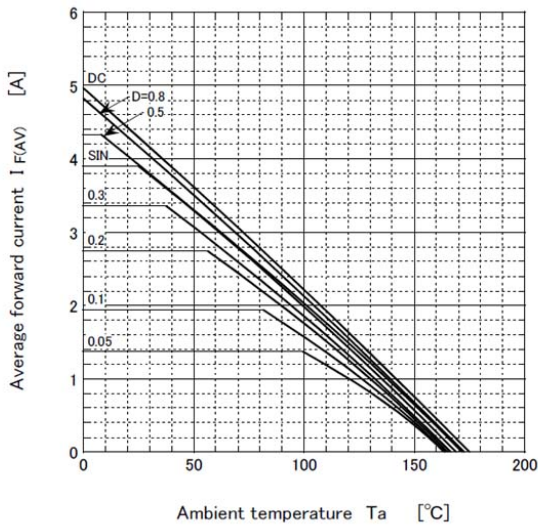
- $V_R = 30V$
R-load
Free in air

- Substrate detail

Type	Alumina
Size	1 inch ²
Thickness	1mm
Conductor thickness	20 μm
Pattern area	400mm ²



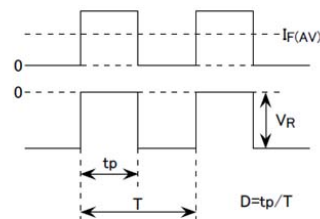
Derating curve



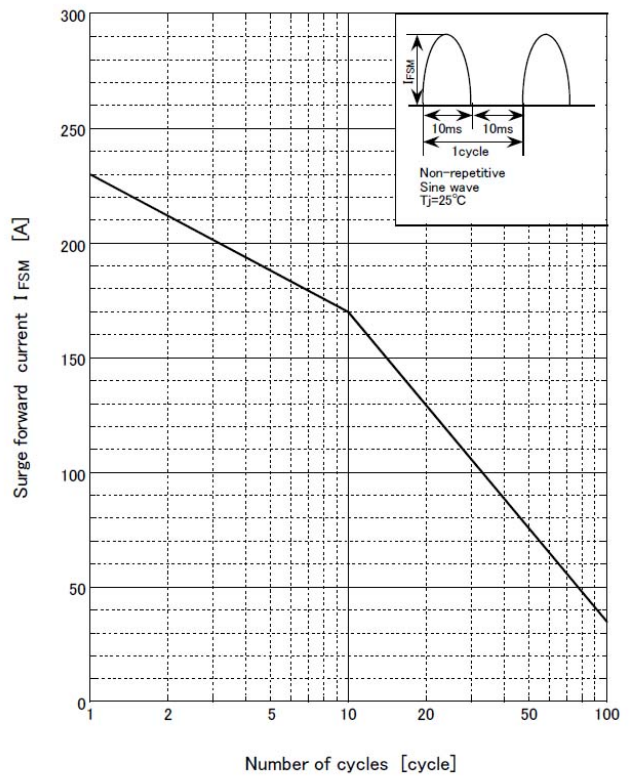
- $V_R = 30V$
R-load
Free in air

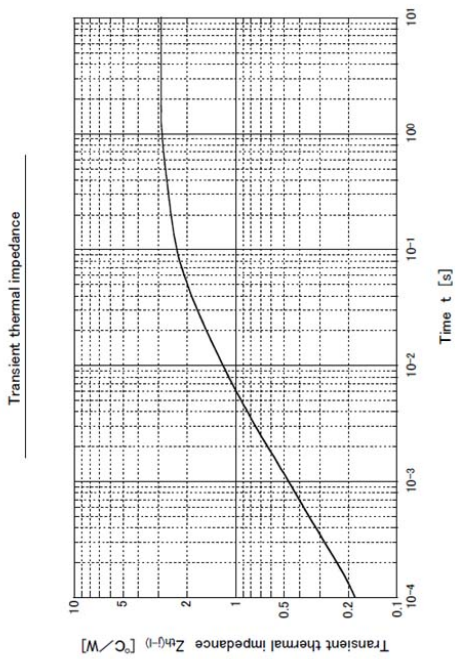
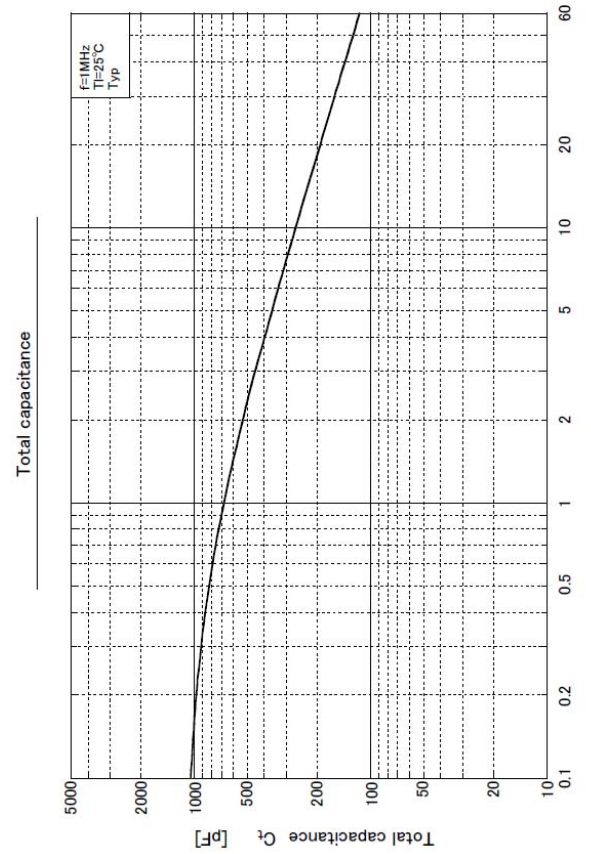
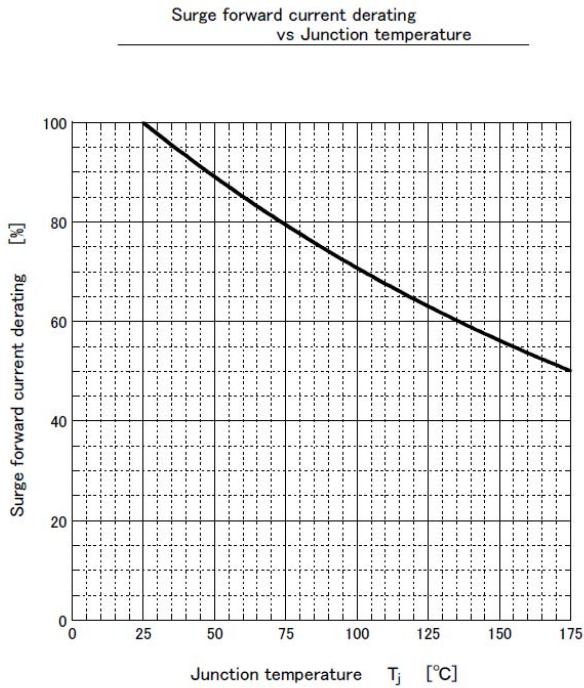
- Substrate detail

Type	Glass-epoxy
Size	1 inch ²
Thickness	1mm
Conductor thickness	35 μm
Pattern area	400mm ²



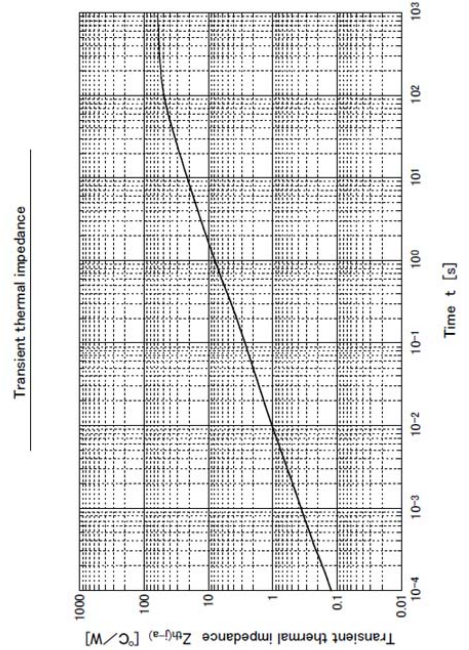
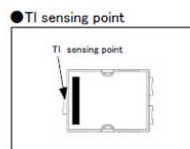
Surge forward current capability





● Substrate detail

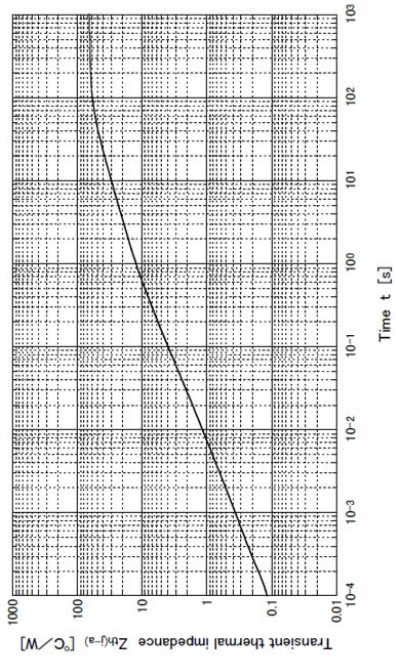
Type	Alumina
Size	1 inch ²
Thickness	1mm
Conductor thickness	20μm
Pattern area	400mm ²



● Substrate detail

Type	Alumina
Size	1 inch ²
Thickness	1mm
Conductor thickness	20μm
Pattern area	400mm ²

Transient thermal impedance

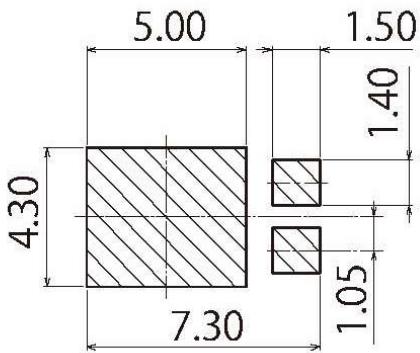
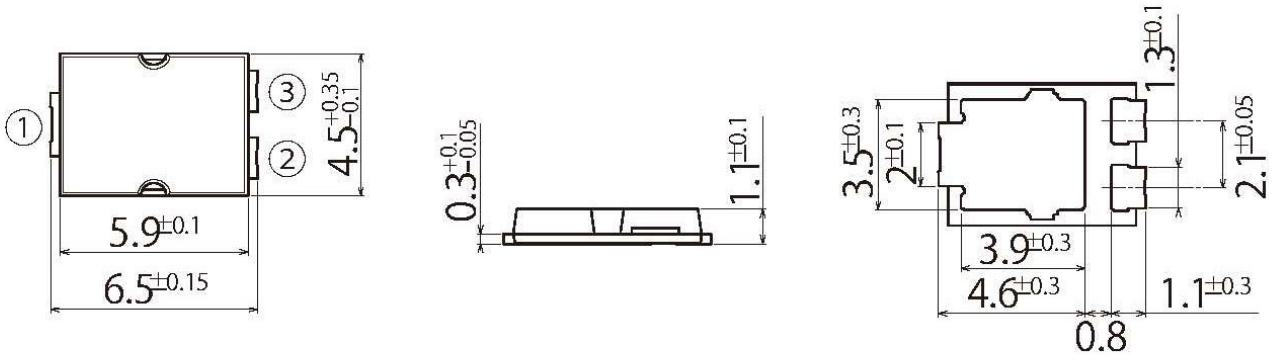


● Substrate detail

Type	Glass-epoxy
Size	1 inch ²
Thickness	1mm
Conductor thickness	35μm
Pattern area	400mm ²

G4

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



Referential Soldering Pad

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

Notes

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