

# D10FY4R5ST

## Schottky Barrier Diodes

45V, 10A

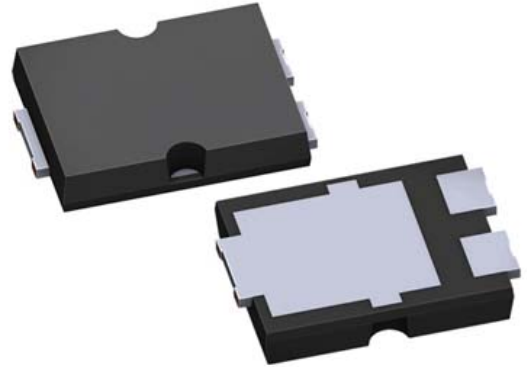
### Feature

- 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

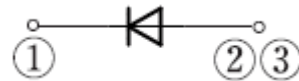
### OUTLINE

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	$V_{RRM}$		45	V
Average forward current	$I_F(AV)$	50Hz sine wave, Resistance load, With heatsink, $T_I=155^{\circ}\text{C}$ *	10	A
Average forward current	$I_F(AV)$	50Hz sine wave, Resistance load, On alumina substrate, $T_a=25^{\circ}\text{C}$ *	4.3	A
Average forward current	$I_F(AV)$	50Hz sine wave, Resistance load, On glass-epoxy substrate, $T_a=25^{\circ}\text{C}$ *	4	A
Surge forward current	$I_{FSM}$	50Hz sine wave, Non-repetitive, 1 cycle, Peak value, $T_j=25^{\circ}\text{C}$	250	A

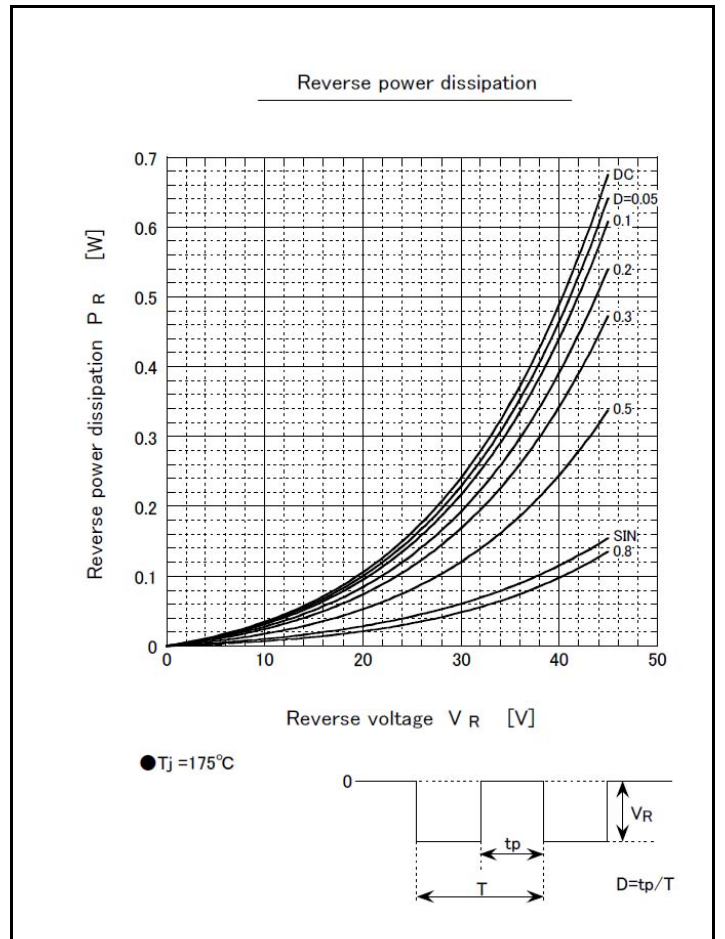
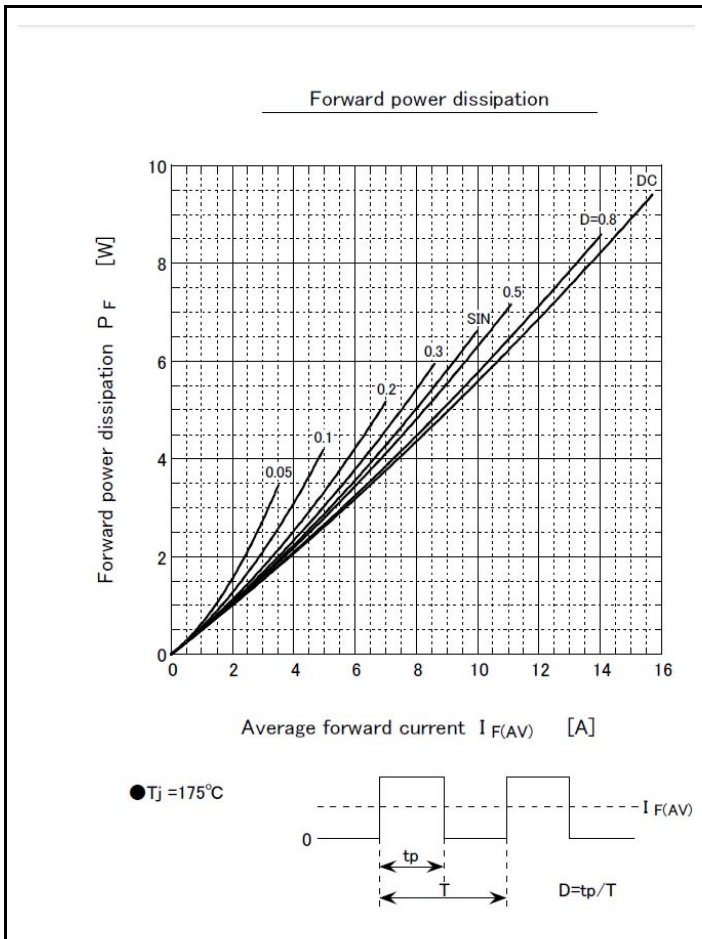
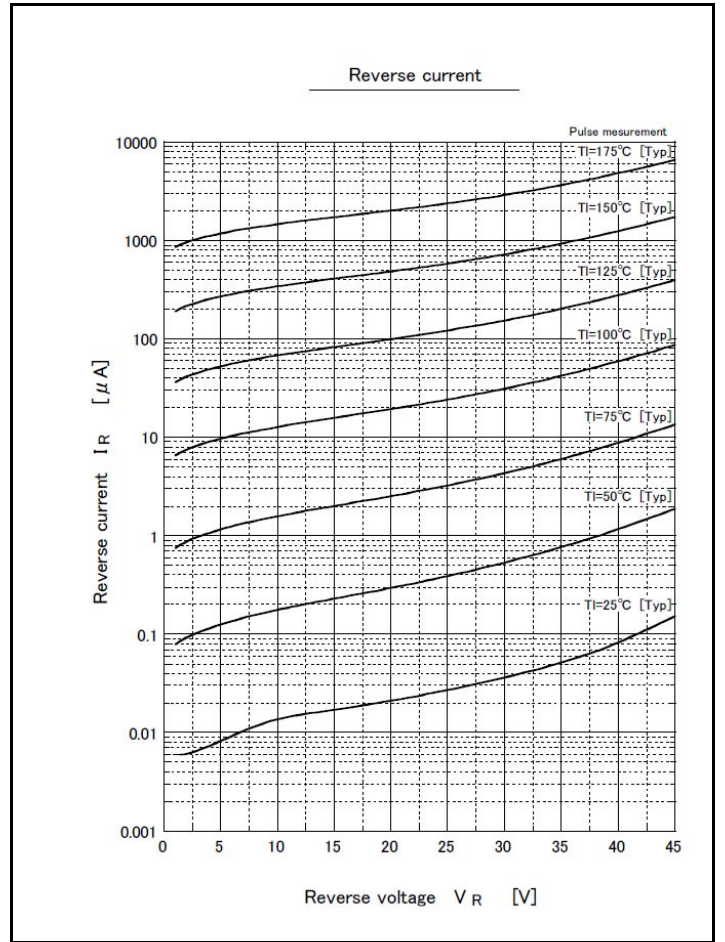
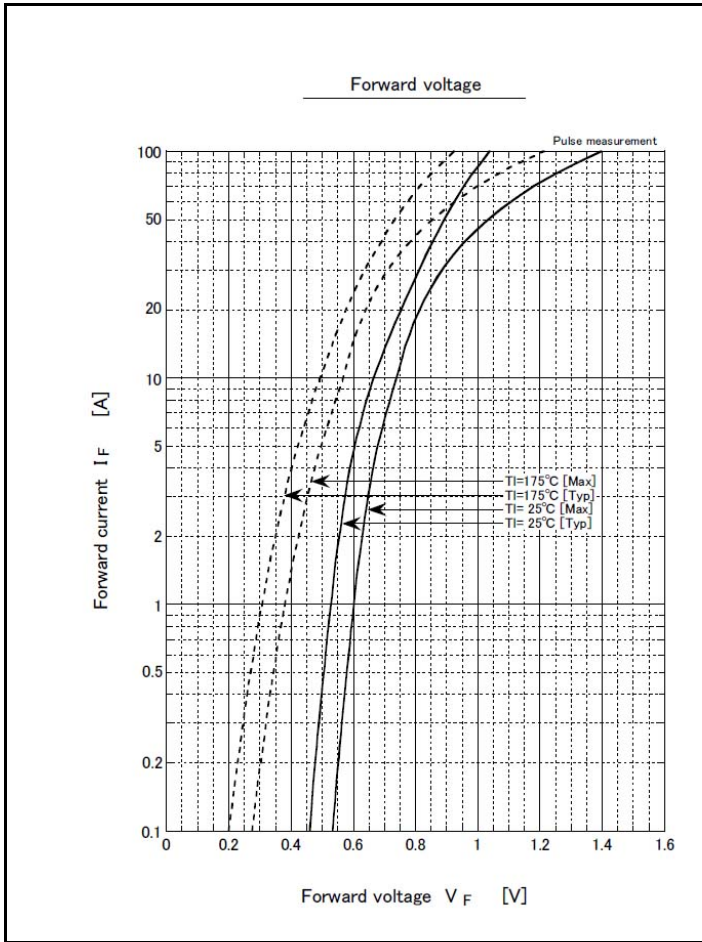
\* : See the original Specifications

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

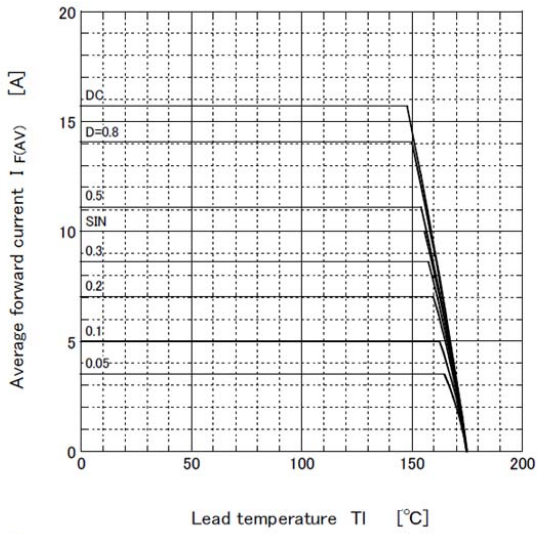
Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	$V_F$	IF=10A, Pulse measurement			0.74	V
Reverse current	$I_R$	VR=45V, Pulse measurement			0.03	mA
Total capacitance	$C_t$	f=1MHz, VR=10V		330		pF
Thermal resistance	Rth(j-l)	Junction to lead, With heatsink *			2.9	°C/W
Thermal resistance	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



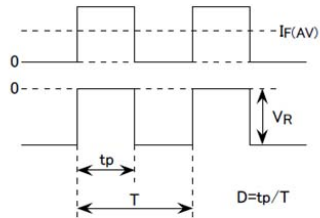
●  $V_R = 22.5V$

R-load  
With heatsink

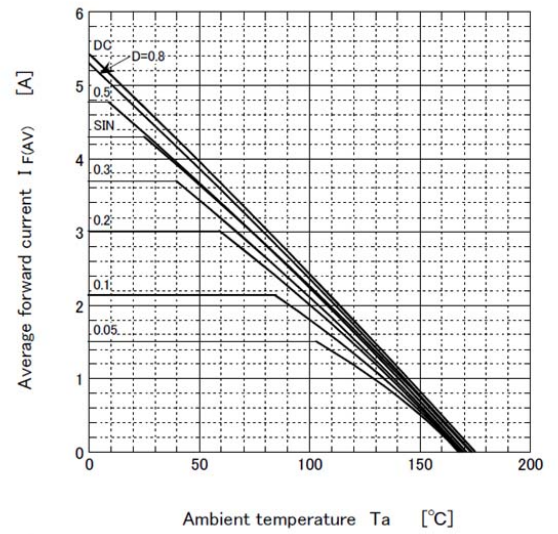
●

Substrate detail

Item	
Substrate	Alumina
Substrate thickness	1mm
Conductor thickness	20 $\mu m$
Pattern area	400mm <sup>2</sup>



Derating curve



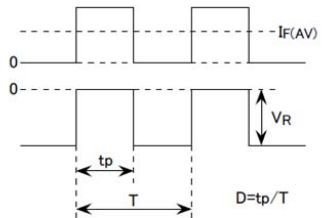
●  $V_R = 22.5V$

R-load  
Free in air

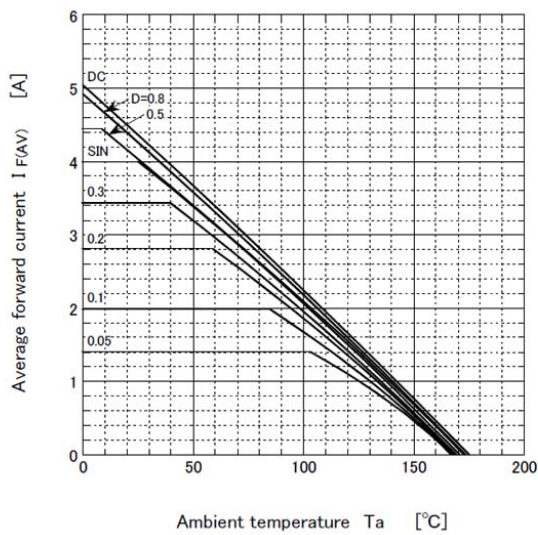
●

Substrate detail

Item	
Substrate	Alumina
Substrate thickness	1mm
Conductor thickness	20 $\mu m$
Pattern area	400mm <sup>2</sup>



Derating curve



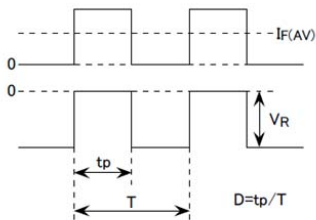
●  $V_R = 22.5V$

R-load  
Free in air

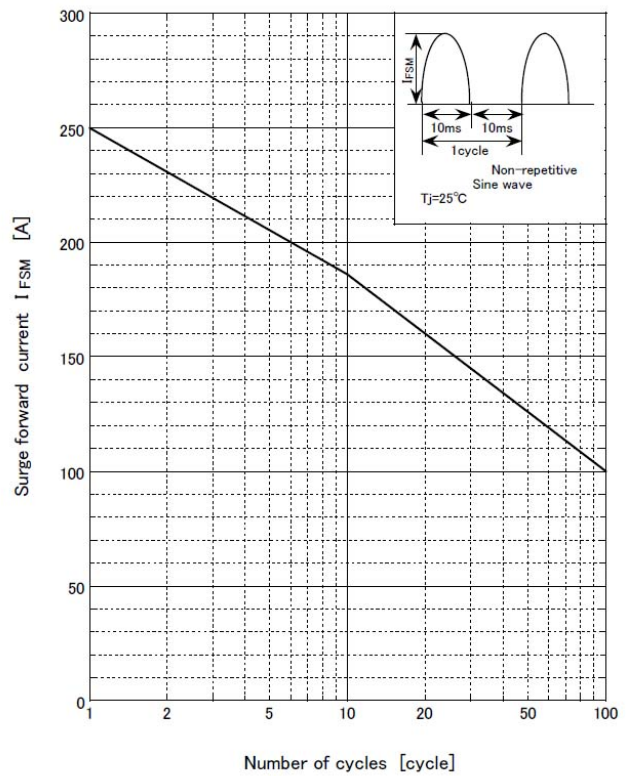
●

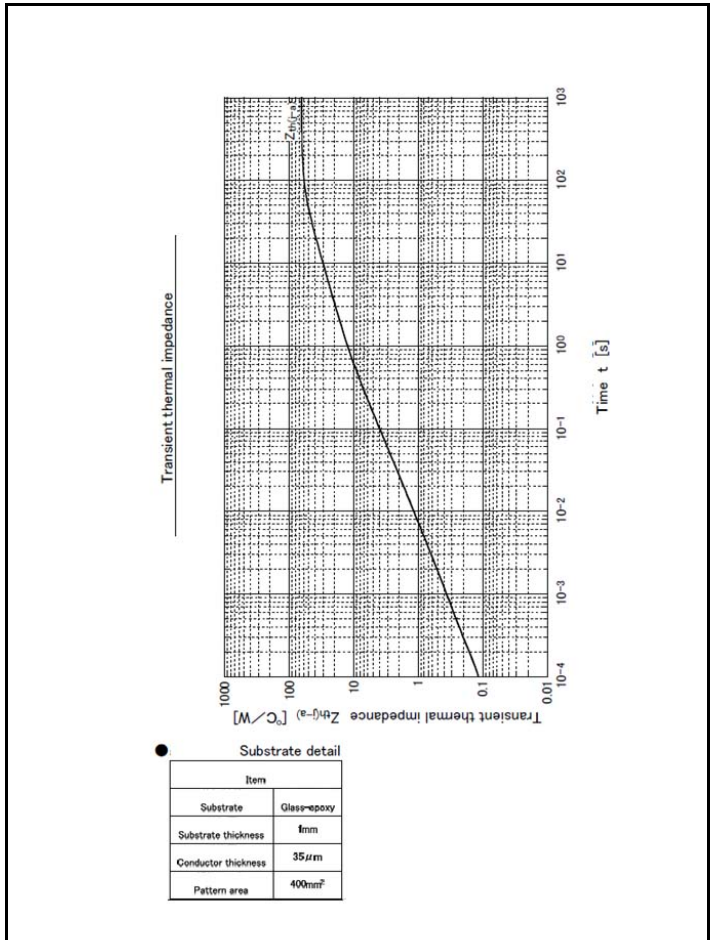
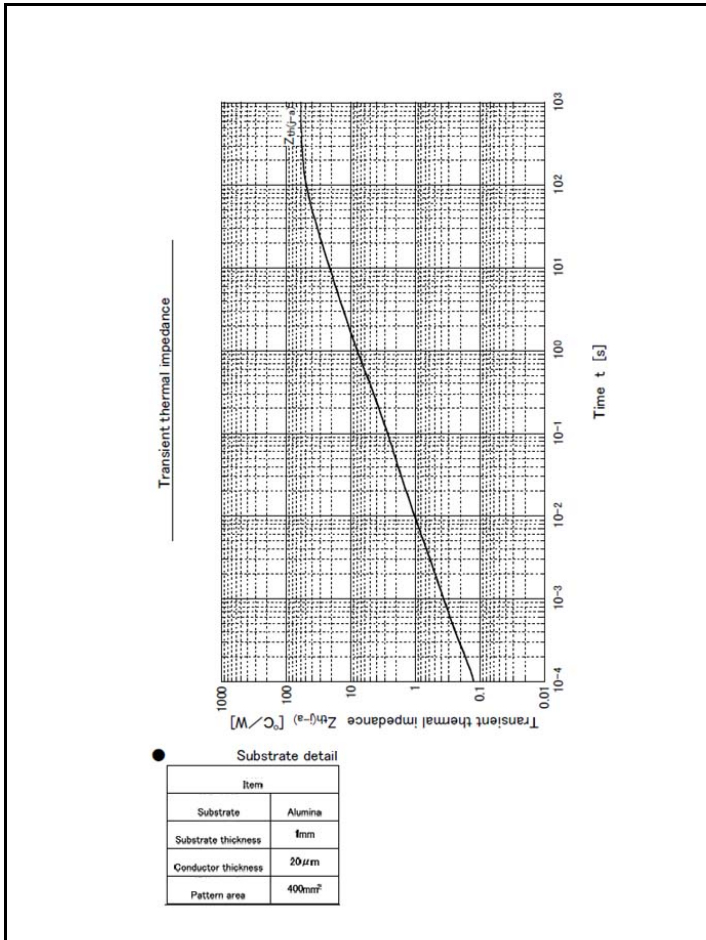
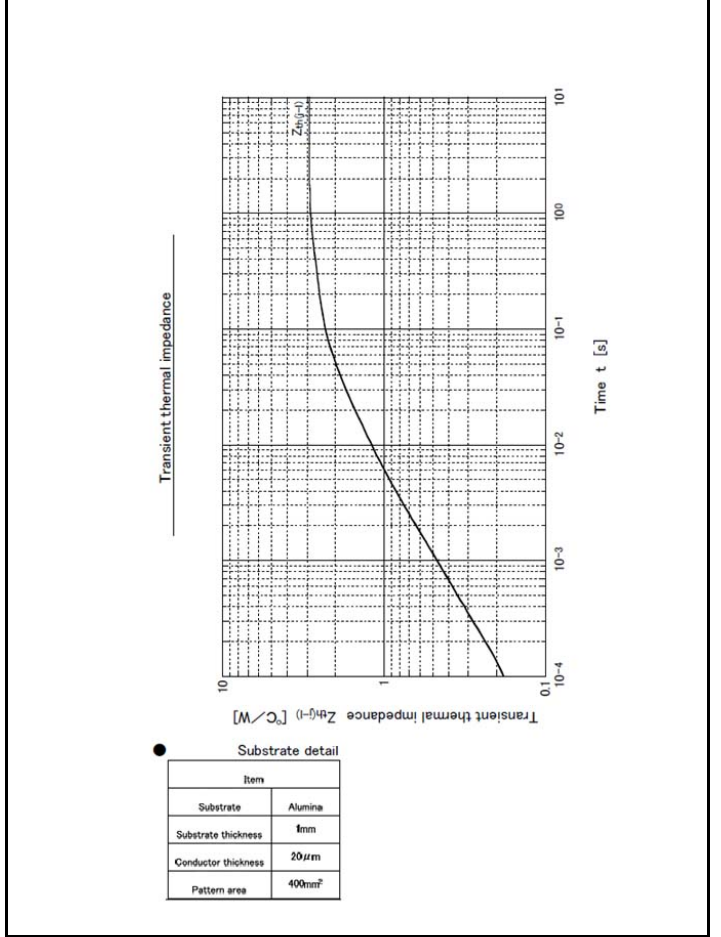
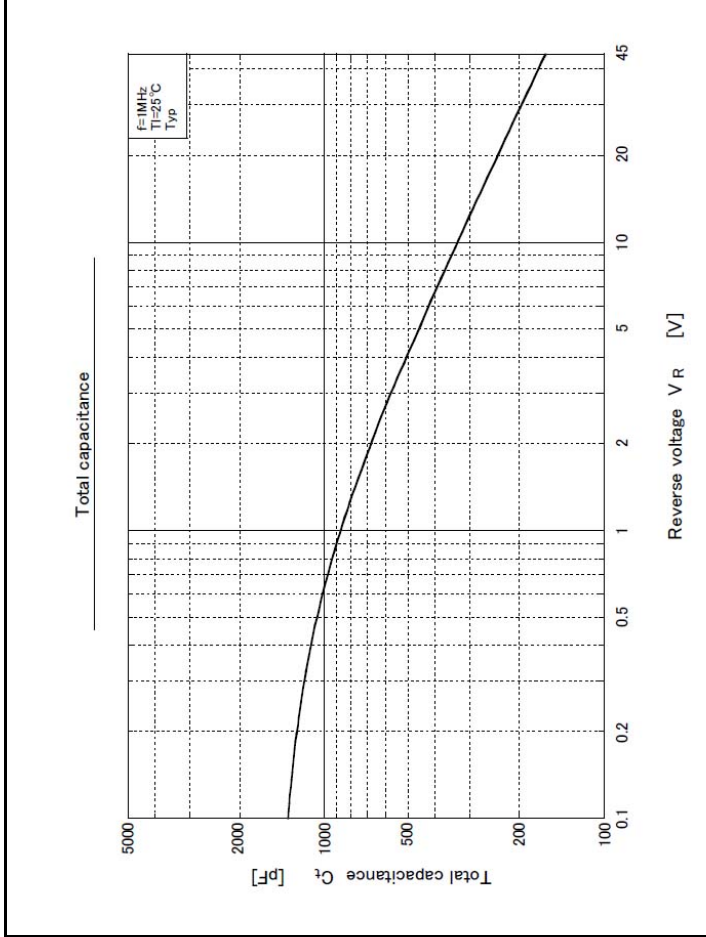
Substrate detail

Item	
Substrate	Glass-epoxy
Substrate thickness	1mm
Conductor thickness	35 $\mu m$
Pattern area	400mm <sup>2</sup>



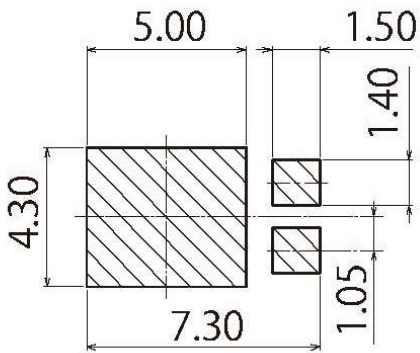
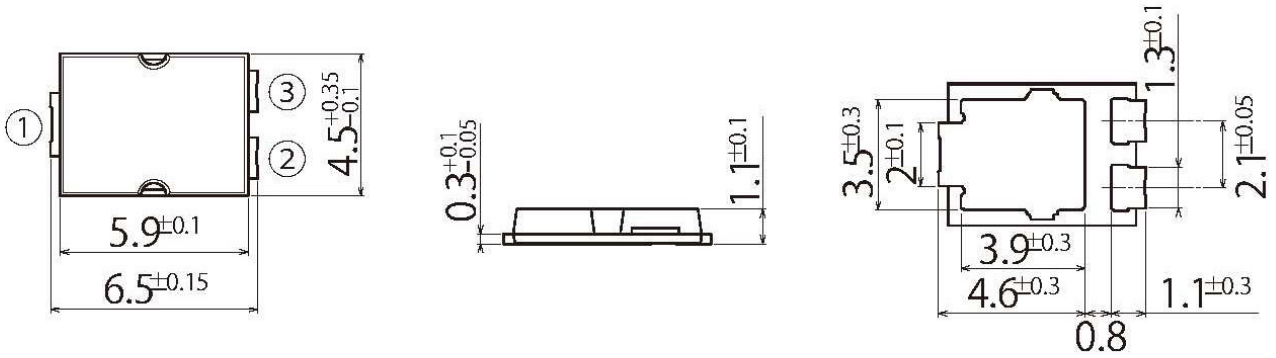
Surge forward current capability





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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