

D15FY4R5SY

Schottky Barrier Diodes

45V, 15A

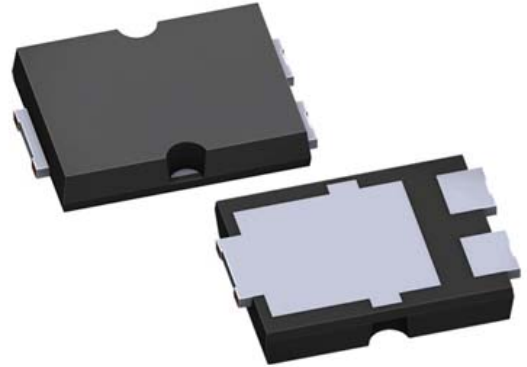
Feature

- Permit high current with a small package
- Low V_F
- 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 150	$^{\circ}\text{C}$
Repetitive peak reverse voltage	V_{RRM}		45	V
Average forward current	$I_F(AV)$	50Hz sine wave, Resistance load, With heatsink, $T_I=116^{\circ}\text{C}$ *	15	A
Average forward current	$I_F(AV)$	50Hz sine wave, Resistance load, On alumina substrate, $T_a=25^{\circ}\text{C}$ *	3.8	A
Average forward current	$I_F(AV)$	50Hz sine wave, Resistance load, On glass-epoxy substrate, $T_a=25^{\circ}\text{C}$ *	3.5	A
Surge forward current	I_{FSM}	50Hz sine wave, Non-repetitive, 1 cycle, Peak value, $T_j=25^{\circ}\text{C}$	310	A

* : See the original Specifications

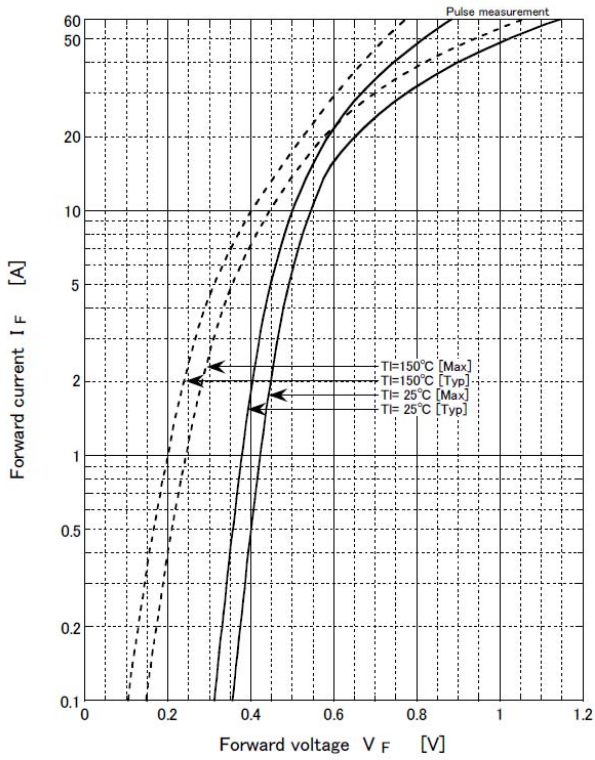
Electrical Characteristics (unless otherwise specified : Tl=25°C)

Item	Symbol	Conditions	Ratings			Unit
			MIN	TYP	MAX	
Forward voltage	V_F	IF=15A, Pulse measurement			0.59	V
Reverse current	I_R	VR=45V, Pulse measurement			0.5	mA
Total capacitance	C_t	f=1MHz, VR=10V		410		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

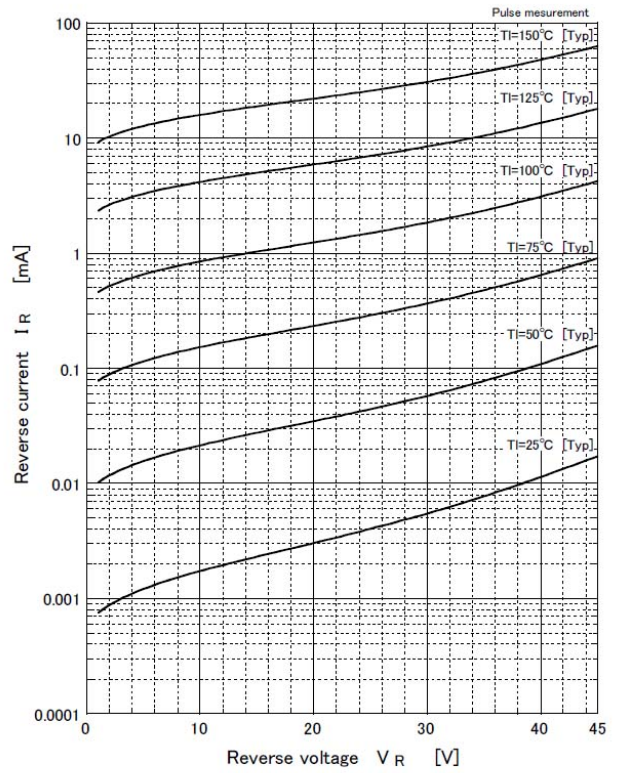
※ :See the original Specifications

CHARACTERISTIC DIAGRAMS

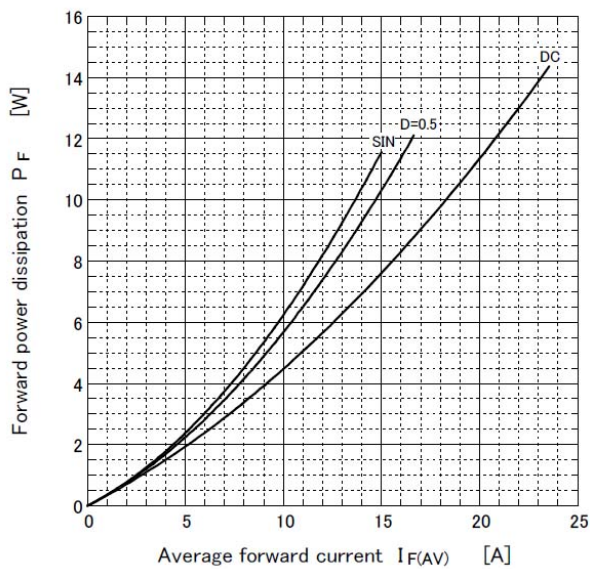
Forward voltage



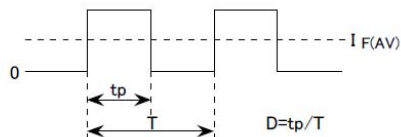
Reverse current



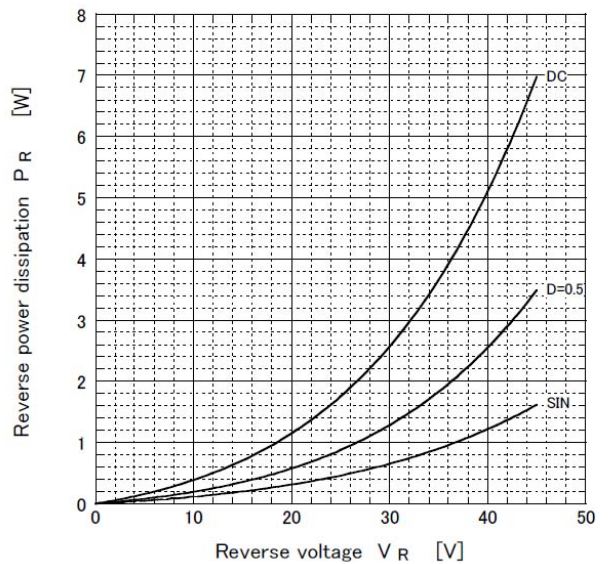
Forward power dissipation



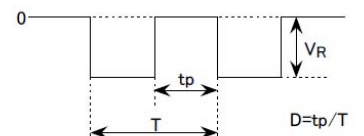
● $T_J = 150^\circ\text{C}$



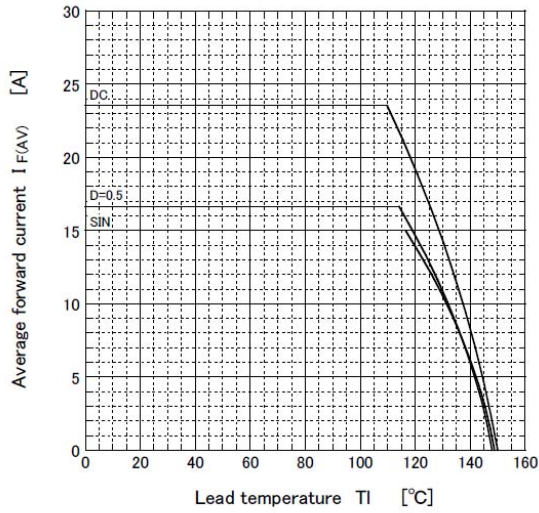
Reverse power dissipation



● $T_J = 150^\circ\text{C}$

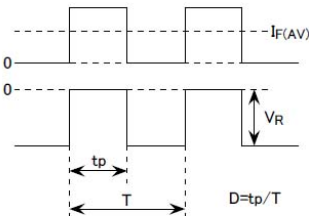


Derating curve

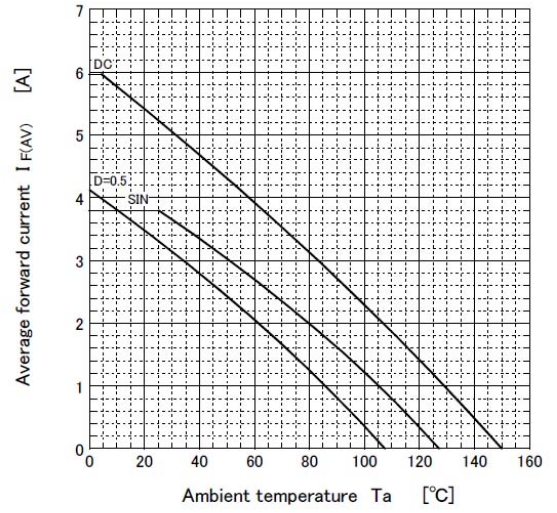


- $V_R = 22.5V$
R-load
With heatsink
- Substrate detail

Item	
Substrate	Alumina
Substrate thickness	1mm
Conductor thickness	20 μ m
Pattern area	400mm ²

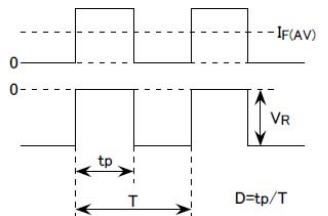


Derating curve

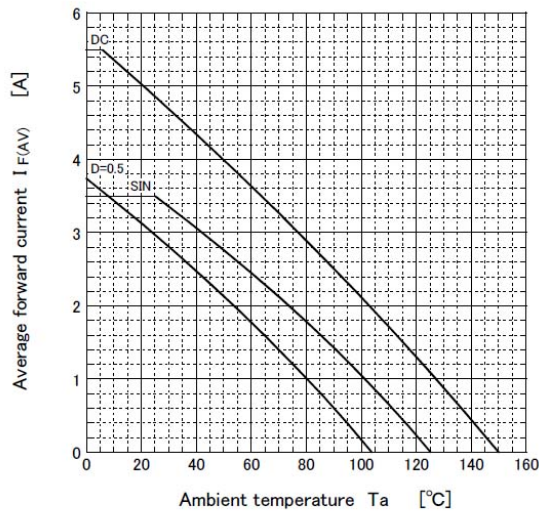


- $V_R = 22.5V$
R-load
Free in air
- Substrate detail

Item	
Substrate	Alumina
Substrate thickness	1mm
Conductor thickness	20 μ m
Pattern area	400mm ²

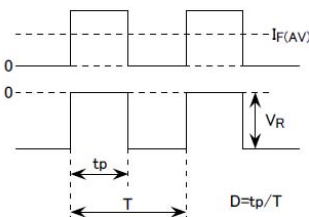


Derating curve

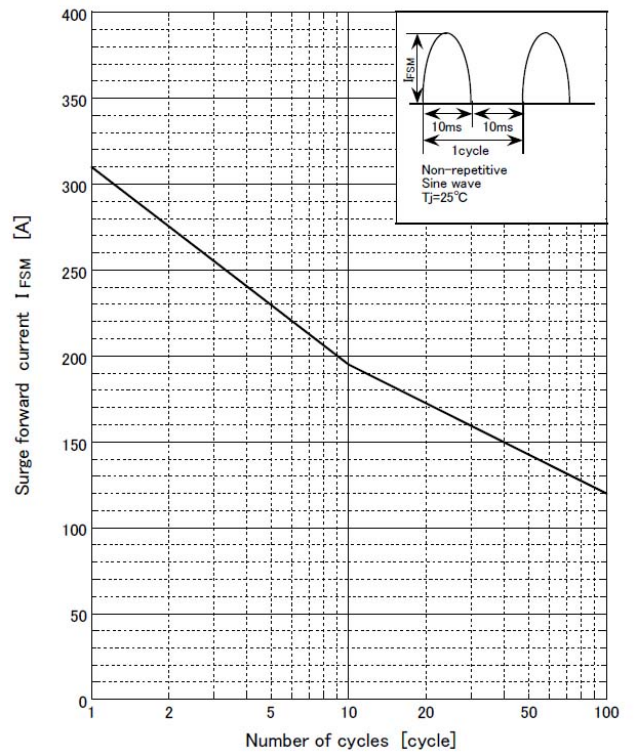


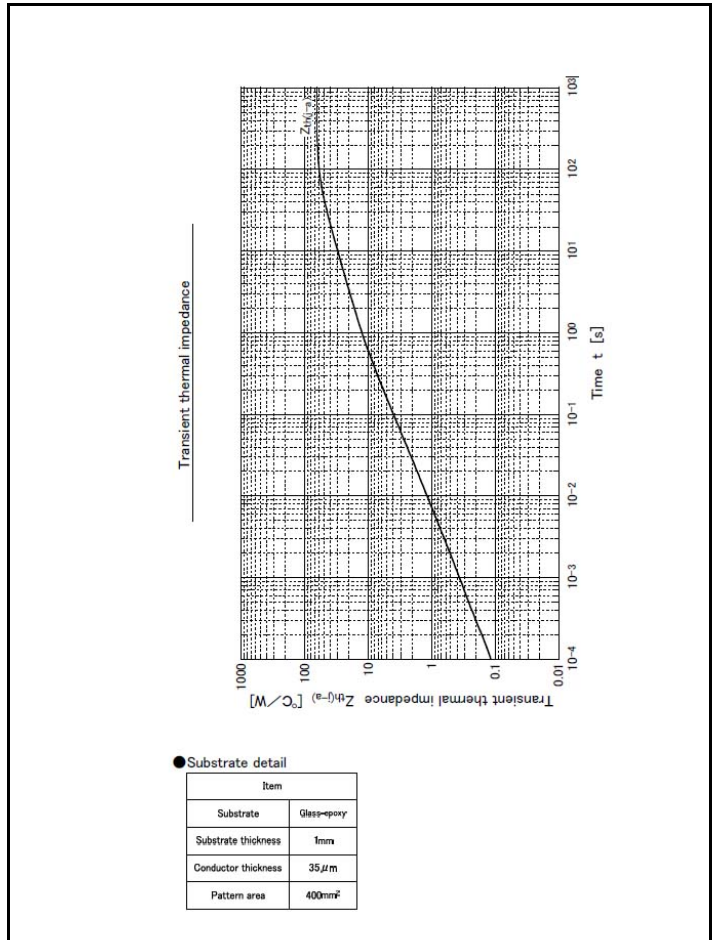
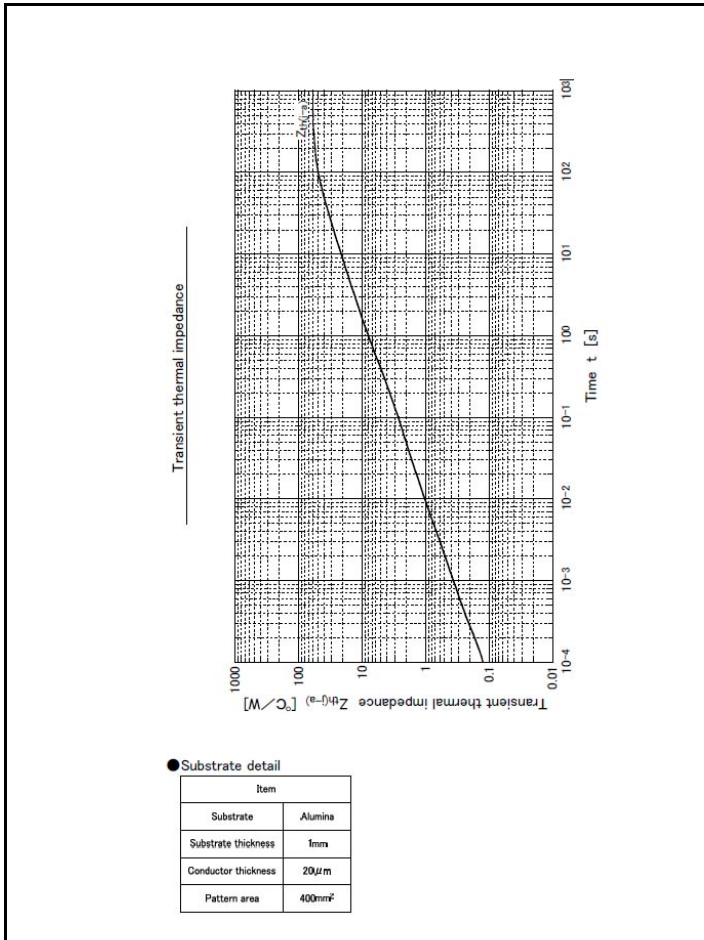
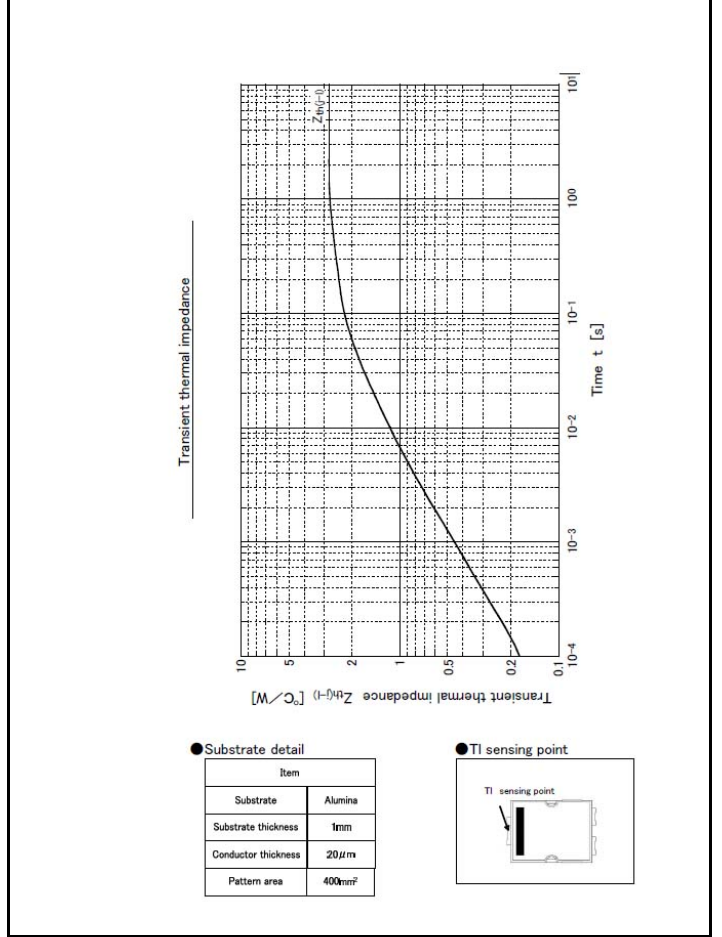
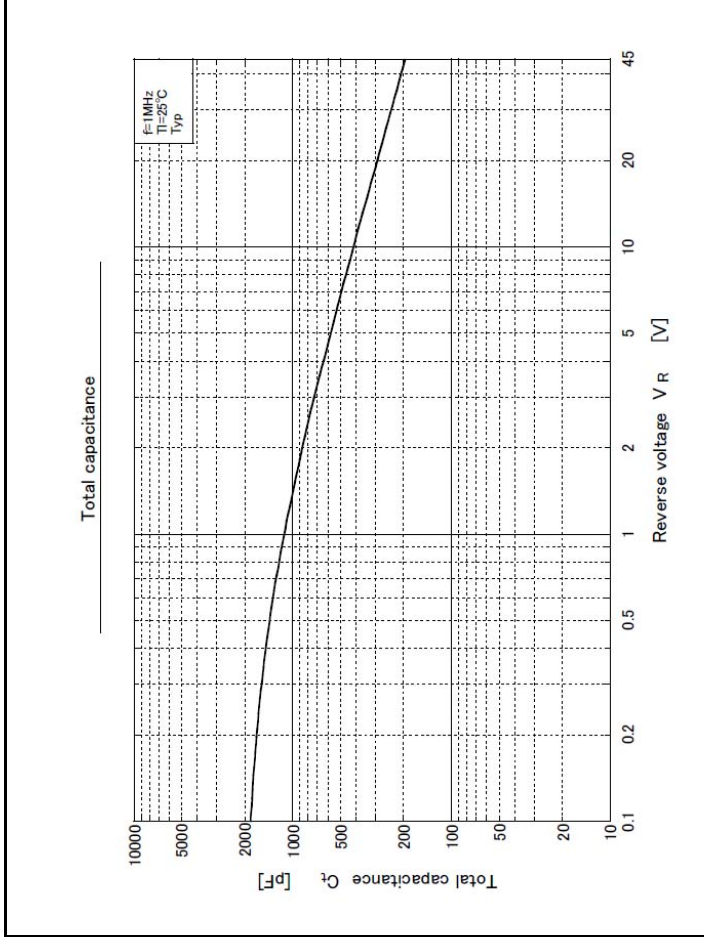
- $V_R = 22.5V$
R-load
Free in air
- Substrate detail

Item	
Substrate	Glass-epoxy
Substrate thickness	1mm
Conductor thickness	35 μ m
Pattern area	400mm ²



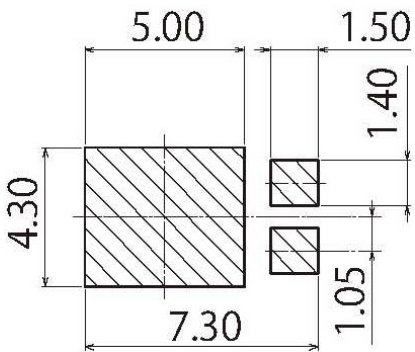
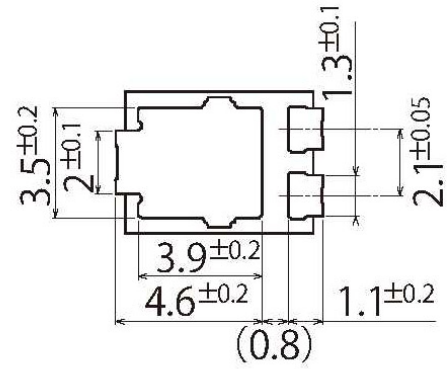
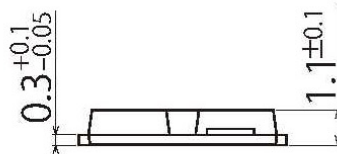
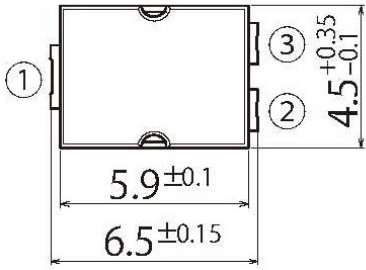
Surge forward current capability





G4

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



Referential Soldering Pad

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