

**Ultra Fast Recovery Diode** 

### **Applications**

- High speed switching and rectification
- Switching mode power supply

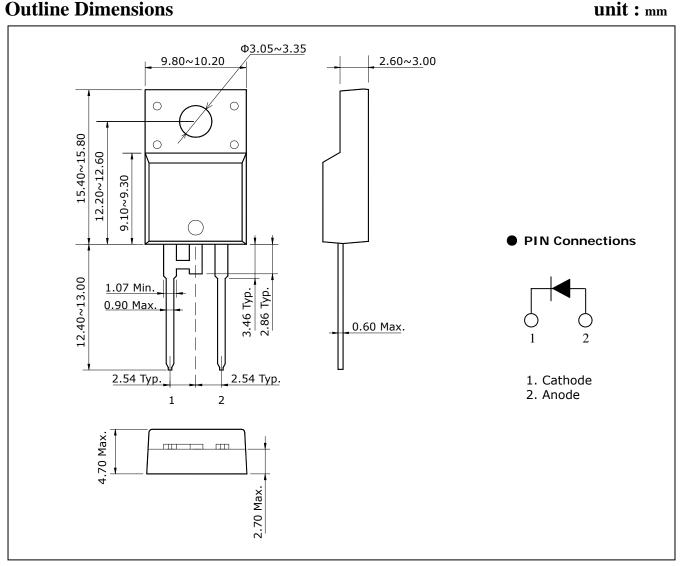
#### **Features**

- Ultra-fast reverse recovery time: t<sub>rr</sub>=50ns Max.
- Low forward voltage & low reverse current
- Low switching loss

### **Ordering Information**

Type No.	Marking	Package Code	
SF10A400H	SF10A400H	TO-220F-2L	

### **Outline Dimensions**



**Absolute Maximum Ratings** 

[Ta=25°C]

Characteristic	Symbol	Rating	Unit
Repetitive peak reverse voltage	$V_{RRM}$	400	V
Average rectified output current	I <sub>O</sub>	10	А
Peak forward surge current (Non-repetitive 60Hz sine wave)	$I_{FSM}$	120	А
Junction temperature	Tı	150	°C
Storage temperature range	$T_{stg}$	-45 ~ 150	°C

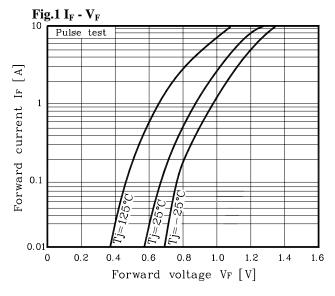
## **Electrical Characteristics**

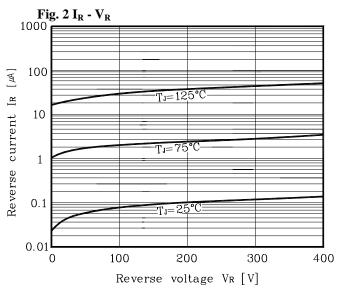
[Ta=25°C]

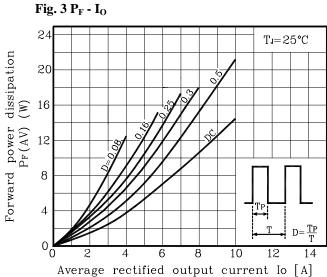
Characteristic	Symbol	Test Condition	Min.	Тур.	Max.	Unit
Peak forward voltage	$V_{FM}^{1)}$	I <sub>F</sub> =10A	-	ı	1.4	V
Repetitive peak reverse current	$I_{RRM}$	V <sub>R</sub> =400V	-	-	20	μA
Reverse recovery time	t <sub>rr</sub>	I <sub>F</sub> =1A, di/dt=100A/ <i>µ</i> s	-	1	50	ns
Total capacitance	C <sub>T</sub>	VR=10V, f=1MHz	-	65	-	pF
Thermal resistance	R <sub>th</sub>	Junction to ambient	-	-	62.5	- °C/W
		Junction to case	-	ı	3.5	

<sup>1)</sup> Pulse test :  $t_P \le 380 \,\mu\text{s}$ , Duty cycle  $\le 2\%$ 

### **Electrical Characteristic Curves**







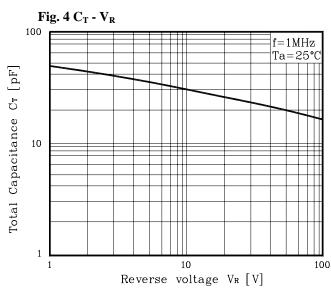


Fig. 5 I<sub>FSM</sub> – Number of cycle

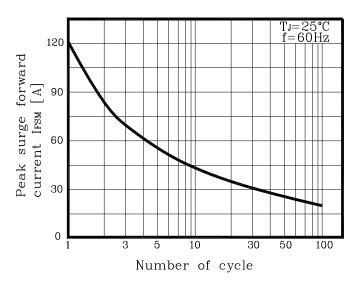
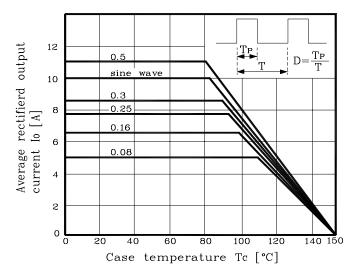


Fig. 6  $I_O$  derating -  $T_C$ 



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