

## Applications

- High speed switching and rectification
- Switching mode power supply

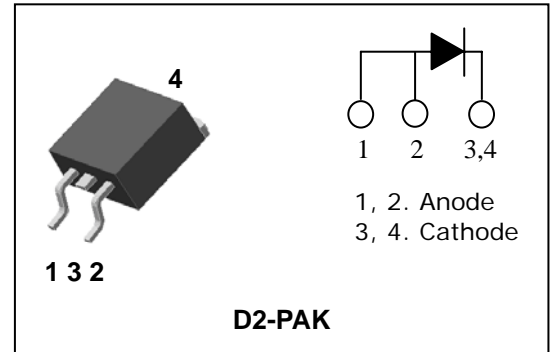
## Features

- Ultra-fast reverse recovery time:  $t_{rr}=30\text{ns}$  Max.
- Low forward voltage & low reverse current
- Low switching loss

## Ordering Information

Type No.	Marking	Package Code
SF10A400HDS	SF10A400HDS	D2-PAK

## PIN Connection



## Absolute Maximum Ratings

**[T<sub>c</sub>=25°C]**

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

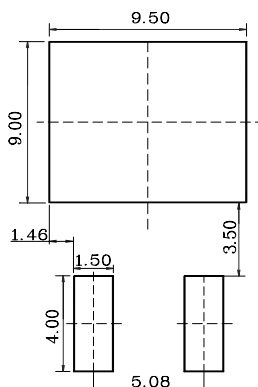
## Electrical Characteristics

**[T<sub>c</sub>=25°C]**

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Forward voltage	$V_F^{1)}$	T <sub>c</sub> =25 °C	-	-	1.4	V
		T <sub>c</sub> =125 °C	-	-	1.3	
Reverse current	$I_R^{1)}$	T <sub>c</sub> =25 °C	-	-	20	μA
		T <sub>c</sub> =125 °C	-	-	200	
Reverse recovery time	$t_{rr}$	$I_F=1\text{A}$ , $di/dt=-100\text{A}/\mu\text{s}$	-	-	30	ns
Thermal resistance	$R_{th}$	Junction to case	-	-	3.0	°C/W

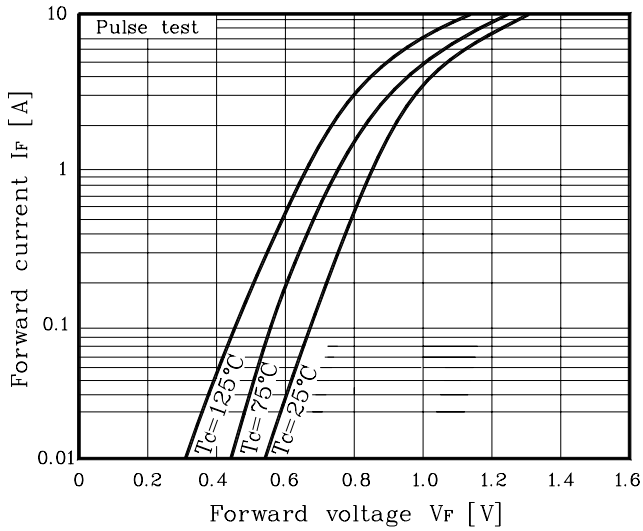
1) Pulse test :  $t_p \leq 380 \mu\text{s}$ , Duty cycle  $\leq 2\%$

## ※ Recommend PCB solder land [Unit: mm]

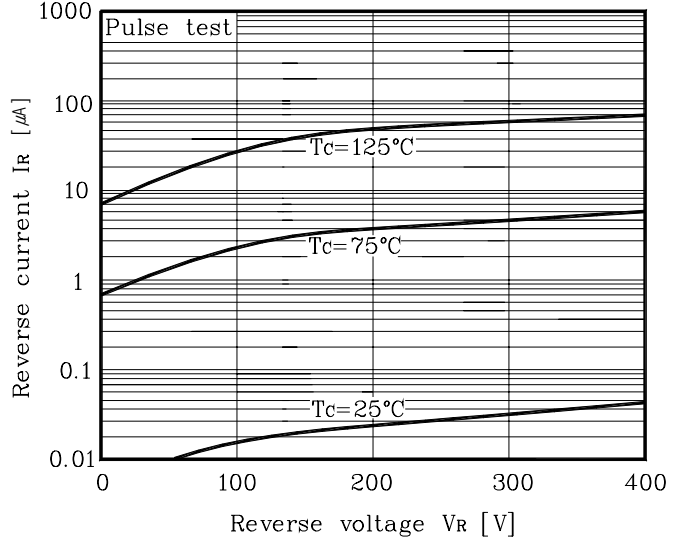


## Electrical Characteristic Curves

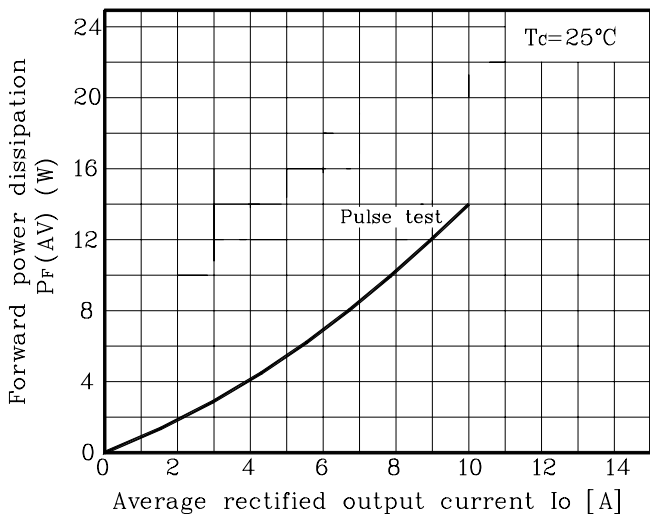
**Fig.1  $I_F - V_F$**



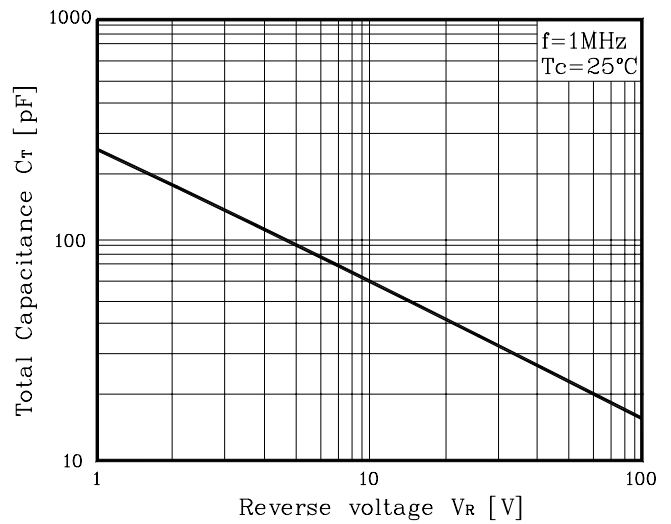
**Fig. 2  $I_R - V_R$**



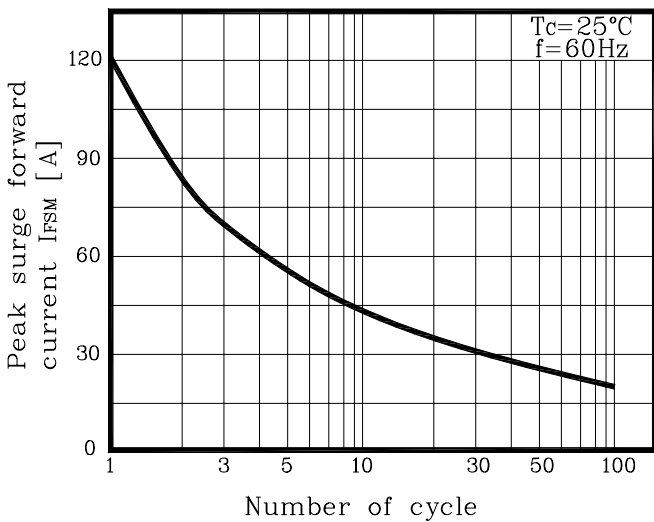
**Fig. 3  $P_F - I_O$**



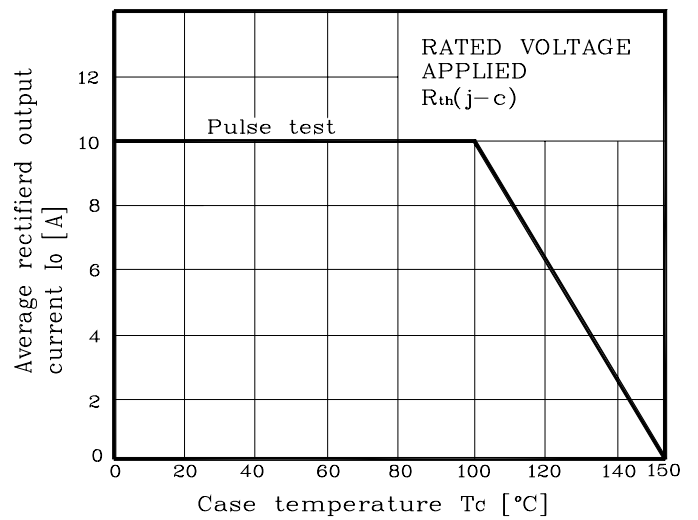
**Fig. 4  $C_T - V_R$**



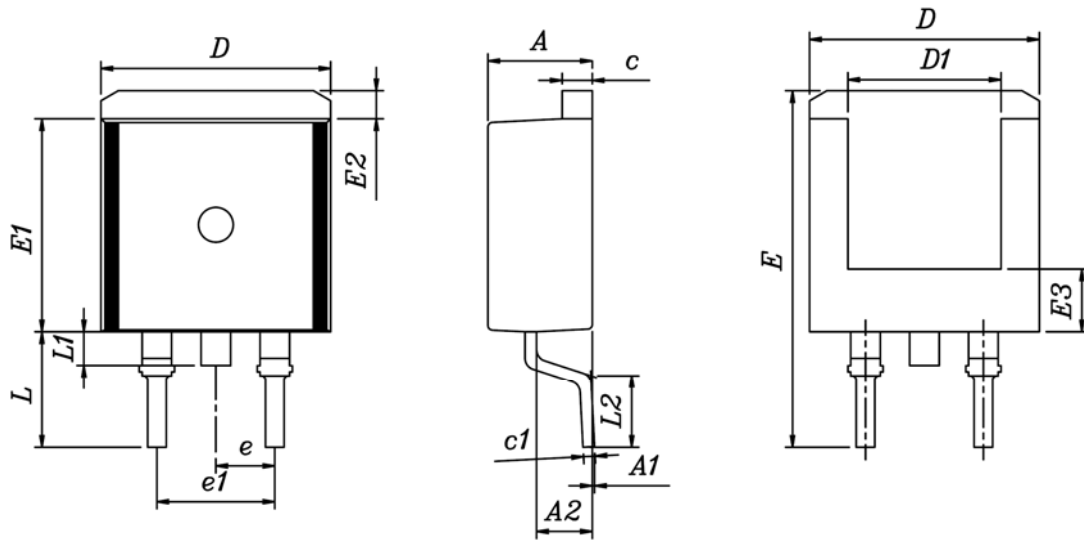
**Fig. 5  $I_{FSM} - \text{Number of cycle}$**



**Fig. 6  $I_O$  derating -  $T_c$**



## Outline Dimension (mm)



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	4.35	4.50	4.65	
A1	—	—	0.15	
A2	2.20	2.40	2.60	
c	1.20	1.30	1.40	
c1	0.40	0.50	0.60	
D	9.80	10.00	10.20	
D1	6.40	6.60	6.80	
E	15.00	15.40	15.80	
E1	9.05	9.20	9.35	
E2	1.00	1.20	1.40	
E3	2.50	2.70	2.90	
e	2.34	2.54	2.74	
e1	4.88	5.08	5.28	
L	4.60	5.00	5.40	
L1	1.40	1.45	1.50	
L2	2.50	—	—	

### NOTE

1. THESE DIMENSIONS DO NOT INCLUDE MOLD FLASH AND GATE BURR

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