

SF5A400HD

Ultrafast Recovery Rectifier

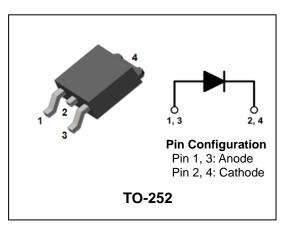
ULTRAFAST RECOVERY POWER RECTIFIER

Features

- High voltage and high reliability
- Ultrafast reverse recovery time
- · High speed switching
- Low power loss and High efficiency
- Halogen-free component and RoHS compliant device

Applications

- General purpose
- Switching mode power supply
- Free-wheeling diode for motor application
- · Power switching circuits
- DC-DC converter systems



Product Characteristics

I _{F(AV)}	5A
V_{RRM}	400V
V _{FM} @ Tj=125℃	1.2V
t _{rr}	30ns

Description

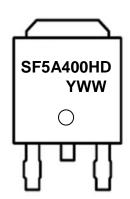
The SF5A400HD is ideally as boost diode in discontinuous or critical mode power factor corrections.

The device is also intended for use as a freewheeling diode in power supplies and other power switching applications.

Ordering Information

Device	Marking Code	Package	Packaging
SF5A400HD	SF5A400HD	TO-252	Tape & Reel

Marking Information



SF5A400HD = Specific Device Code YWW = Year & Week Code Marking

-. Y = Year Code

-. WW = Week Code

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Absolute Maximum Ratings (Limiting Values)

Characteristic	Symbol	Value	Unit
Maximum repetitive reverse voltage Maximum working peak reverse voltage Maximum DC blocking voltage	V _{RRM} V _{RWM} V _R	400	V
Maximum average forward rectified current	I _{F(AV)}	5	А
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode	I _{FSM}	60	Α
Storage temperature range	T _{stg}	-45 to +150	°C
Maximum operating junction temperature	TJ	150	

Thermal Characteristics

Characteri	Symbol	Value	Unit	
Maximum thermal resistance	junction to case	$R_{\text{th(j-c)}}$	6.0	°C/W

Electrical Characteristics

Characteristic	Symbol	Test Condition		Min.	Тур.	Max.	Unit
Peak forward voltage drop	V _{FM} ⁽¹⁾	I _{FM} = 5A	T _j =25℃	-	-	1.40	V
			T _j =125℃	-	-	1.20	
Reverse leakage current	I _{RM}	$V_R = V_{RRM}$	T _j =25℃	-	-	20	uA
			T _j =125℃	-	-	200	
Reverse recovery time	t _{rr}	I _F = 1A, di/dt =-100 A/us		ı	ı	30	ns
Junction capacitance	C _j	$V_R = 4V_{DC}$, f=1MHz		-	-	100	pF

Note : (1) Pulse test : $t_P\!\leq\!380us,\,Duty\;cycle\!\leq\!2\%$

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Rating & Electrical Characteristic Curves

Fig. 1) Typical Forward Characteristics

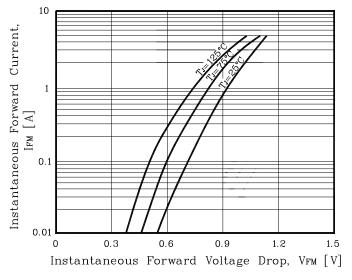


Fig. 2) Typical Reverse Characteristics

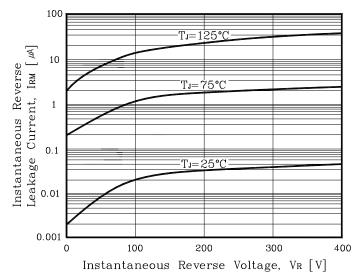


Fig. 3) Maximum Forward Derative Curve

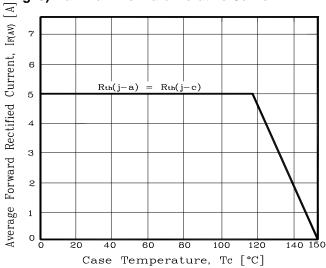


Fig. 4) Forward Power Dissipation

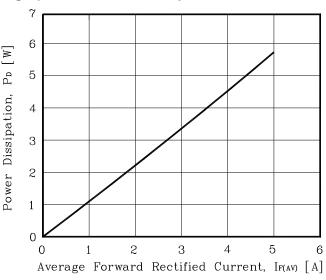


Fig. 5) Maximum Non-Repetitive Peak Forward **Surge Current**

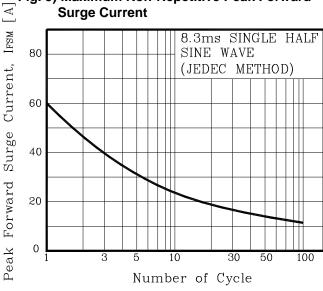
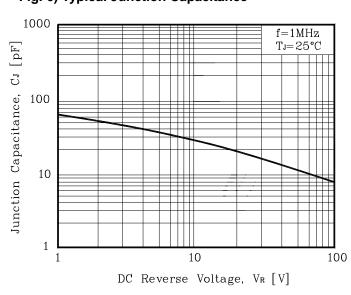
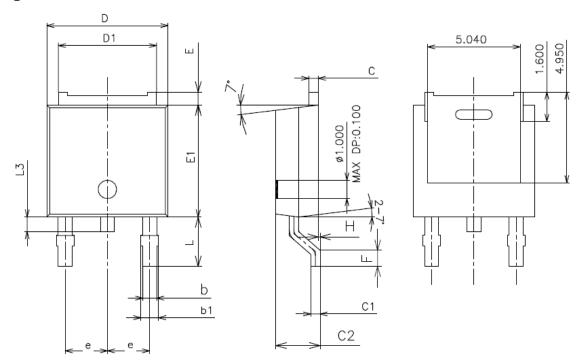


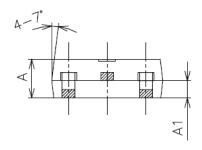
Fig. 6) Typical Junction Capacitance



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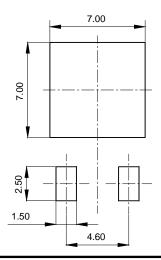
Package Outline Dimension (Unit: mm)





SYMBOL	MILLIMETERS			NOTE
STWEE	MINIMUM	NOMINAL	MAXIMUM	INOIL
D	6.40	6.60	6.80	
D1	5.14	5.34	5.54	
E	0.50	0.70	0.90	
E1	5.90	6.10	6.30	
Α	2.20	2.30	2.40	
A1	0.87	1.07	1.27	
С	0.40	0.50	0.60	
C1	0.40	0.50	0.60	
C2	2.10	2.30	2.50	
L	2.50	2.70	2.90	
L3	0.60	0.80	1.00	
b	0.66	0.76	0.86	
b1	0.96 MAX			
е	2.10	2.30	2.50	
F				
Н	0	_	0.100	

* Recommended Land Pattern (unit: mm]



SF5A400HD

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