

ULTRAFast RECOVERY POWER RECTIFIER

Features

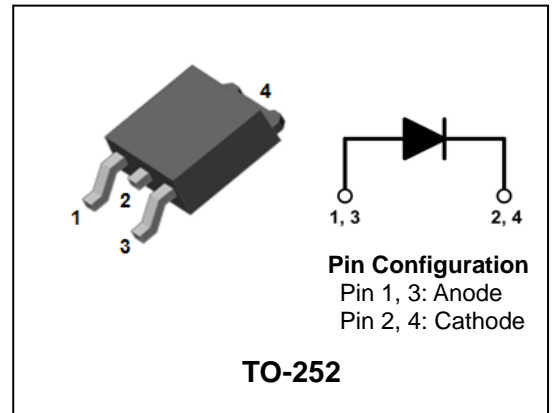
- High voltage and high reliability
- Ultrafast reverse recovery time
- High speed switching
- Low power loss and High efficiency
- Halogen-free component and RoHS compliant device

Applications

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

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.



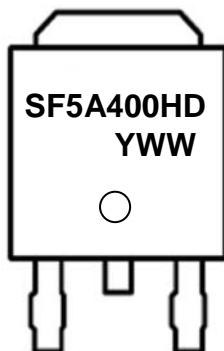
Product Characteristics

$I_{F(AV)}$	5A
V_{RRM}	400V
$V_{FM} @ T_j=125^\circ\text{C}$	1.2V
t_{rr}	30ns

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

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	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode	I_{FSM}	60	A
Storage temperature range	T_{stg}	-45 to +150	°C
Maximum operating junction temperature	T_J	150	

Thermal Characteristics

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

Electrical Characteristics

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Peak forward voltage drop	$V_{FM}^{(1)}$	$I_{FM} = 5A$	$T_J = 25^\circ C$	-	-	1.40	V
			$T_J = 125^\circ C$	-	-	1.20	
Reverse leakage current	I_{RM}	$V_R = V_{RRM}$	$T_J = 25^\circ C$	-	-	20	uA
			$T_J = 125^\circ C$	-	-	200	
Reverse recovery time	t_{rr}	$I_F = 1A, di/dt = -100 A/us$	-	-	30	ns	
Junction capacitance	C_j	$V_R = 4V_{DC}, f=1MHz$	-	-	100	pF	

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