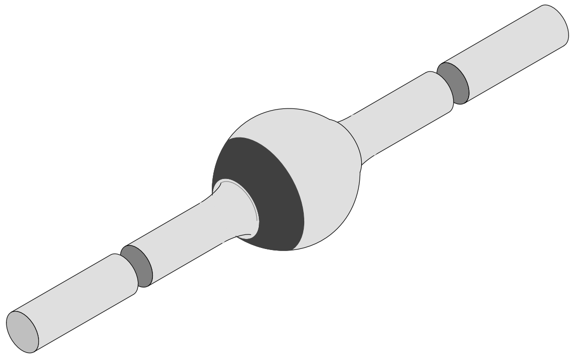
Super Fast Soft Recovery Rectifier

Features

- Glass passivated
- Hermetically sealed axial leaded glass envelope
- Low reverse current
- High reverse voltage



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Applications

Switched mode power supplies
High–frequency inverter circuits

Absolute Maximum Ratings

T_j = 25°C

Parameter	Test Conditions	Type	Symbol	Value	Unit
Reverse voltage= Repetitive peak reverse voltage		SF5400	V_R= V_{RRM}	50	V
		SF5401		100	
		SF5402		200	
		SF5403		300	
		SF5404		400	
		SF5405		500	
		SF5406		600	
		SF5407		800	
		SF5408		1000	
Peak forward surge current	t_p = 10 ms, half sinewave		I_{FSM}	150	A
Average forward current			I_{FAV}	3	A
Junction and storage temperature range			T_j=T_{stg}	–55...+175	°C
Non repetitive reverse avalanche energy	$I_{(BR)R}$=0.4A		E_R	10	mJ

Maximum Thermal Resistance

T_j = 25°C

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	Lead length l = 10 mm, T_L = constant	R_{thJA}	25	K/W
	on PC Board with spacing 25 mm		70	

Electrical Characteristics

T_j = 25°C

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F = 3 A	SF5400–SF5404	V_F			1.1	V
		SF5405–SF5408				1.7	
Reverse current	V_R=V_{RRM}		I_R			5	μA
	V_R=V_{RRM}, T_j=125°C					50	
Reverse breakdown voltage	I_R=100μA	SF5400	$V_{(BR)R}$	60			V
		SF5401		110			
		SF5402		220			
		SF5403		330			
		SF5404		440			
		SF5405		550			
		SF5406		660			
		SF5407		880			
		SF5408		1100			
Reverse recovery time	I_F=0.5A, I_R=1A, i_R=0.25A	SF5400–SF5404	t_{rr}			50	ns
		SF5405–SF5408				75	

Characteristics (Tj = 25°C unless otherwise specified)

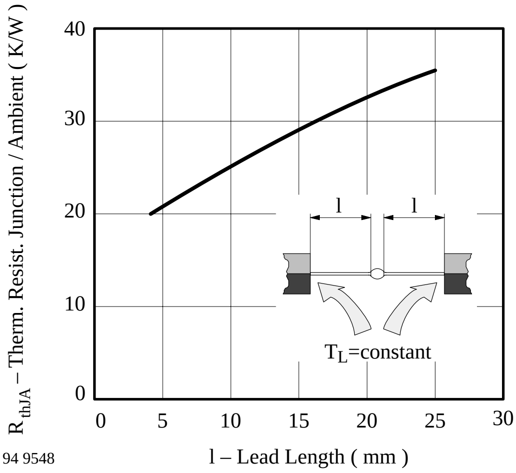


Figure 1. Max. Thermal Resistance vs. Lead Length

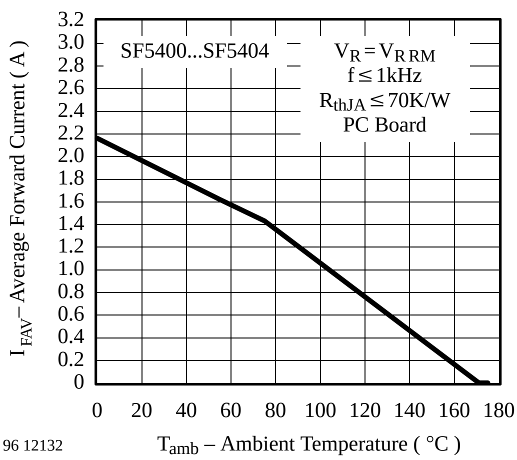


Figure 2. Max. Average Forward Current vs. Ambient Temperature

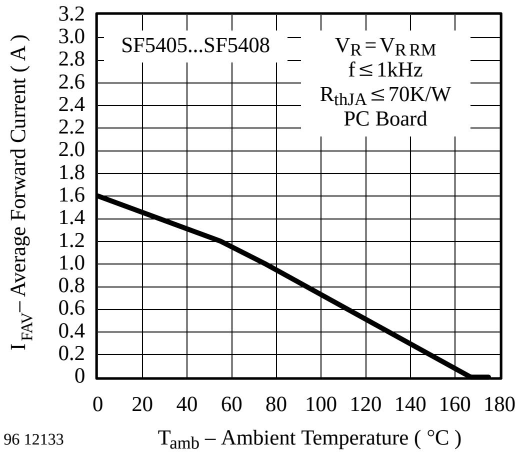


Figure 3. Max. Average Forward Current vs. Ambient Temperature

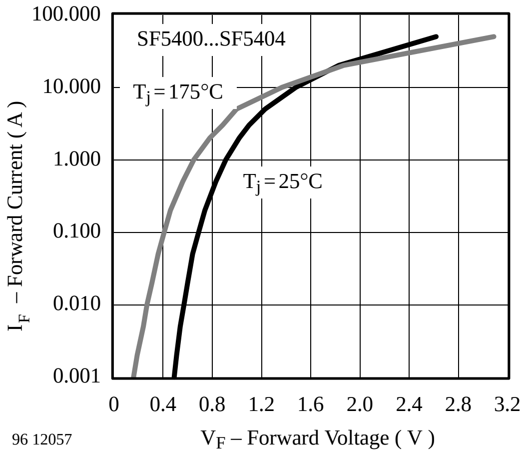


Figure 6. Max. Forward Current vs. Forward Voltage

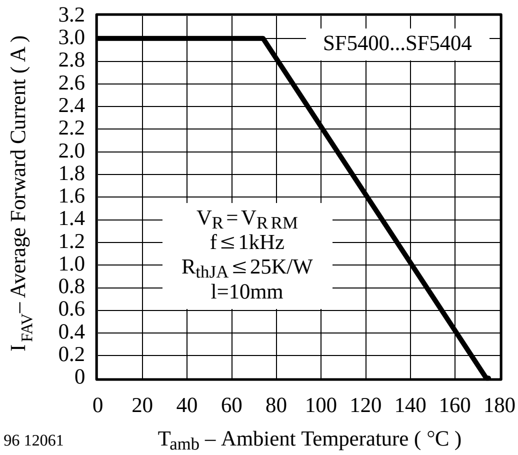


Figure 4. Max. Average Forward Current vs. Ambient Temperature

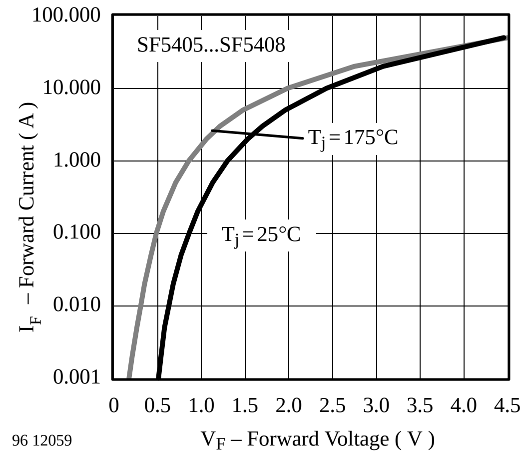


Figure 7. Max. Forward Current vs. Forward Voltage

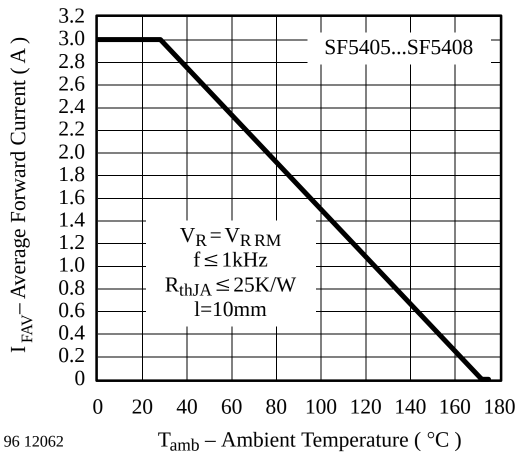


Figure 5. Max. Average Forward Current vs. Ambient Temperature

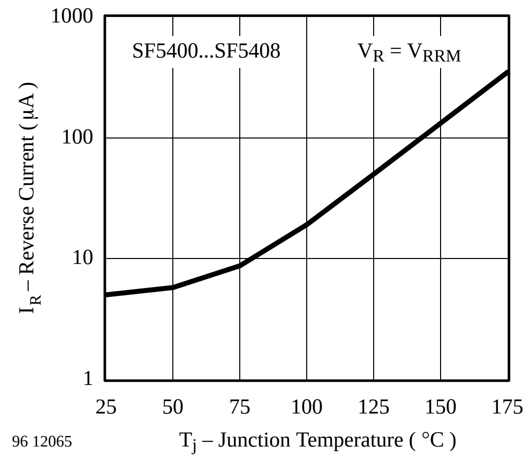


Figure 8. Max. Reverse Current vs. Junction Temperature

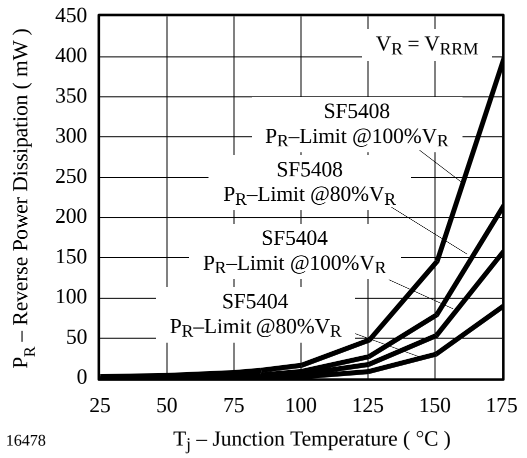


Figure 9. Max. Reverse Power Dissipation vs. Junction Temperature

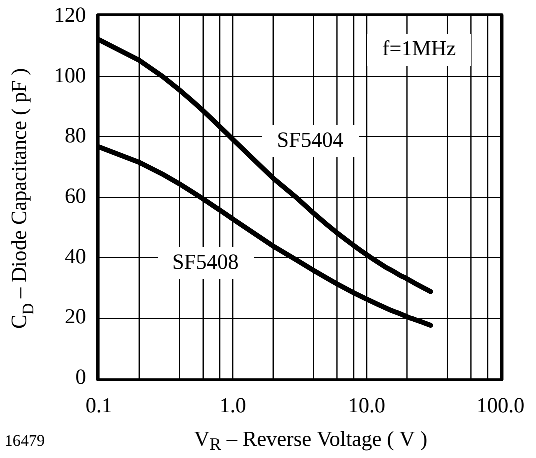
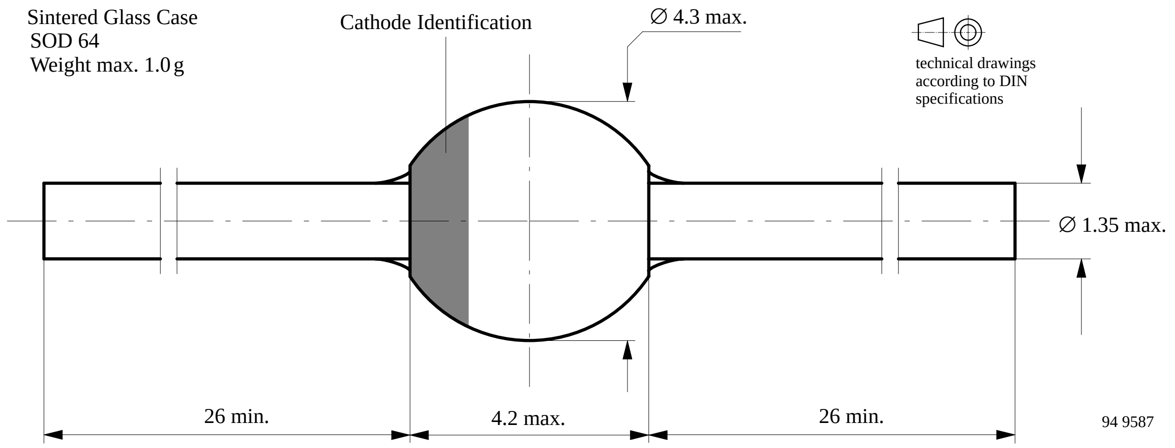


Figure 10. Diode Capacitance vs. Reverse Voltage

Dimensions in mm



Ozone Depleting Substances Policy Statement

It is the policy of **Vishay Semiconductor GmbH** to

1. Meet all present and future national and international statutory requirements.

2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively

2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA

3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

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