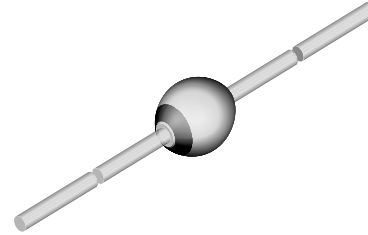


Ultra Fast Avalanche Sinterglass Diode

Features

- Controlled avalanche characteristic
- Low forward voltage
- Ultra fast recovery time
- Glass passivated junction
- Hermetically sealed package
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



949539

Applications

Very fast rectification diode e.g. for switch mode power supply

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: approx. 369 mg

Mechanical Data

Case: SOD-57 Sintered glass case

Parts Table

Part	Type differentiation	Package
BYV27-50	$V_R = 50 \text{ V}; I_{FAV} = 2 \text{ A}$	SOD-57
BYV27-100	$V_R = 100 \text{ V}; I_{FAV} = 2 \text{ A}$	SOD-57
BYV27-150	$V_R = 150 \text{ V}; I_{FAV} = 2 \text{ A}$	SOD-57
BYV27-200	$V_R = 200 \text{ V}; I_{FAV} = 2 \text{ A}$	SOD-57

Absolute Maximum Ratings

$T_{amb} = 25 \text{ }^\circ\text{C}$, unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Peak reverse voltage, non repetitive	see electrical characteristics	BYV27-50	V_{RSM}	55	V
		BYV27-100	V_{RSM}	110	V
		BYV27-150	V_{RSM}	165	V
		BYV27-200	V_{RSM}	220	V
Reverse voltage = Repetitive peak reverse voltage	see electrical characteristics	BYV27-50	$V_R = V_{RRM}$	50	V
		BYV27-100	$V_R = V_{RRM}$	100	V
		BYV27-150	$V_R = V_{RRM}$	150	V
		BYV27-200	$V_R = V_{RRM}$	200	V
Peak forward surge current	$t_p = 10 \text{ ms}$, half sinewave		I_{FSM}	50	A
Repetitive peak forward current			I_{FRM}	15	A

Parameter	Test condition	Part	Symbol	Value	Unit
Average forward current			I_{FAV}	2	A
Pulse energy in avalanche mode, non repetitive (inductive load switch off)	$I_{(BR)R} = 1 \text{ A}, T_j = 175 \text{ }^\circ\text{C}$		E_R	20	mJ
Junction and storage temperature range			$T_j = T_{stg}$	- 55 to + 175	$^\circ\text{C}$

Maximum Thermal Resistance

$T_{amb} = 25 \text{ }^\circ\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Junction ambient	$l = 10 \text{ mm}, T_L = \text{constant}$	R_{thJA}	45	K/W
	on PC board with spacing 25 mm	R_{thJA}	100	K/W

Electrical Characteristics

$T_{amb} = 25 \text{ }^\circ\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	$I_F = 3 \text{ A}$	V_F			1.07	V
	$I_F = 3 \text{ A}, T_j = 175 \text{ }^\circ\text{C}$	V_F			0.88	V
Reverse current	$V_R = V_{RRM}$	I_R			1	μA
	V_{RSM}	I_R			100	μA
	$V_R = V_{RRM}, T_j = 165 \text{ }^\circ\text{C}$	I_R			150	μA
Reverse recovery time	$I_F = 0.5 \text{ A}, I_R = 1 \text{ A}, i_R = 0.25 \text{ A}$	t_{rr}			25	ns

Typical Characteristics ($T_{amb} = 25 \text{ }^\circ\text{C}$ unless otherwise specified)

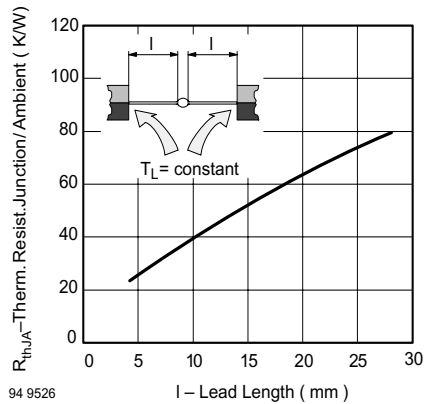


Figure 1. Typ. Thermal Resistance vs. Lead Length

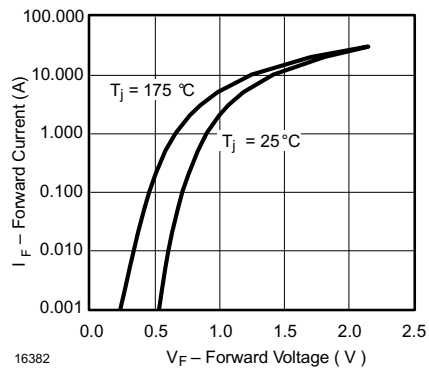


Figure 2. Forward Current vs. Forward Voltage

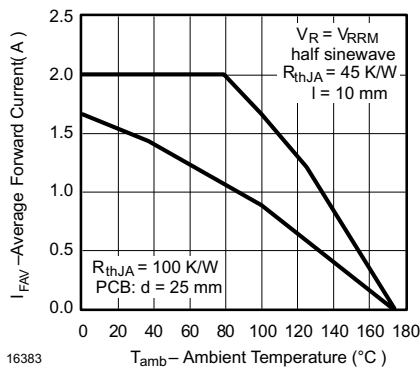


Figure 3. Max. Average Forward Current vs. Ambient Temperature

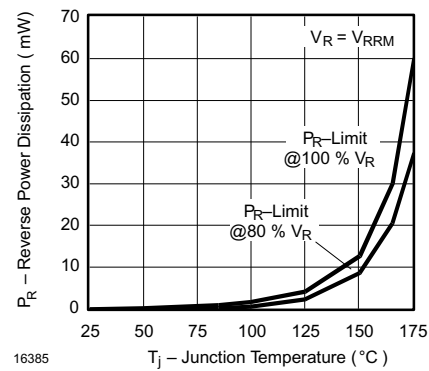


Figure 5. Max. Reverse Power Dissipation vs. Junction Temperature

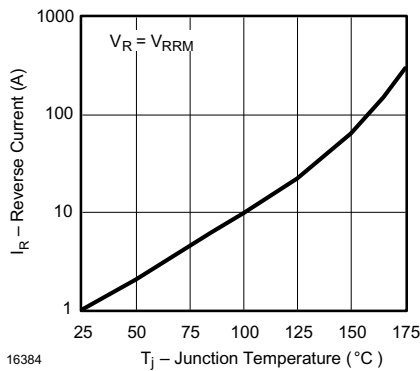


Figure 4. Reverse Current vs. Junction Temperature

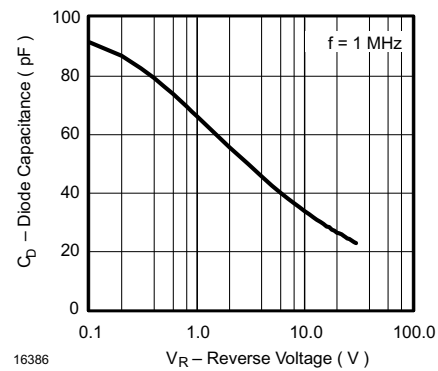


Figure 6. Diode Capacitance vs. Reverse Voltage

Package Dimensions in mm (Inches)
