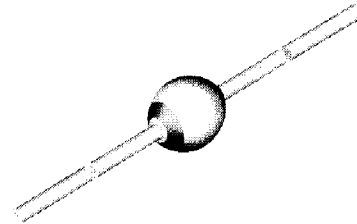


BYV37 / BYV38

Fast Avalanche Sinterglass Diode

Features

- Glass passivated junction
- Hermetically sealed package
- Low reverse current
- Soft recovery characteristics



Applications

Fast "soft recovery" rectification diode

Mechanical Data

Case: SOD-57 Sintered glass case

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

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: approx. 369 mg

Parts Table

Part	Type differentiation	Package
BYV37	$V_R = 800 \text{ V}; I_{FAV} = 2 \text{ A}$	SOD-57
BYV38	$V_R = 1000 \text{ V}; I_{FAV} = 2 \text{ A}$	SOD-57

Absolute Maximum Ratings

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

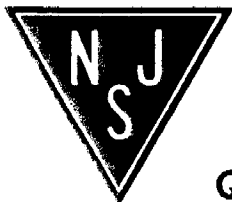
Parameter	Test condition	Part	Symbol	Value	Unit
Reverse voltage	see electrical characteristics	BYV37	$V_R = V_{RRM}$	800	V
		BYV38	$V_R = V_{RRM}$	1000	V
Peak forward surge current	$t_p = 10 \text{ ms}$, half sinewave		I_{FSM}	50	A
Average forward current			I_{FAV}	2	A
Junction and storage temperature range			$T_J = T_{stg}$	- 55 to + 175	$^\circ\text{C}$
Non repetitive reverse avalanche energy	$I_{(BR)R} = 0.4 \text{ A}$		E_R	10	mJ

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

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



BYV37 / BYV38

Electrical Characteristics

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

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	$I_F = 1\text{ A}$	V_F		1.0	1.1	V
Reverse current	$V_R = V_{RRM}$	I_R			5	μA
	$V_R = V_{RRM}; T_J = 150\text{ }^{\circ}\text{C}$	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}			300	ns
Diode Capacitance	$V_R = 4\text{ V}, f = 1\text{ MHz}$	C_D		15		pF

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

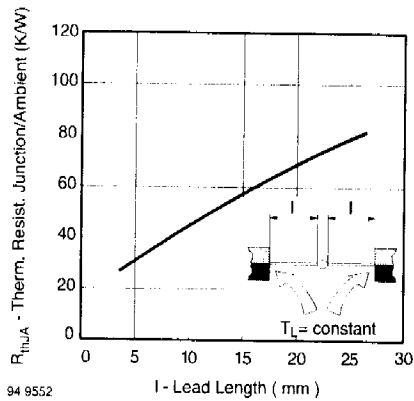


Figure 1. Max. Thermal Resistance vs. Lead Length

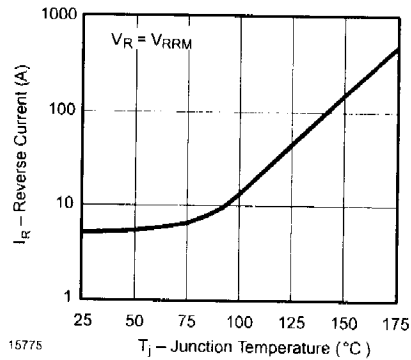


Figure 3. Max. Reverse Current vs. Junction Temperature

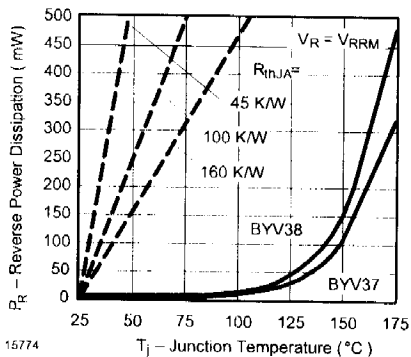


Figure 2. Max. Reverse Power Dissipation vs. Junction Temperature

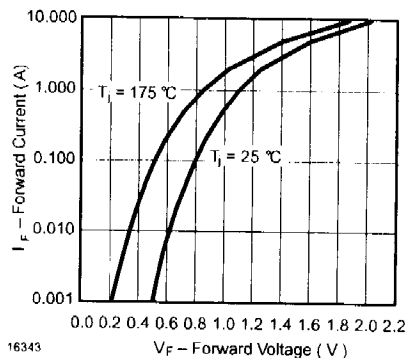


Figure 4. Forward Current vs. Forward Voltage

BYV37 / BYV38

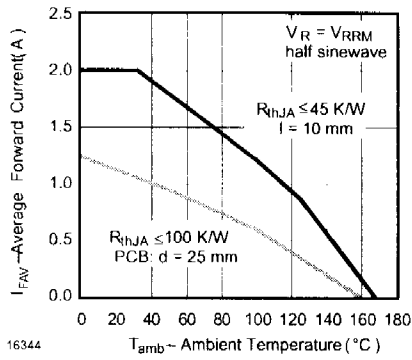


Figure 5. Max. Average Forward Current vs. Ambient Temperature

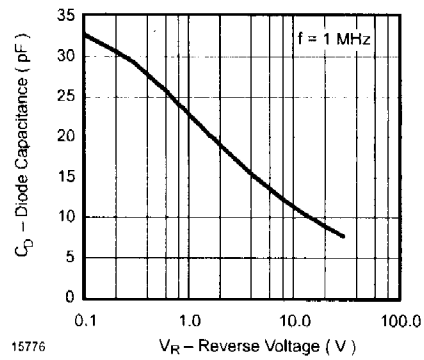


Figure 6. Typ. Diode Capacitance vs. Reverse Voltage

Package Dimensions in mm (Inches)

