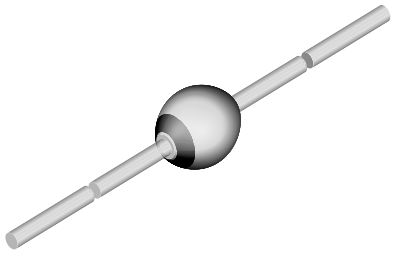
BYV12-BYV16

Fast Avalanche Sinterglass Diode

Features

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



Applications

Fast rectification and switching diode for example for TV-line output circuits and switch mode power supply

Mechanical Data

Case: Sintered glass case, SOD 57

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

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 370 mg, (max. 500 mg)

Parts Table

Part	Type differentiation	Package
BYV12	V_R = 100 V; I_{FAV} = 1.5 A	SOD57
BYV13	V_R = 400 V; I_{FAV} = 1.5 A	SOD57
BYV14	V_R = 600 V; I_{FAV} = 1.5 A	SOD57
BYV15	V_R = 800 V; I_{FAV} = 1.5 A	SOD57
BYV16	V_R = 1000 V; I_{FAV} = 1.5 A	SOD57

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Sub type	Symbol	Value	Unit
Reverse voltage = Repetitive peak reverse voltage	see electrical characteristics	BYV12	V_R = V_{RRM}	100	V
	see electrical characteristics	BYV13	V_R = V_{RRM}	400	V
	see electrical characteristics	BYV14	V_R = V_{RRM}	600	V
	see electrical characteristics	BYV15	V_R = V_{RRM}	800	V
	see electrical characteristics	BYV16	V_R = V_{RRM}	1000	V
Peak forward surge current	t_p = 10 ms, half sinewave		I_{FSM}	40	A
Repetitive peak forward current			I_{FRM}	9	A
Average forward current	φ = 180 °, T_{amb} = 25 °C		I_{FAV}	1.5	A
Junction and storage temperature range			$T_j = T_{stg}$	- 55 to + 175	°C
Non repetitive reverse avalanche energy	$I_{(BR)R}$ = 0.4 A		E_R	10	mJ

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Maximum Thermal Resistance

T_{amb} = 25 °C, unless otherwise specified

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

Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Sub type	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_F = 1 A		V_F			1.5	V
Reverse current	$V_R = V_{RRM}$		I_R		1	5	µA
	$V_R = V_{RRM}$, T_j = 150 °C		I_R		60	150	µA
Reverse recovery time	I_F = 0.5 A, I_R = 1 A, i_R = 0.25 A		t_{rr}			300	ns
Reverse recovery charge	I_F = 1 A, di/dt = 5 A/µs		Q_{rr}			200	nC

Typical Characteristics (T_{amb} = 25 °C unless otherwise specified)

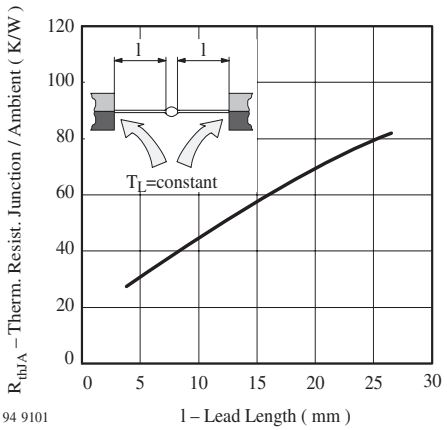

Figure 1. Typ. Thermal Resistance vs. Lead Length

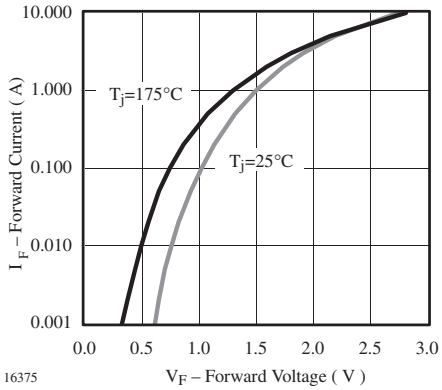

Figure 3. Forward Current vs. Forward Voltage

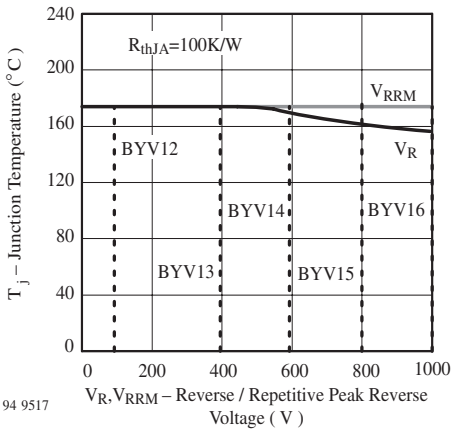

Figure 2. Junction Temperature vs. Reverse/Repetitive Peak Reverse Voltage

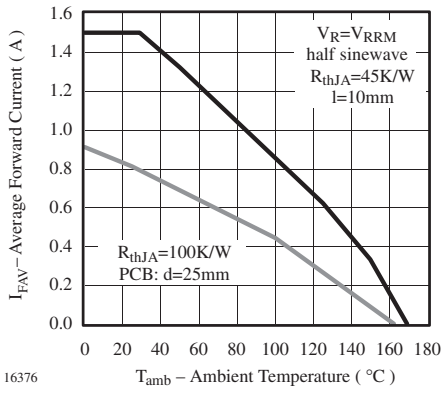

Figure 4. Max. Average Forward Current vs. Ambient Temperature

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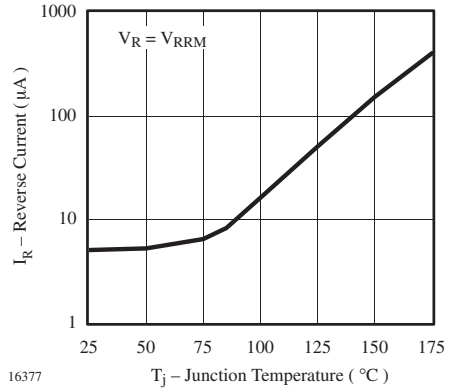

Figure 5. Reverse Current vs. Junction Temperature

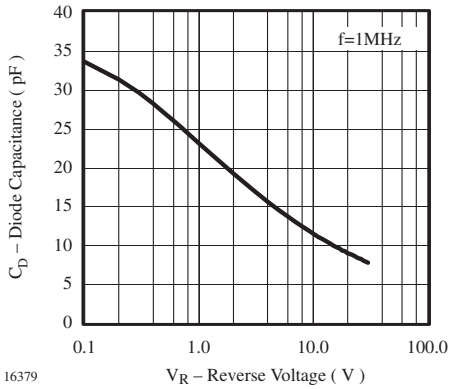

Figure 7. Diode Capacitance vs. Reverse Voltage

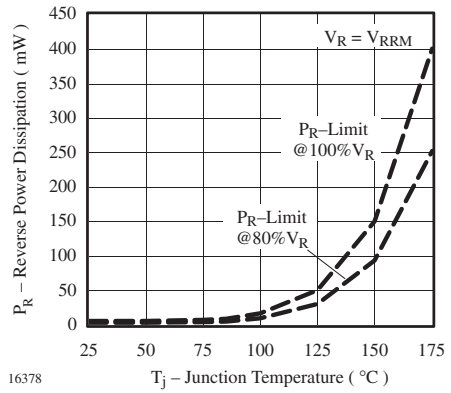

Figure 6. Max. Reverse Power Dissipation vs. Junction Temperature

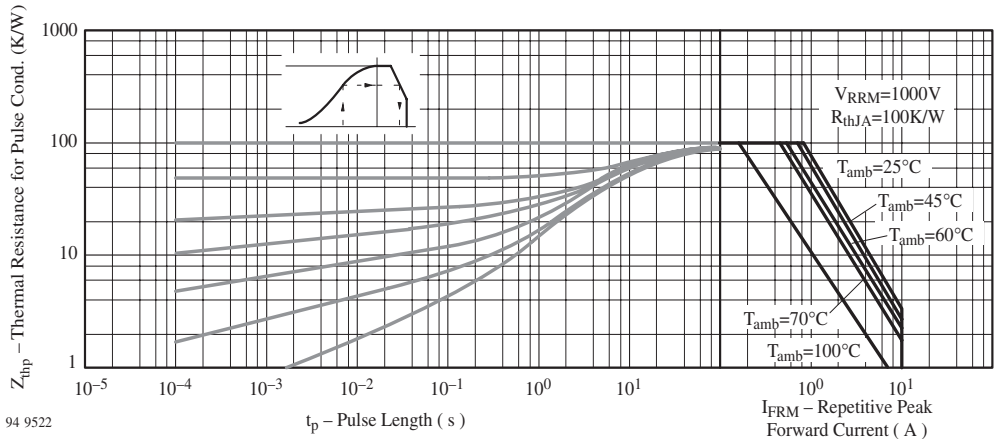

Figure 8. Thermal Response

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Package Dimensions in mm