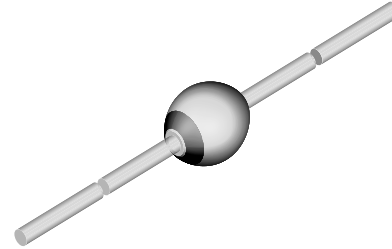


Features

- 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

High voltage rectification diode
 Efficiency diode in horizontal deflection circuits

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
BY448	$V_R = 1500\text{ V}; I_{FAV} = 2\text{ A}$	SOD-57
BY458	$V_R = 1200\text{ V}; I_{FAV} = 2\text{ A}$	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	BY448	$V_R = V_{RRM}$	1500	V
		BY458	$V_R = V_{RRM}$	1200	V
Peak forward surge current	$t_p = 10\text{ ms}$, half sinewave		I_{FSM}	30	A
Average forward current			I_{FAV}	2	A
Junction temperature			T_j	140	$^\circ\text{C}$
Storage temperature range			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

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			1.6	V
Reverse current	$V_R = V_{RRM}$	I_R			3	μA
	$V_R = V_{RRM}, T_j = 140\text{ }^{\circ}\text{C}$	I_R			140	μA
Total reverse recovery time	$I_F = 1\text{ A}, -d_i/d_t = 0.05\text{ A}/\mu\text{s}$	t_{rr}			20	μs
Reverse recovery time	$I_F = 0.5\text{ A}, I_R = 1\text{ A}, i_R = 0.25\text{ A}$	t_{rr}			2	μs

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

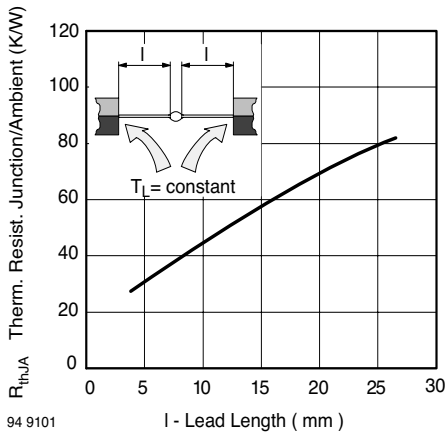


Figure 1. Typ. Thermal Resistance vs. Lead Length

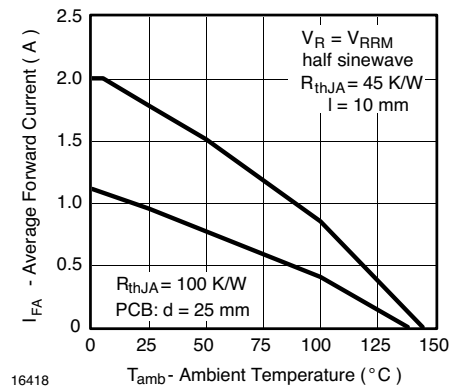


Figure 3. Max. Average Forward Current vs. Ambient Temperature

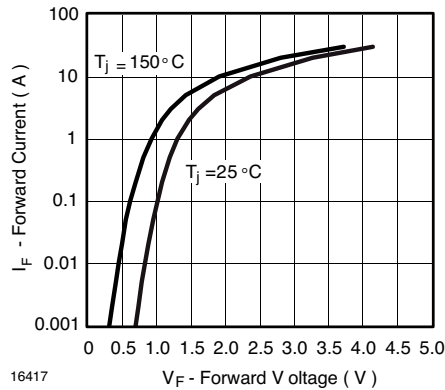


Figure 2. Forward Current vs. Forward Voltage

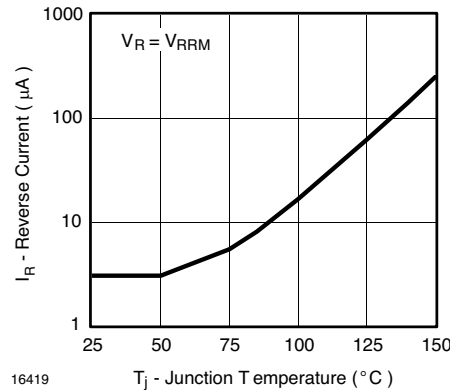


Figure 4. Reverse Current vs. Junction Temperature

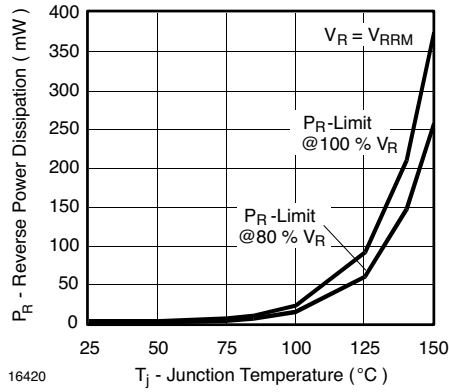


Figure 5. Max. Reverse Power Dissipation vs. Junction Temperature

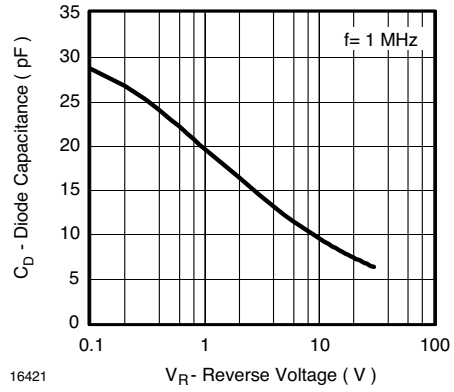


Figure 6. Diode Capacitance vs. Reverse Voltage

Package Dimensions in mm (Inches)

