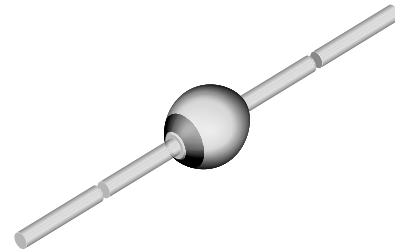


### Features

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

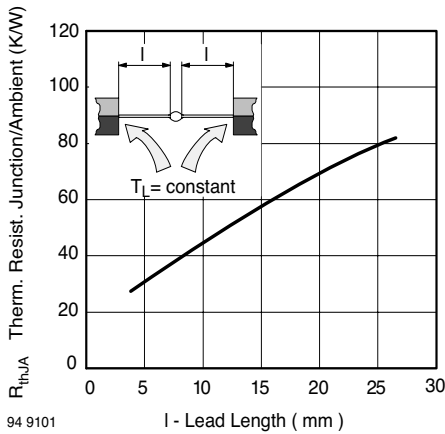
**Typical Characteristics ( $T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)**


Figure 1. Typ. Thermal Resistance vs. Lead Length

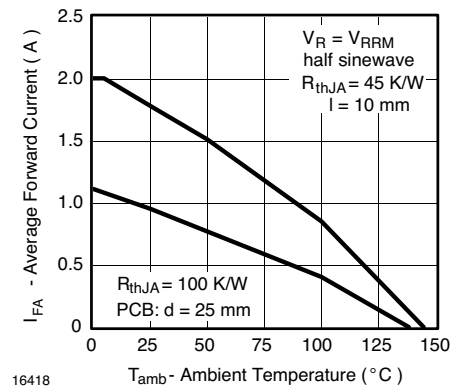


Figure 3. Max. Average Forward Current vs. Ambient Temperature

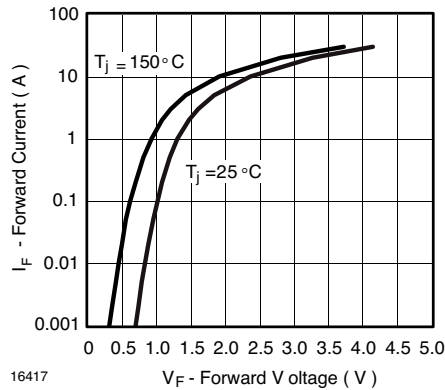


Figure 2. Forward Current vs. Forward Voltage

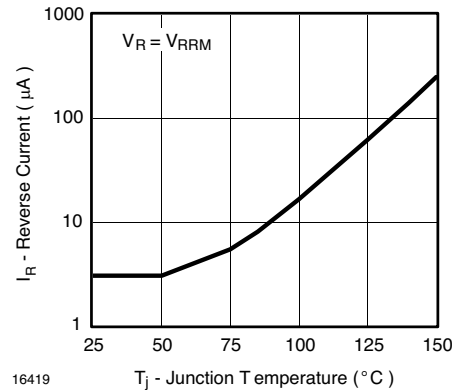


Figure 4. Reverse Current vs. Junction Temperature

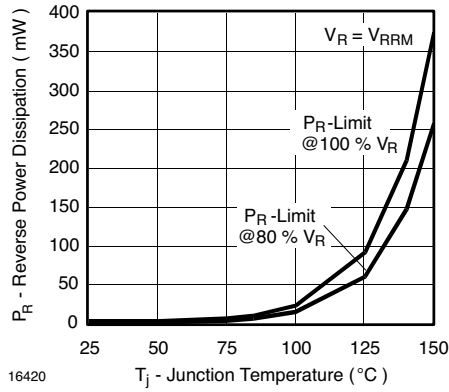


Figure 5. Max. Reverse Power Dissipation vs. Junction Temperature

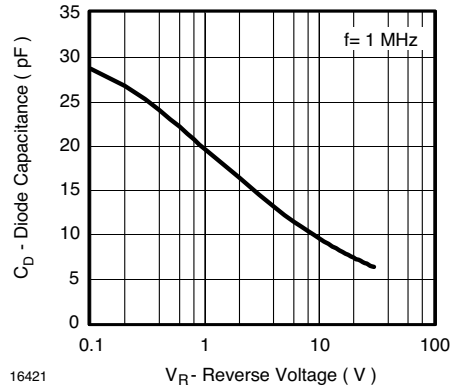


Figure 6. Diode Capacitance vs. Reverse Voltage

### Package Dimensions in mm (Inches)

