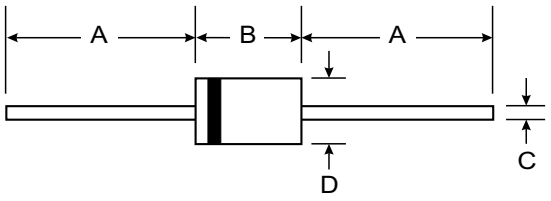
BYW52-BYW56

2.0A Axial Leaded Silicon Rectifier

Features

- Controlled avalanche characteristics
- Glass passivated junction
- Hermetically sealed package
- Low reverse current
- High surge current loading
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



DO-15		
Dim	**Min**	**Max**
A	25.40	—
B	5.50	7.62
C	0.686	0.889
D	2.60	3.60
All Dimensions in mm		

Mechanical Data

- **Case:** DO-15 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

Maximum Ratings and Electrical Characteristics

@ T_A = 25°C unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Reverse voltage = Repetitive peak reverse voltage	see electrical characteristics	BYW52	$V_R = V_{RRM}$	200	V
		BYW53	$V_R = V_{RRM}$	400	V
		BYW54	$V_R = V_{RRM}$	600	V
		BYW55	$V_R = V_{RRM}$	800	V
		BYW56	$V_R = V_{RRM}$	1000	V
Peak forward surge current	t_p = 10 ms, half sinewave		I_{FSM}	50	A
Repetitive peak forward current			I_{FRM}	12	A
Average forward current	φ = 180 °		I_{FAV}	2	A
Pulse avalanche peak power	t_p = 20 µs half sine wave, T_j = 175 °C		P_R	1000	W

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_F = 1 A	V_F		0.9	1.0	V
Reverse current	$V_R = V_{RRM}$	I_R		0.1	1	µA
	$V_R = V_{RRM}$, T_j = 100 °C	I_R		5	10	µA
Breakdown voltage	I_R = 100 µA, t_p/T = 0.01, t_p = 0.3 ms	$V_{(BR)}$			1600	V
Diode capacitance	V_R = 4 V, f = 1 MHz	C_D		18		pF
Reverse recovery time	I_F = 0.5 A, I_R = 1 A, i_R = 0.25 A	t_{rr}			4	µs
	I_F = 1 A, di/dt = 5 A/µs, V_R = 50 V	t_{rr}			4	µs
Reverse recovery charge	I_F = 1 A, di/dt = 5 A/µs	Q_{rr}			200	nC

Typical Characteristics (Tamb = 25 °C unless otherwise specified)

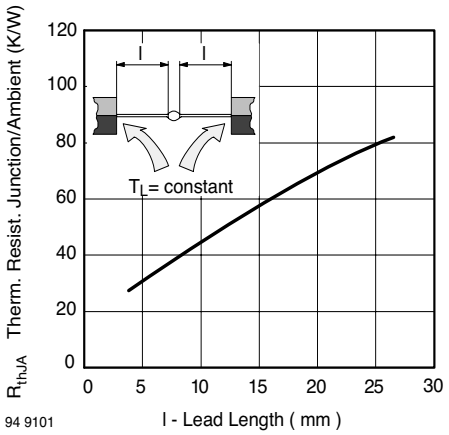


Figure 1. Typ. Thermal Resistance vs. Lead Length

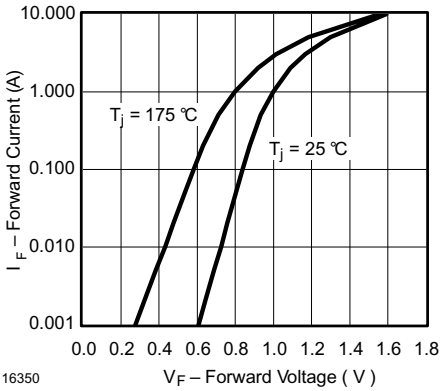


Figure 2. Forward Current vs. Forward Voltage

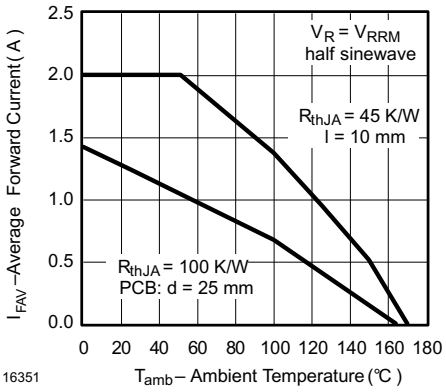


Figure 3. Max. Average Forward Current vs. Ambient Temperature

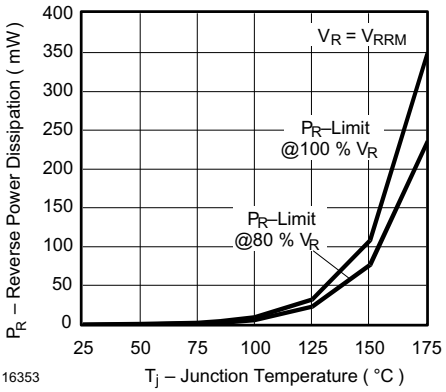


Figure 5. Max. Reverse Power Dissipation vs. Junction Temperature

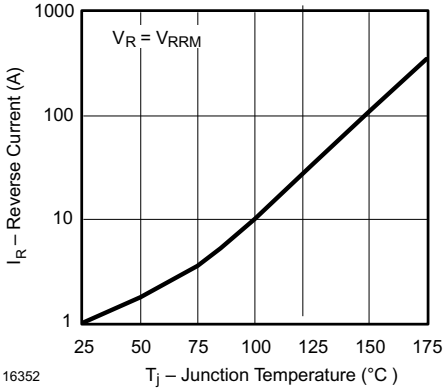


Figure 4. Reverse Current vs. Junction Temperature

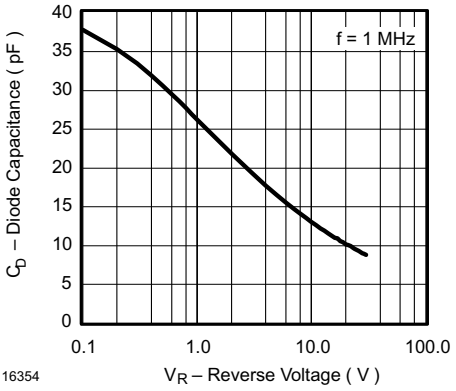


Figure 6. Diode Capacitance vs. Reverse Voltage

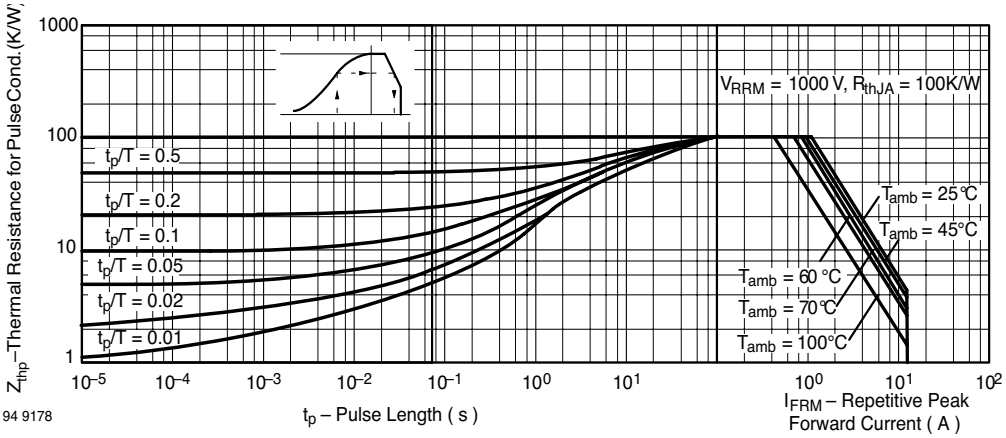


Figure 7. Thermal Response