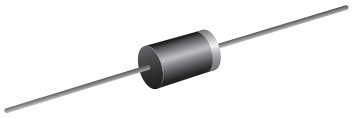
BYW82 - BYW86

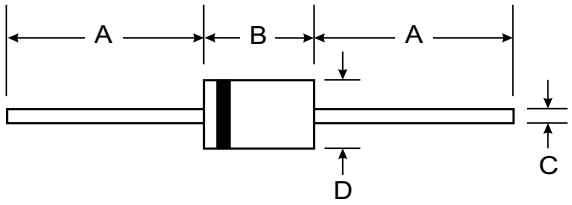
FAST RECOVERY RECTIFIER DIODES

VOLTAGE RANGE: 200 - 1000V
CURRENT: 3.0 A



Features

- Glass passivated junction
- Hermetically sealed package
- Controlled avalanche characteristics
- Low reverse current
- High surge current loading



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 Molded plastic
- Epoxy : UL94V-O rate flame retardant
- Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- Polarity : Color band denotes cathode end
- Mounting position : Any
- Weight : 0.465 gram

RoHS COMPLIANT

Maximum Ratings T_A = 25°C unless otherwise specified

Parameter	Test Conditions	Type	Symbol	Value	Unit
Reverse voltage =Repetitive peak reverse voltage		BYW82	$V_R=V_{RRM}$	200	V
		BYW83	$V_R=V_{RRM}$	400	V
		BYW84	$V_R=V_{RRM}$	600	V
		BYW85	$V_R=V_{RRM}$	800	V
		BYW86	$V_R=V_{RRM}$	1000	V
Peak forward surge current	t_p=10ms, half sinewave		I_{FSM}	100	A
Repetitive peak forward current			I_{FRM}	18	A
Average forward current	T_{amb}≦65˚C		I_{FAV}	3	A
Pulse avalanche peak power	t_p=20μs, half sinewave, T_j=175 ˚C		P_R	1000	W
Pulse energy in avalanche mode, non repetitive (inductive load switch off)	$I_{(BR)R}$=1A, T_j=175˚C		E_R	20	mJ
i^2*t–rating			i^2*t	40	A^2*s
Junction and storage temperature range			$T_j=T_{stg}$	–65...+175	˚C

Maximum Thermal Resistance

T_j = 25°C

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	l=10mm, T_L=constant	R_{thJA}	25	K/W
	on PC board with spacing 37.5mm	R_{thJA}	70	K/W

Electrical Characteristics

T_j = 25°C

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F=3A		V_F			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=100µA, t_p/T=0.01, t_p=0.3ms		$V_{(BR)}$			1600	V
Diode capacitance	V_R=0, f=0.47MHz		C_D		65	100	pF
Reverse recovery time	I_F=0.5A, I_R=1A, i_R=0.25A		t_{rr}		2	4	µs
	I_F=1A, d_i/d_t=5A/µs, V_R=50V		t_{rr}		3	6	µs
Reverse recovery charge	I_F=1A, d_i/d_t=5A/µs		Q_{rr}		6	10	µC

Characteristics (T_j = 25°C unless otherwise specified)

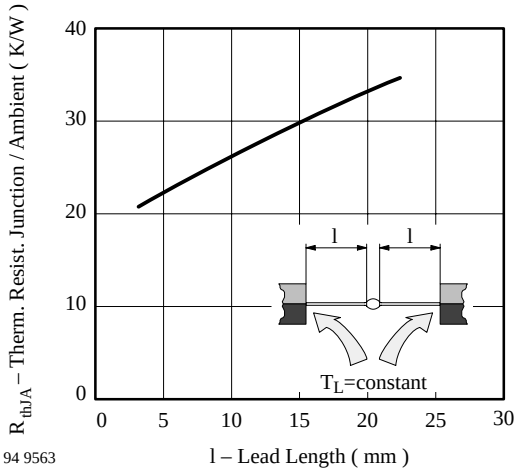


Figure 1. Max. Thermal Resistance vs. Lead Length

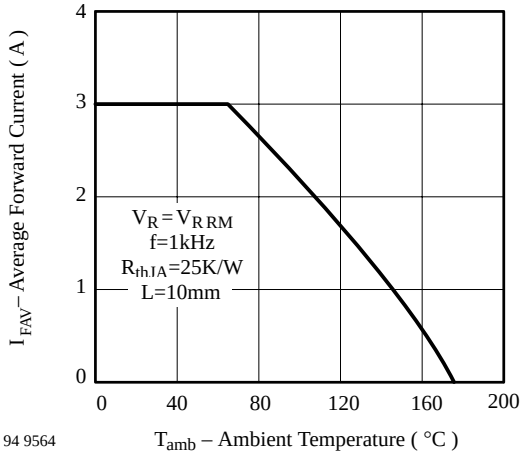


Figure 3. Max. Average Forward Current vs. Ambient Temperature

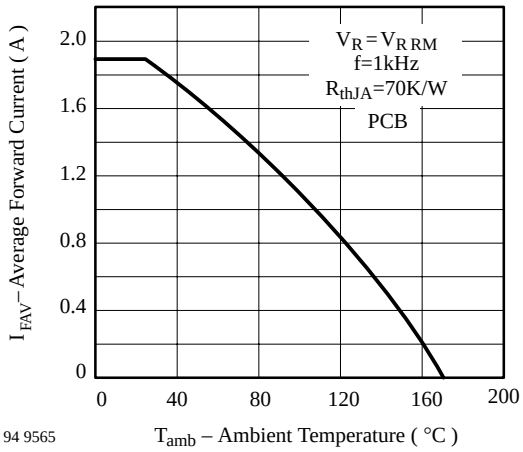


Figure 2. Max. Average Forward Current vs. Ambient Temperature

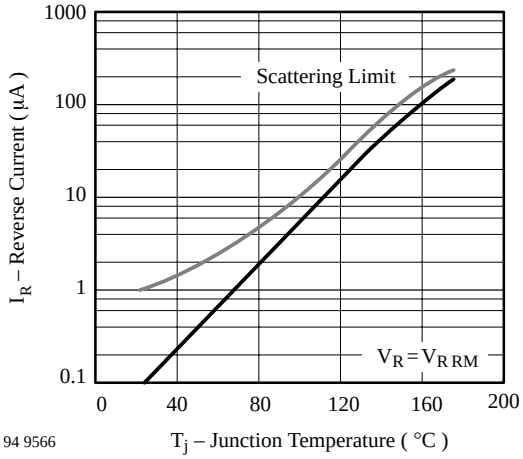


Figure 4. Reverse Current vs. Junction Temperature

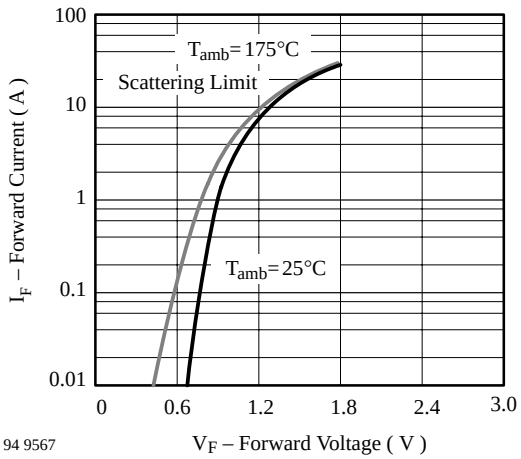


Figure 5. Max. Forward Current vs. Forward Voltage

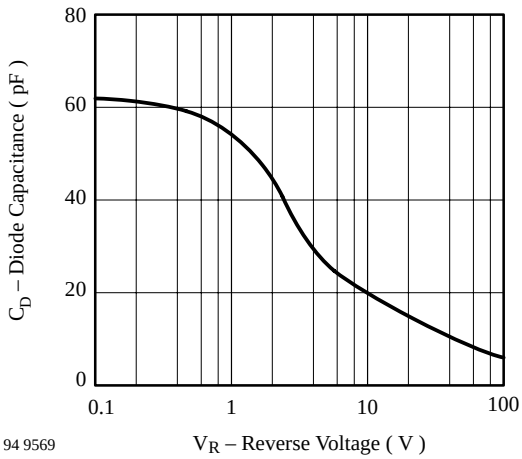


Figure 6. Typ. Diode Capacitance vs. Reverse Voltage

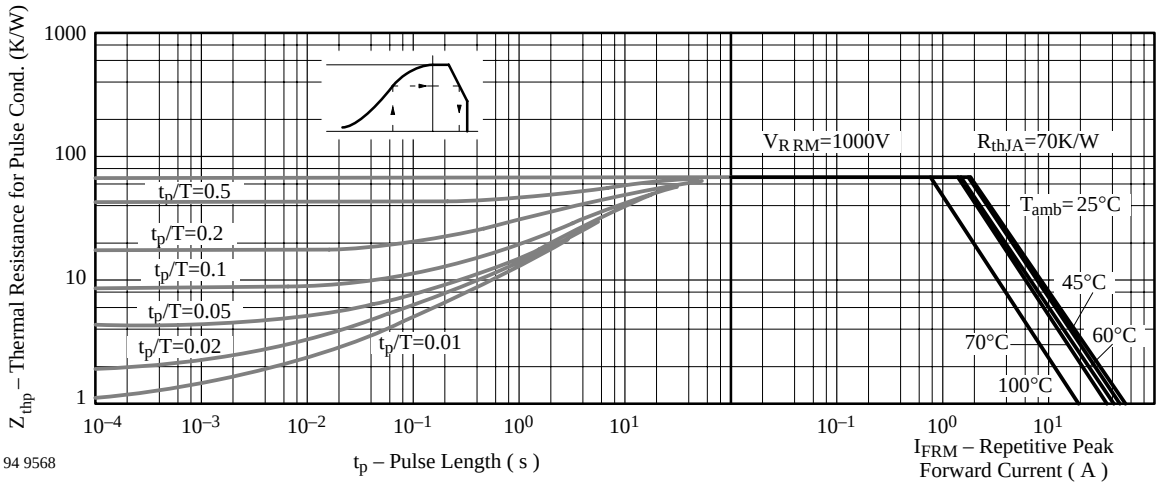


Figure 7. Thermal Response