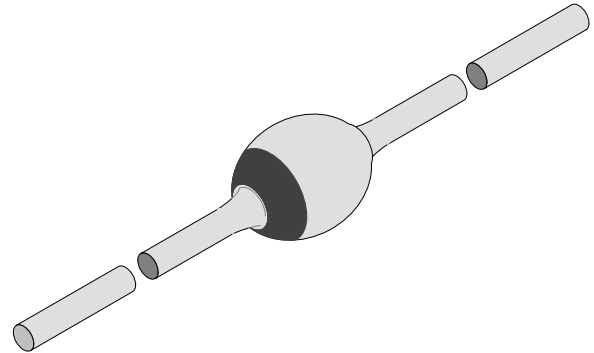


Fast Soft Recovery Rectifier

Features

- Miniature axial leaded
- Glass passivated
- Hermetically sealed glass envelope
- Low reverse current
- High reverse voltage



95 10526

Applications

TV and monitor
SMPS
Electronic ballast

Absolute Maximum Ratings

 $T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Reverse voltage= Repetitive peak reverse voltage		BYT42A	$V_R = V_{RRM}$	50	V
		BYT42B		100	
		BYT42D		200	
		BYT42G		400	
		BYT42J		600	
		BYT42K		800	
		BYT42M		1000	
Peak forward surge current	$t_p = 8.3$ ms, half sinewave		I_{FSM}	30	A
Average forward current	Lead length $l = 10$ mm, $T_L = 25^\circ\text{C}$		I_{FAV}	1.25	A
Junction and storage temperature range			$T_j = T_{stg}$	-55...+175	$^\circ\text{C}$
Non repetitive reverse avalanche energy	$I_{(BR)R} = 0.4$ A		E_R	10	mJ

Maximum Thermal Resistance

 $T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	Lead length $l = 10$ mm, $T_L = \text{constant}$	R_{thJA}	60	K/W
	on PC board with spacing 25mm		110	

Electrical Characteristics

$T_j = 25^\circ\text{C}$

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F = 1\text{A}$		V_F			1.4	V
Reverse current	$V_R = V_{RRM}$		I_R			5	μA
	$V_R = V_{RRM}, T_j = 150^\circ\text{C}$					150	
Reverse breakdown voltage	$I_R = 100\mu\text{A}$	BYT42A	$V_{(BR)R}$	50			V
		BYT42B		100			
		BYT42D		200			
		BYT42G		400			
		BYT42J		600			
		BYT42K		800			
		BYT42M		1000			
Reverse recovery time	$I_F = 0.5\text{A}, I_R = 1\text{A}, i_R = 0.25\text{A}$	BYT42A–BYT42J	t_{rr}			150	ns
		BYT42K–BYT42M				200	

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

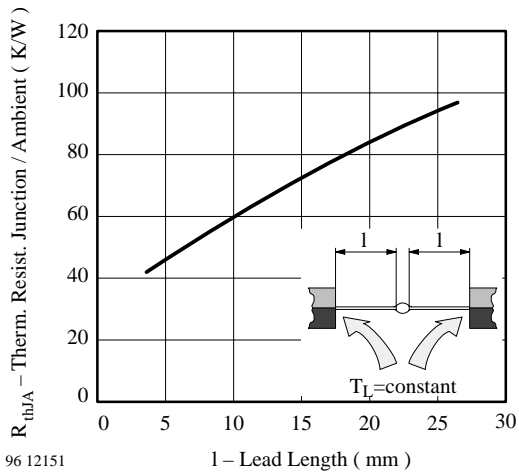


Figure 1. Max. Thermal Resistance vs. Lead Length

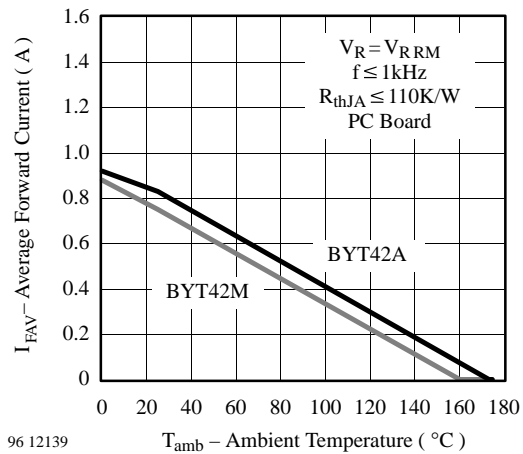


Figure 2. Max. Average Forward Current vs. Ambient Temperature

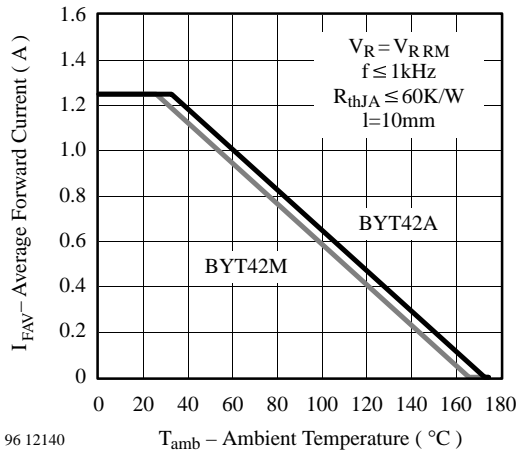


Figure 3. Max. Average Forward Current vs. Ambient Temperature

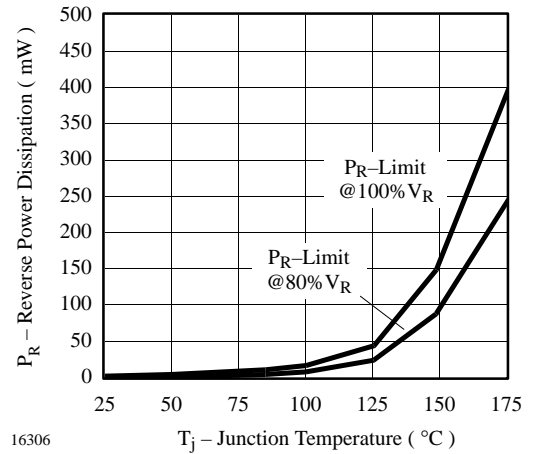


Figure 6. Max. Reverse Power Dissipation vs. Junction Temperature

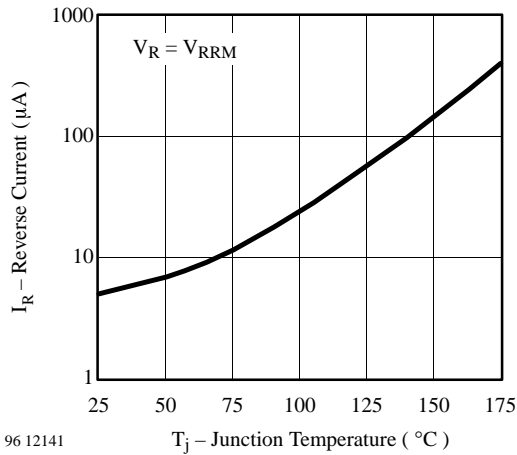


Figure 4. Max. Reverse Current vs. Junction Temperature

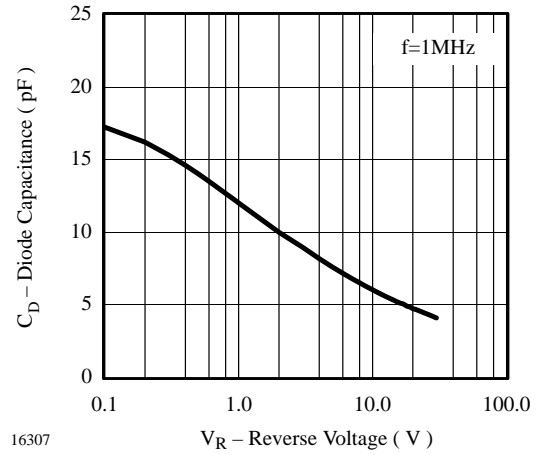


Figure 7. Diode Capacitance vs. Reverse Voltage

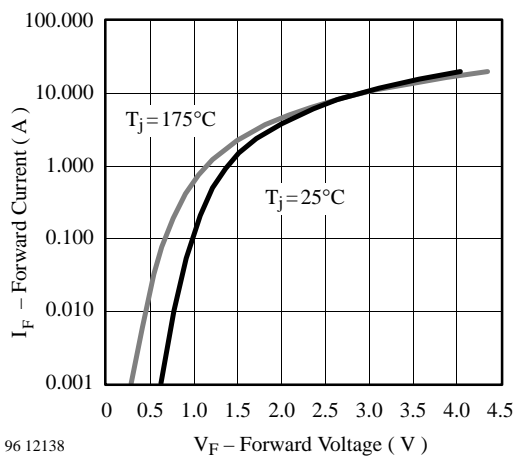
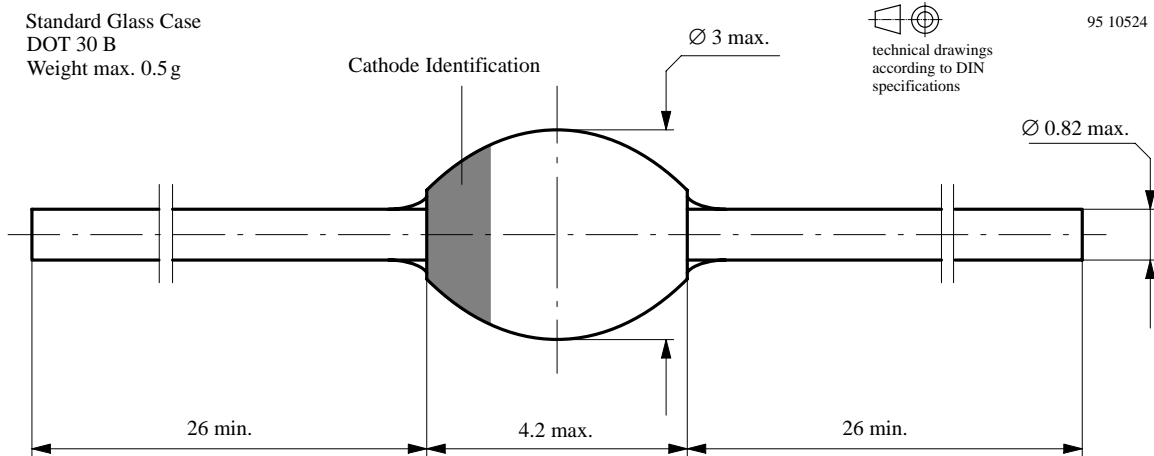


Figure 5. Max. Forward Current vs. Forward Voltage

Dimensions in mm

Standard Glass Case
DOT 30 B
Weight max. 0.5 g





Ozone Depleting Substances Policy Statement

It is the policy of **Vishay Semiconductor GmbH** to

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

We reserve the right to make changes to improve technical design and may do so without further notice.

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. Should the buyer use Vishay-Semiconductors products for any unintended or unauthorized application, the buyer shall indemnify Vishay-Semiconductors against all claims, costs, damages, and expenses, arising out of, directly or indirectly, any claim of personal damage, injury or death associated with such unintended or unauthorized use.

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