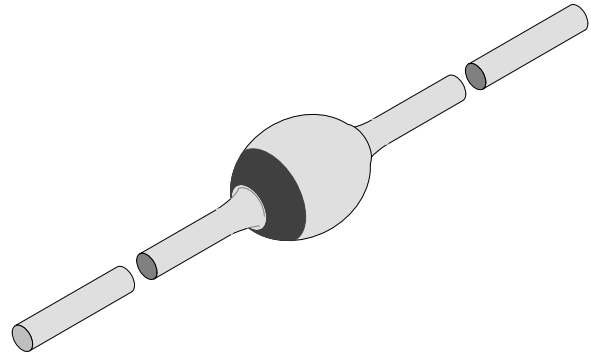


Fast Soft Recovery Rectifier

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
Repetitive peak reverse voltage		BYT42A	V_{RRM}	50	V
		BYT42B	V_{RRM}	100	V
		BYT42D	V_{RRM}	200	V
		BYT42G	V_{RRM}	400	V
		BYT42J	V_{RRM}	600	V
		BYT42K	V_{RRM}	800	V
		BYT42M	V_{RRM}	1000	V
Reverse voltage		BYT42A	V_R	50	V
		BYT42B	V_R	100	V
		BYT42D	V_R	200	V
		BYT42G	V_R	400	V
		BYT42J	V_R	600	V
		BYT42K	V_R	800	V
		BYT42M	V_R	1000	V
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 temperature			T_j	175	$^\circ\text{C}$
Storage temperature range			T_{stg}	-55...+175	$^\circ\text{C}$

Maximum Thermal Resistance

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

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

Characteristics

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

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

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

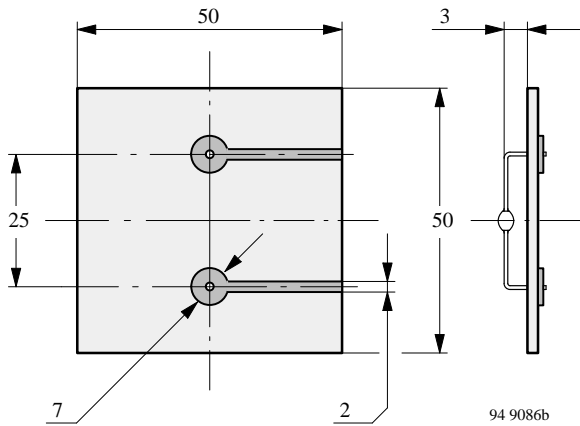


Figure 1. Epoxy glass hard tissue, board thickness 1.5 mm,
 $R_{thJA} \cong 110 \text{ K/W}$

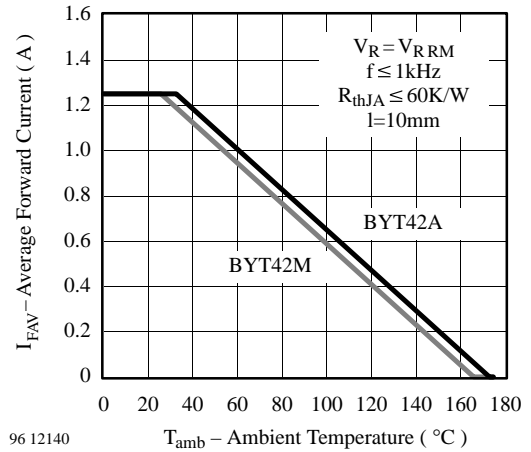


Figure 4. Average Forward Current vs. Ambient Temperature

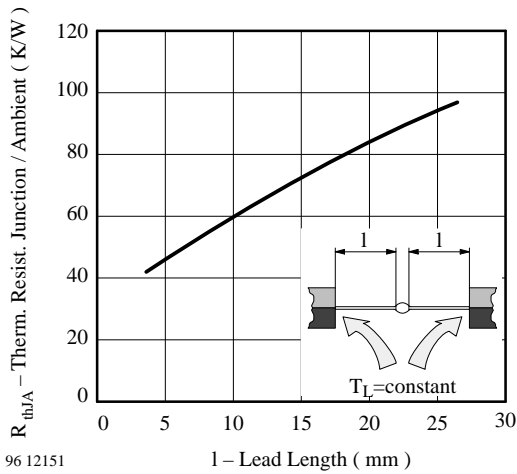


Figure 2. Thermal Resistance vs. Lead Length

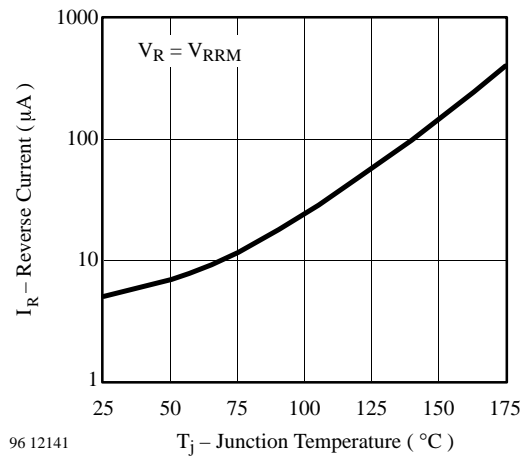


Figure 5. Reverse Current vs. Junction Temperature

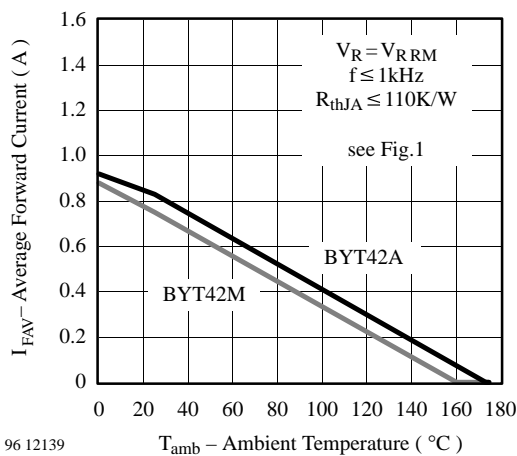


Figure 3. Average Forward Current vs. Ambient Temperature

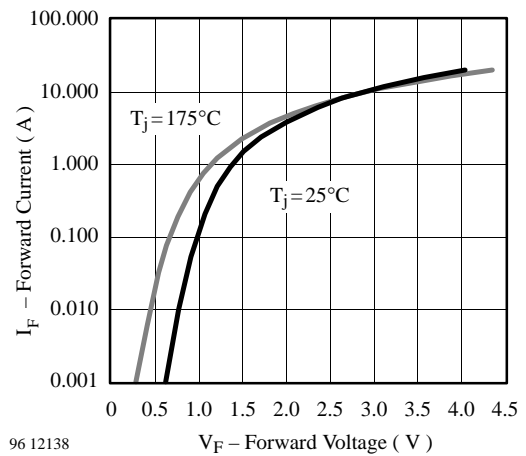
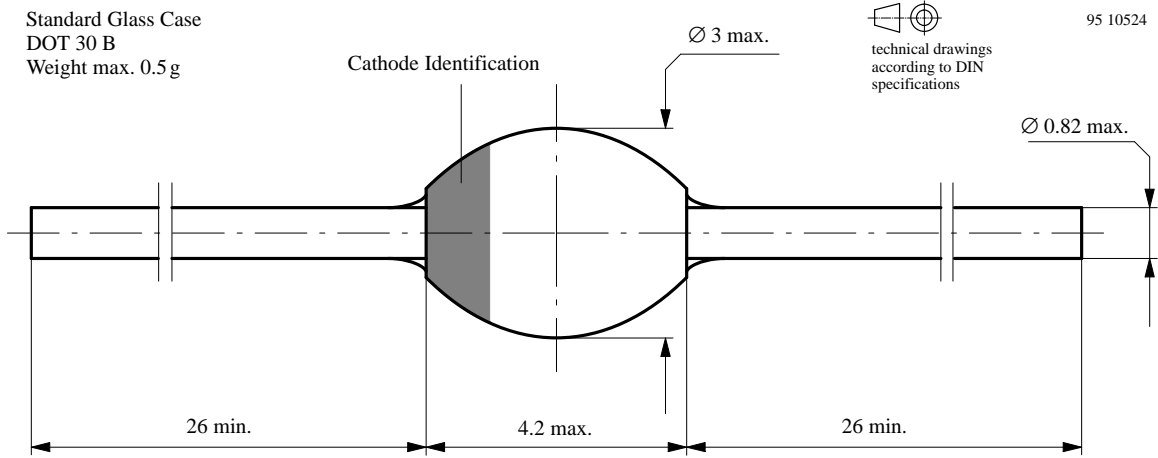


Figure 6. Forward Current vs. Forward Voltage

Dimensions in mm



Ozone Depleting Substances Policy Statement

It is the policy of **TEMIC TELEFUNKEN microelectronic 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.

TEMIC TELEFUNKEN microelectronic GmbH semiconductor division 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.

TEMIC 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 TEMIC products for any unintended or unauthorized application, the buyer shall indemnify TEMIC 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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