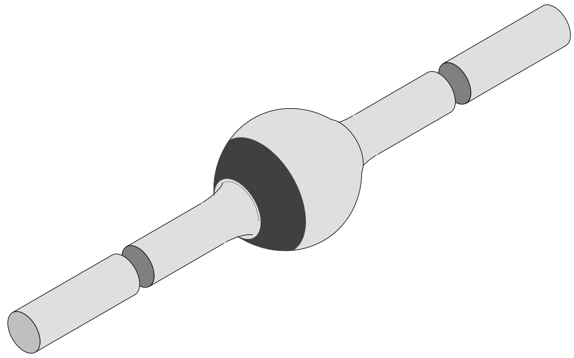
Very Fast Soft–Recovery Avalanche Rectifier

Features

- Glass passivated
- Hermetically sealed package
- Very low switching losses
- Low reverse current
- High reverse voltage



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Applications

Switched mode power supplies
High–frequency inverter circuits

Absolute Maximum Ratings

T_j = 25°C

Parameter	Test Conditions	Type	Symbol	Value	Unit
Repetitive peak reverse voltage		BYM36A	V_{RRM}	200	V
		BYM36B	V_{RRM}	400	V
		BYM36C	V_{RRM}	600	V
		BYM36D	V_{RRM}	800	V
		BYM36E	V_{RRM}	1000	V
Reverse voltage		BYM36A	V_R	200	V
		BYM36B	V_R	400	V
		BYM36C	V_R	600	V
		BYM36D	V_R	800	V
		BYM36E	V_R	1000	V
Peak forward surge current	t_p=10ms, half sinewave		I_{FSM}	65	A
Average forward current		BYM36A	I_{FAV}	3	A
		BYM36B	I_{FAV}	3	A
		BYM36C	I_{FAV}	3	A
		BYM36D	I_{FAV}	2.9	A
		BYM36E	I_{FAV}	2.9	A
Non repetitive reverse avalanche energy	$I_{(BR)R}$=400mA, inductive load		E_R	10	mJ
Junction temperature			T_j	175	˚C
Storage temperature range			T_{stg}	–55...+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

Characteristics

T_j = 25°C

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F=3A	BYM36A	V_F			1.6	V
		BYM36B	V_F			1.6	V
		BYM36C	V_F			1.6	V
		BYM36D	V_F			1.78	V
		BYM36E	V_F			1.78	V
	I_F=3A, T_j=175°C	BYM36A	V_F			1.22	V
		BYM36B	V_F			1.22	V
		BYM36C	V_F			1.22	V
		BYM36D	V_F			1.28	V
		BYM36E	V_F			1.28	V
Reverse current	V_R=V_{RRM}		I_R			5	μA
	V_R=V_{RRM}, T_j=150°C		I_R			100	μA
Reverse breakdown voltage	I_R=100μA	BYM36A	$V_{(BR)R}$	300			V
		BYM36B	$V_{(BR)R}$	500			V
		BYM36C	$V_{(BR)R}$	700			V
		BYM36D	$V_{(BR)R}$	900			V
		BYM36E	$V_{(BR)R}$	1100			V
Reverse recovery time	I_F=0.5A, I_R=1A, i_R=0.25A	BYM36A	t_{rr}			100	ns
		BYM36B	t_{rr}			100	ns
		BYM36C	t_{rr}			100	ns
		BYM36D	t_{rr}			150	ns
		BYM36E	t_{rr}			150	ns
Switching behaviour	I_F=2A, I_{RM}=1A, V_R=400V, Fig. 1		I_{SLP}			–200	mA

Typical Characteristics (T$_j$ = 25°C unless otherwise specified)

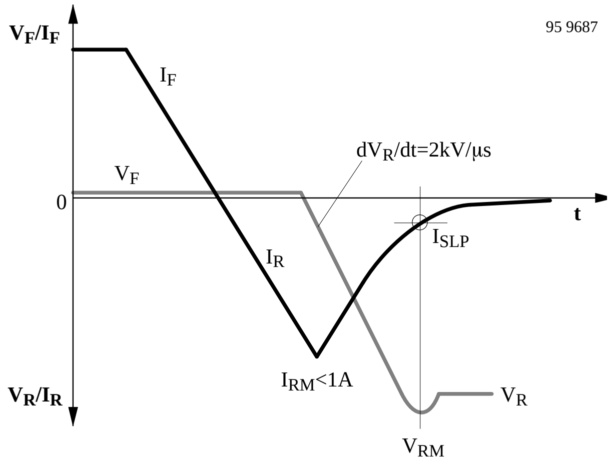


Figure 1. I_{SLP}–Definition

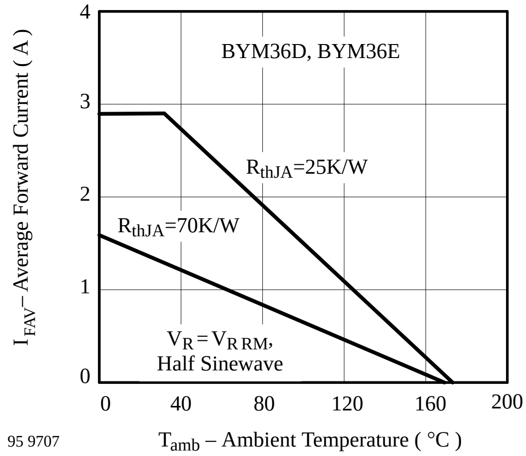


Figure 4. Average Forward Current vs. Ambient Temperature

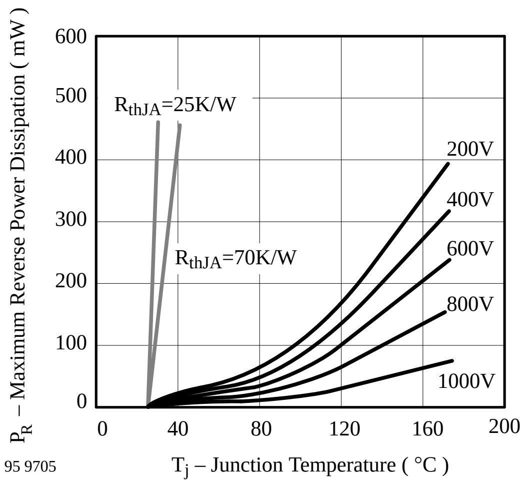


Figure 2. .Maximum Reverse Power Dissipation vs. Junction Temperature

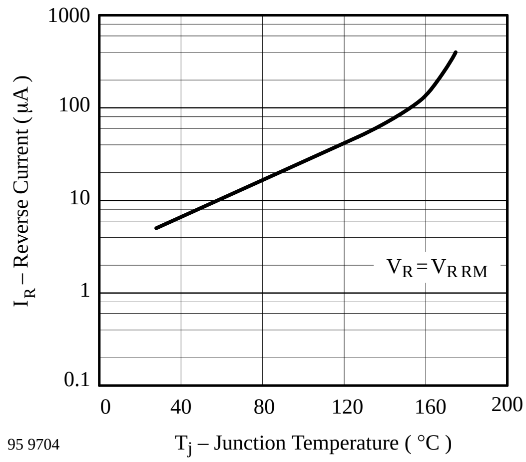


Figure 5. Reverse Current vs. Junction Temperature

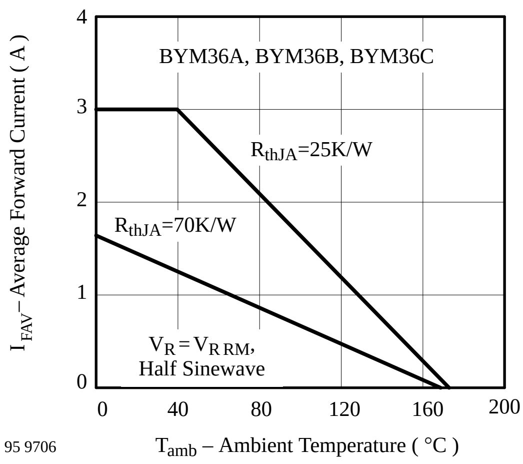


Figure 3. Average Forward Current vs. Ambient Temperature

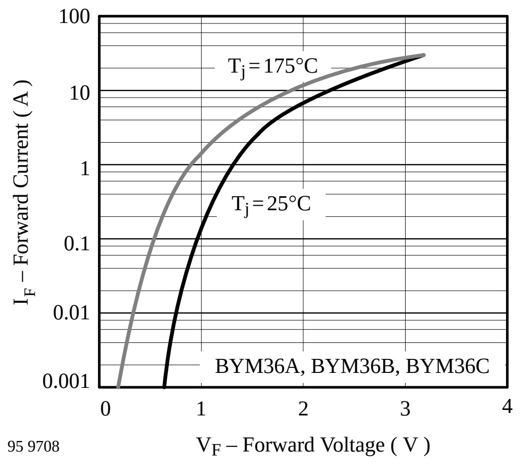


Figure 6. Forward Current vs. Forward Voltage

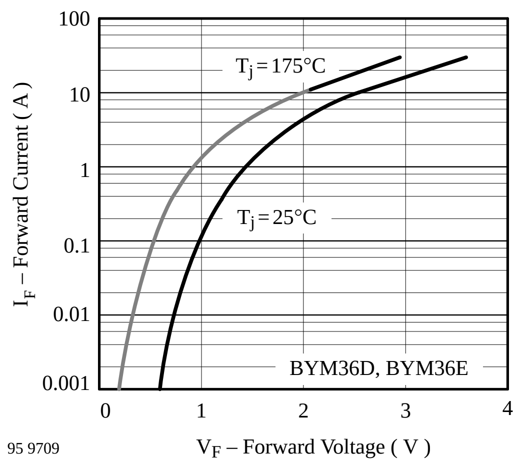
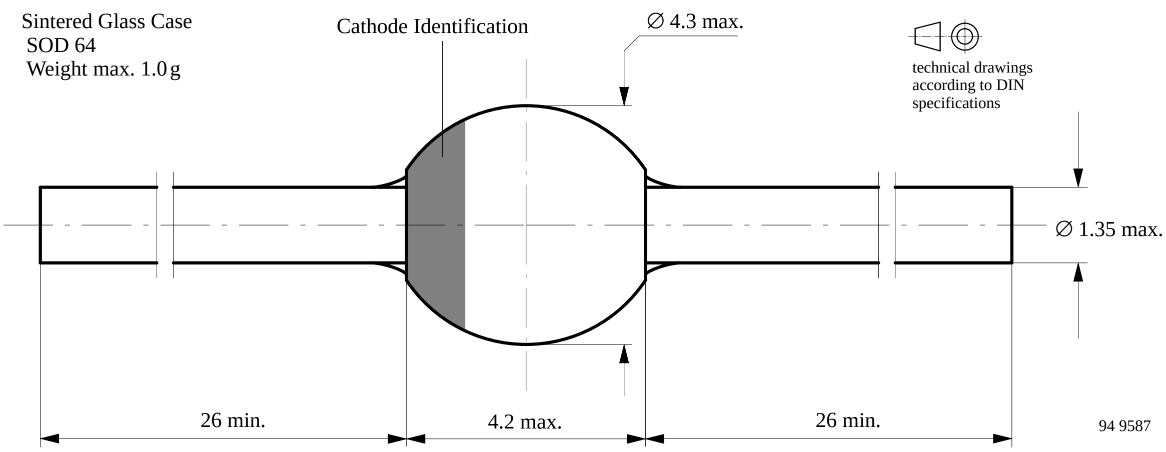


Figure 7. Forward Current vs. Forward Voltage

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.

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