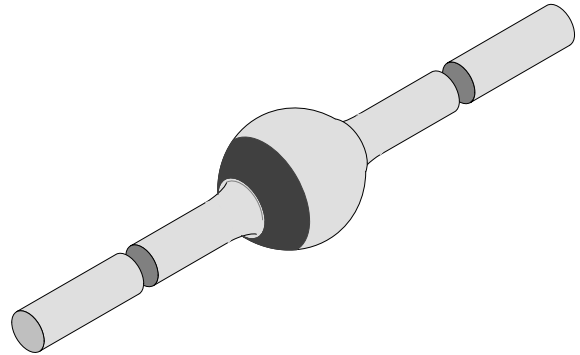# Ultra Fast Silicon Mesa Rectifiers

Features

- Controlled avalanche characteristic
- Low forward voltage
- Ultra fast recovery time
- Glass passivated junction
- Hermetically sealed package

Applications

Very fast rectifier e.g. for switch mode power supply

94 9588

Absolute Maximum Ratings

$T_j = 25°C$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Peak reverse voltage, non repetitive		BYV28/50	V_{RSM}	55	V
		BYV28/100	V_{RSM}	110	V
		BYV28/150	V_{RSM}	165	V
		BYV28/200	V_{RSM}	220	V
Reverse voltage		BYV28/50	$V_R=V_{RRM}$	50	V
		BYV28/100	$V_R=V_{RRM}$	100	V
		BYV28/150	$V_R=V_{RRM}$	150	V
		BYV28/200	$V_R=V_{RRM}$	200	V
Peak forward surge current	$t_p=10ms$		I_{FSM}	90	A
Repetitive peak forward current			I_{FRM}	25	A
Average forward current			I_{FAV}	3.5	A
Max. pulse energy in the avalanche mode, non repetitive (inductive load switch off)	$I_{(BR)R}=0.6A$, $T_j=175°C$		E_R	20	mWs
Junction temperature			T_j	175	°C
Storage temperature range			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

Characteristics

$T_j = 25°C$

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F=5A		V_F			1.1	V
	I_F=5A, T_j=175°C		V_F			0.89	V
Reverse current	V_R=V_{RRM}		I_R			1	µA
	V_{RSM}		I_R			100	µA
	V_R=V_{RRM}, T_j=165°C		I_R			150	µA
Reverse recovery time	I_F=0.5A, I_R=1A, i_R=0.25A		t_{rr}			30	ns

Typical Characteristics ($T_j = 25°C$ unless otherwise specified)
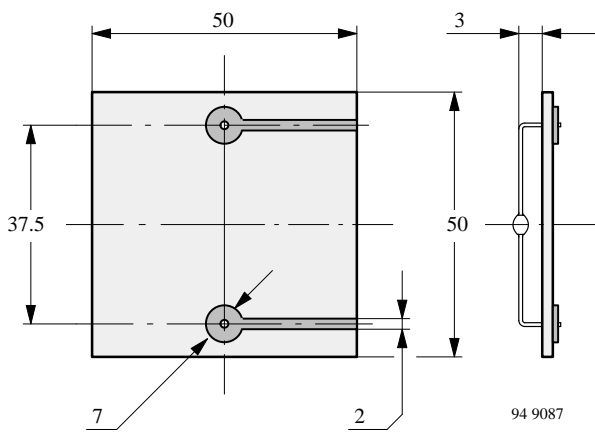
Figure 1. Epoxy glass hard tissue, board thickness 1.5 mm, $R_{thJA} \leqq 70$ K/W
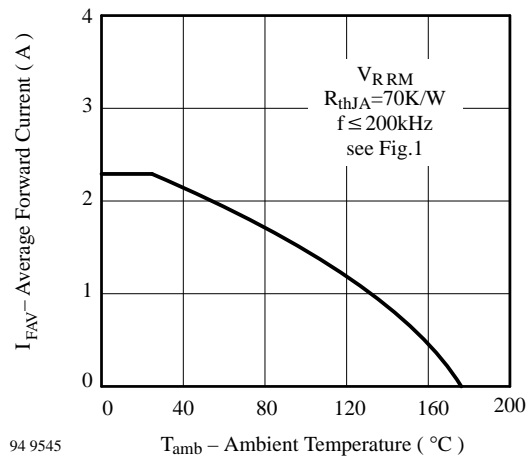

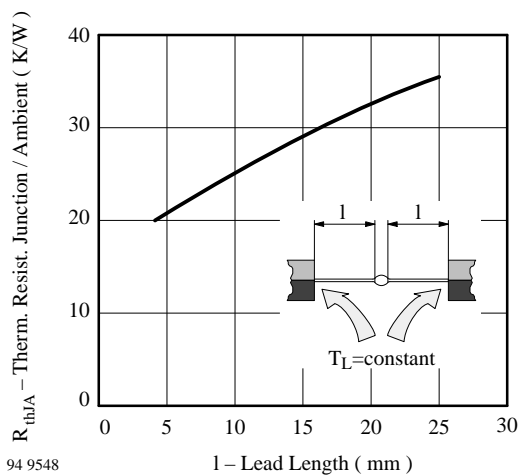Figure 3. Average Forward Current vs. Ambient Temperature

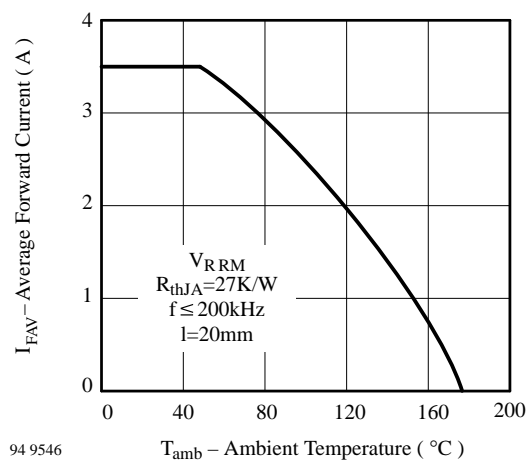Figure 2. Thermal Resistance vs. Lead Length

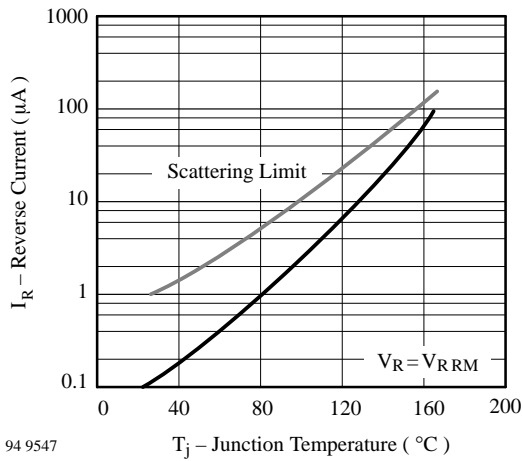
Figure 4. Average Forward Current vs. Ambient Temperature
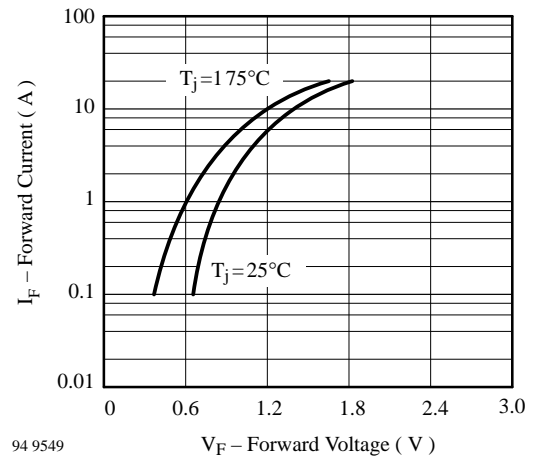
Figure 5. Reverse Current vs. Junction Temperature

Figure 6. Forward Current vs. Forward Voltage

Dimensions in mm

Sintered Glass Case
SOD 64
Weight max. 1.0 g

Cathode Identification

∅ 4.3 max.

technical drawings
according to DIN
specifications

∅ 1.35 max.

26 min.

4.2 max.

26 min.

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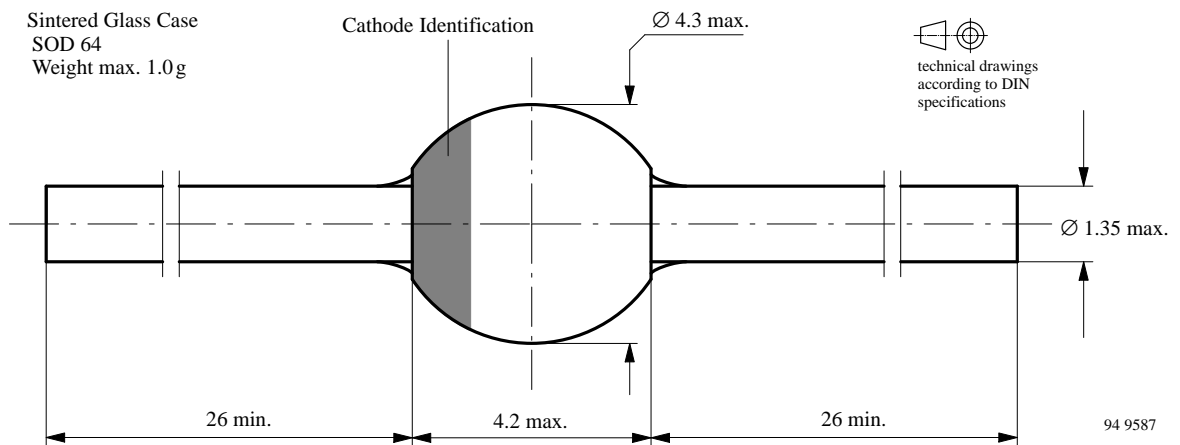
Ozone Depleting Substances Policy Statement

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.