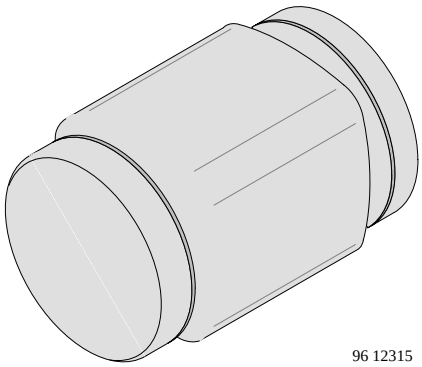
BAV300...BAV303

Silicon Epitaxial Planar Diodes

Features

- Saving space
- Hermetic sealed parts
- Fits onto SOD 323 / SOT 23 footprints
- Electrical data identical with the devices BAV100...BAV103 / BAV200...BAV203



Applications

General purposes

Absolute Maximum Ratings

T_j = 25°C

Parameter	Test Conditions	Type	Symbol	Value	Unit
Peak reverse voltage		BAV300	V_{RRM}	60	V
		BAV301	V_{RRM}	120	V
		BAV302	V_{RRM}	200	V
		BAV303	V_{RRM}	250	V
Reverse voltage		BAV300	V_R	50	V
		BAV301	V_R	100	V
		BAV302	V_R	150	V
		BAV303	V_R	200	V
Forward current			I_F	250	mA
Peak forward surge current	t_p=1s, T_j=25˚C		I_{FSM}	1	A
Forward peak current	f=50Hz		I_{FM}	625	mA
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	mounted on epoxy–glass hard tissue, Fig. 1 35µm copper clad, 0.9 mm^2 copper area per electrode	R_{thJA}	500	K/W

Characteristics

T_j = 25°C

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F=100mA		V_F			1	V
Reverse current	V_R=50V	BAV300	I_R			100	nA
	V_R=100V	BAV301	I_R			100	nA
	V_R=150V	BAV302	I_R			100	nA
	V_R=200V	BAV303	I_R			100	nA
Reverse current	T_j=100˚C, V_R= 50V	BAV300	I_R			15	µA
	T_j=100˚C, V_R= 100V	BAV301	I_R			15	µA
	T_j=100˚C, V_R= 150V	BAV302	I_R			15	µA
	T_j=100˚C, V_R= 200V	BAV303	I_R			15	µA
Breakdown voltage	I_R=100µA, t_p/T=0.01, t_p=0.3ms	BAV300	$V_{(BR)}$	60			V
		BAV301	$V_{(BR)}$	120			V
		BAV302	$V_{(BR)}$	200			V
		BAV303	$V_{(BR)}$	250			V
Diode capacitance	V_R=0, f=1MHz		C_D		1.5		pF
Differential forward resistance	I_F=10mA		r_f		5		Ω
Reverse recovery time	I_F=I_R=30mA, i_R=3mA, R_L=100Ω		t_{rr}			50	ns

Typical Characteristics (T_j = 25°C unless otherwise specified)

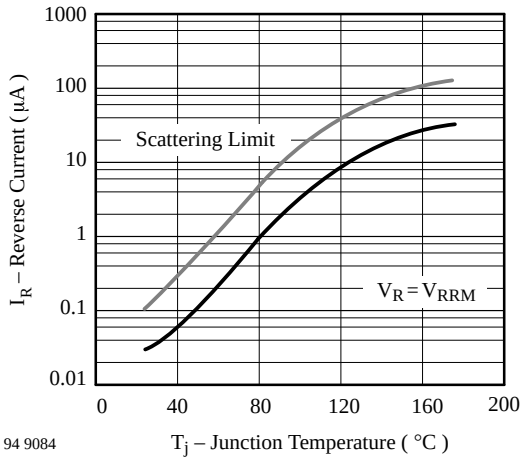


Figure 1. Reverse Current vs. Junction Temperature

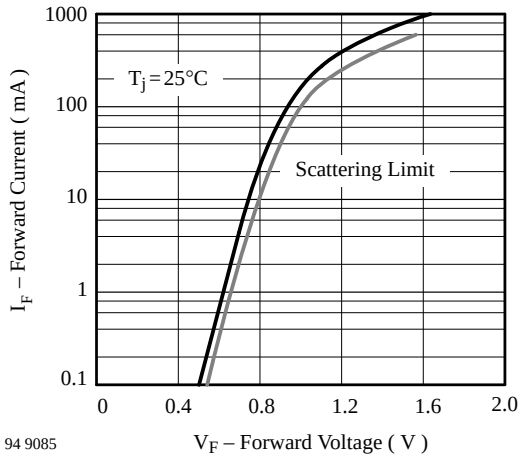


Figure 2. Forward Current vs. Forward Voltage

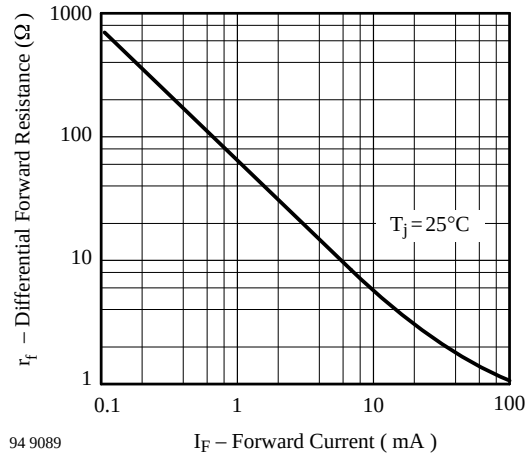


Figure 3. Differential Forward Resistance vs. Forward Current

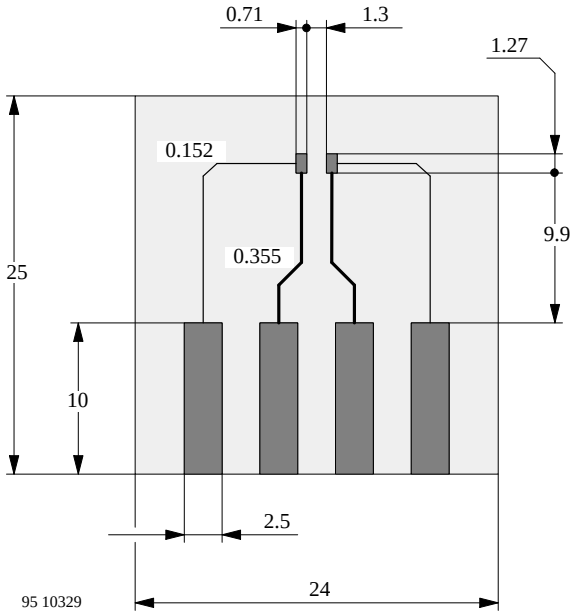


Figure 4. Board for R_{thJA} definition (in mm)

Reflow Soldering

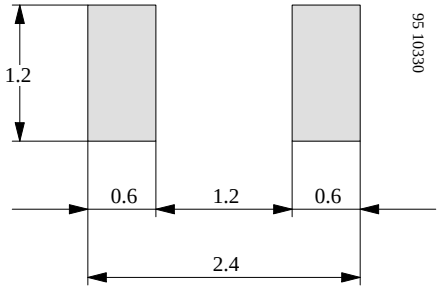


Figure 5. Recommended foot pads (in mm)

Wave Soldering

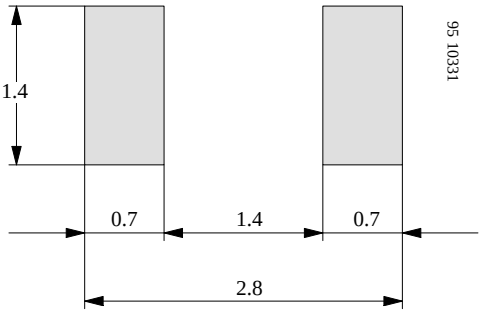
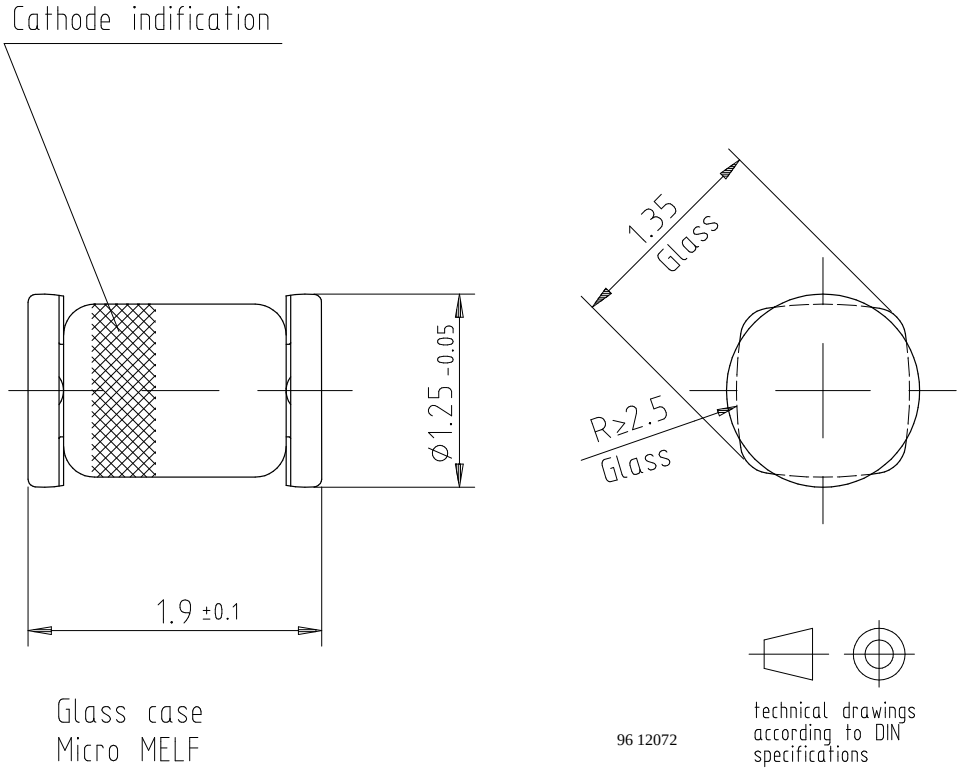


Figure 6. Recommended foot pads (in mm)

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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