

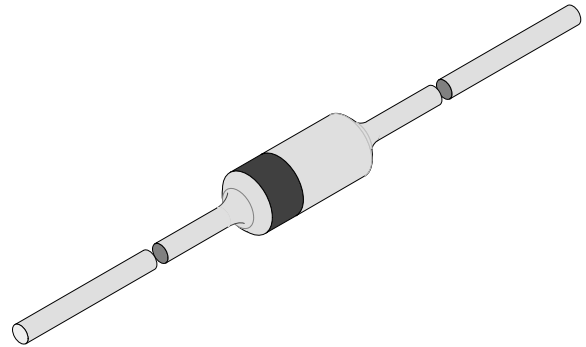
Silicon Epitaxial Planar Diode

Features

- Low forward voltage drop
- High forward current capability

Applications

High speed switch and general purpose use in computer and industrial applications



94 9367

Absolute Maximum Ratings

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

Parameter	Test Conditions	Type	Symbol	Value	Unit
Repetitive peak reverse voltage			V_{RRM}	50	V
Reverse voltage			V_R	50	V
Peak forward surge current	$t_p = 1\mu\text{s}$		I_{FSM}	4	A
Forward current			I_F	600	mA
Average forward current	$V_R = 0$		I_{FAV}	300	mA
Power dissipation	$l = 4\text{mm}, T_L = 45^\circ\text{C}$		P_V	440	mW
	$l = 4\text{mm}, T_L \leq 25^\circ\text{C}$		P_V	500	mW
Junction temperature			T_j	175	$^\circ\text{C}$
Storage temperature range			T_{stg}	-65...+175	$^\circ\text{C}$

Maximum Thermal Resistance

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

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	$l = 4\text{mm}, T_L = \text{constant}$	R_{thJA}	350	K/W

Characteristics

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

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=1\text{mA}$		V_F	0.54		0.62	V
	$I_F=10\text{mA}$		V_F	0.66		0.74	V
	$I_F=50\text{mA}$		V_F	0.76		0.86	V
	$I_F=100\text{mA}$		V_F	0.82		0.92	V
	$I_F=200\text{mA}$		V_F	0.87		1.0	V
Reverse current	$V_R=50\text{V}$		I_R			100	nA
	$V_R=50\text{V}, T_j=150^\circ\text{C}$		I_R			100	μA
Diode capacitance	$V_R=0, f=1\text{MHz}, V_{HF}=50\text{mV}$		C_D			2.5	pF
Reverse recovery time	$I_F=I_R=10\dots100\text{mA}, i_R=0.1I_R, R_L=100\Omega$		t_{rr}			4	ns

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

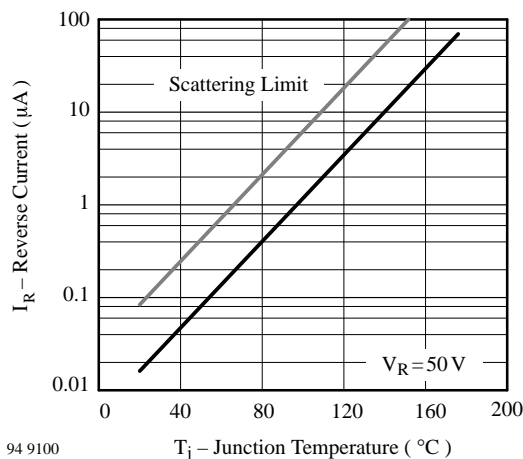


Figure 1. Reverse Current vs. Junction Temperature

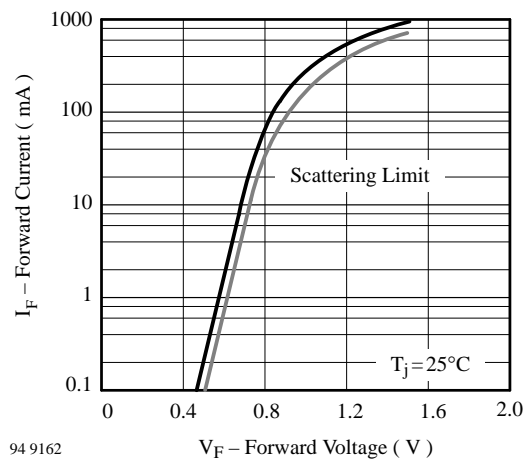
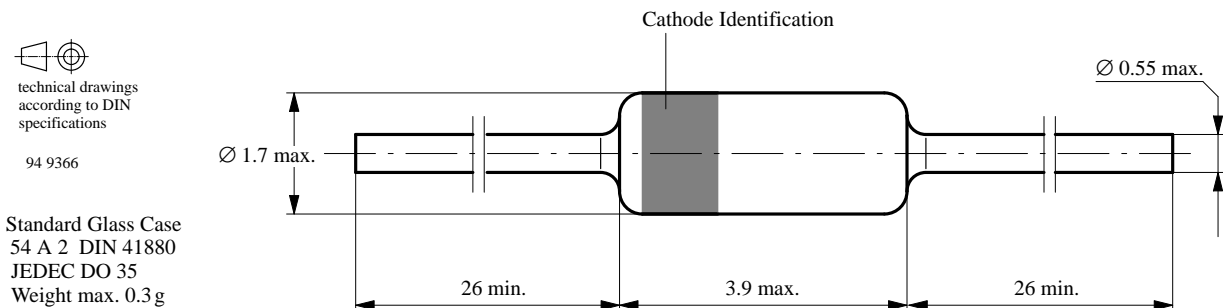


Figure 2. Forward Current vs. Forward Voltage

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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