

DATA SHEET

M3D116

1N4001G to 1N4007G **Rectifiers**

Product specification
replaces data of April 1992

1996 May 24

Rectifiers

1N4001G to 1N4007G

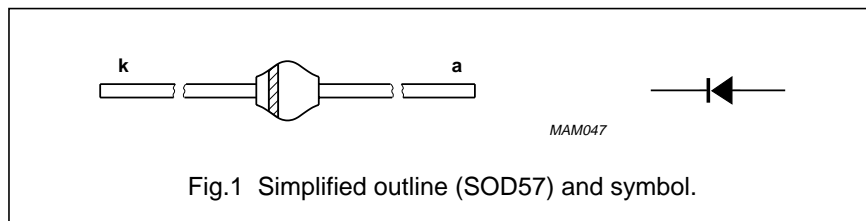
FEATURES

- Glass passivated
- High maximum operating temperature
- Low leakage current
- Excellent stability
- Available in ammo-pack.

DESCRIPTION

Rugged glass package, using a high temperature alloyed construction.

This package is hermetically sealed and fatigue free as coefficients of expansion of all used parts are matched.



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{RRM}	repetitive peak reverse voltage				
	1N4001G		–	50	V
	1N4002G		–	100	V
	1N4003G		–	200	V
	1N4004G		–	400	V
	1N4005G		–	600	V
	1N4006G 1N4007G		–	800 1000	V
V _R	continuous reverse voltage				
	1N4001G		–	50	V
	1N4002G		–	100	V
	1N4003G		–	200	V
	1N4004G		–	400	V
	1N4005G		–	600	V
	1N4006G 1N4007G		–	800 1000	V
I _{F(AV)}	average forward current	averaged over any 20 ms period; T _{amb} = 75 °C; see Fig.2	–	1.00	A
		averaged over any 20 ms period; T _{amb} = 100 °C; see Fig.2	–	0.75	A
I _F	continuous forward current	T _{amb} = 75 °C; see Fig.2	–	1.00	A
I _{FRM}	repetitive peak forward current		–	10	A
I _{FSM}	non-repetitive peak forward current	half sinewave; 60 Hz	–	30	A
T _{stg}	storage temperature		–65	+175	°C
T _j	junction temperature		–65	+175	°C

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ELECTRICAL CHARACTERISTICS

$T_j = 25\text{ °C}$; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
V_F	forward voltage	$I_F = 1\text{ A}$; see Fig.3	1.1	V
$V_{F(AV)}$	full-cycle average forward voltage	$I_{F(AV)} = 1\text{ A}$	0.8	V
I_R	reverse current	$V_R = V_{Rmax}$	10	μA
		$V_R = V_{Rmax}$; $T_{amb} = 100\text{ °C}$	50	μA
$I_{R(AV)}$	full-cycle average reverse current	$V_R = V_{RRMmax}$; $T_{amb} = 75\text{ °C}$	30	μA

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-tp}$	thermal resistance from junction to tie-point	lead length = 10 mm	46	K/W
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	100	K/W

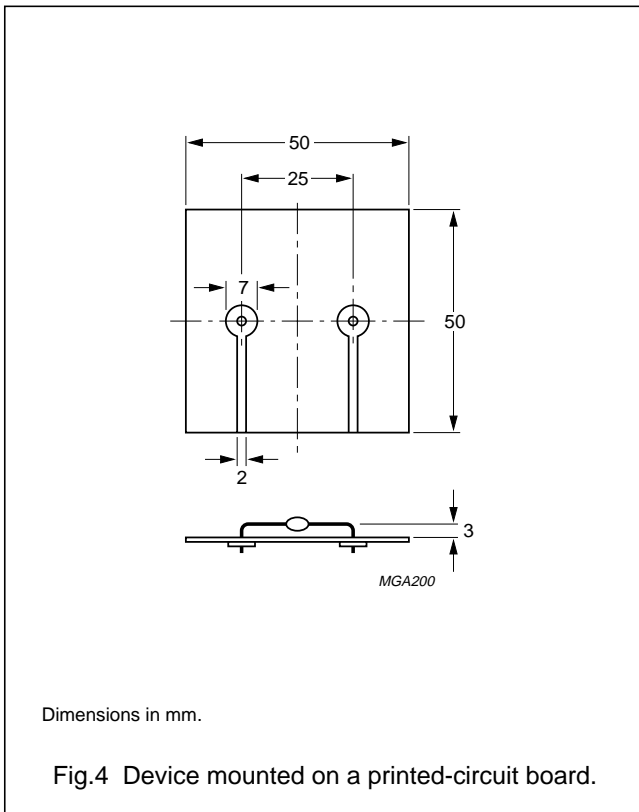
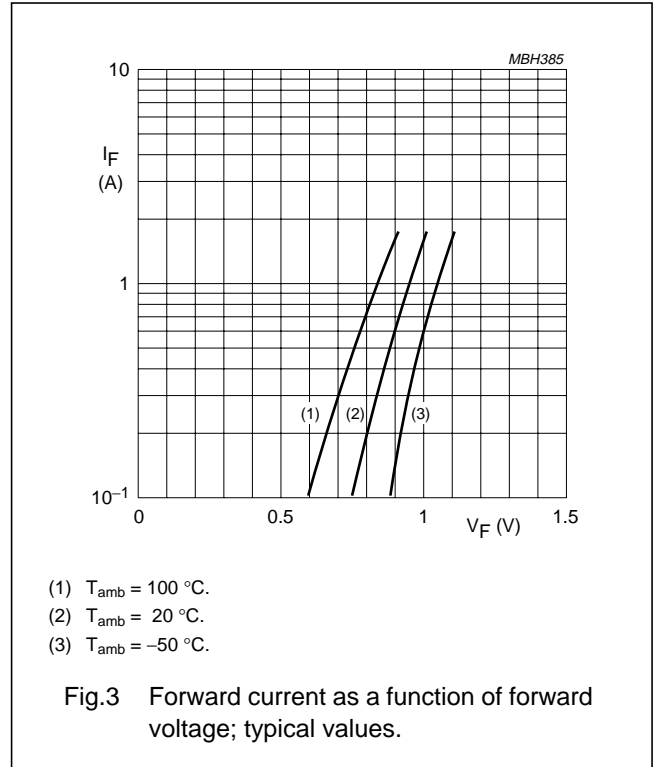
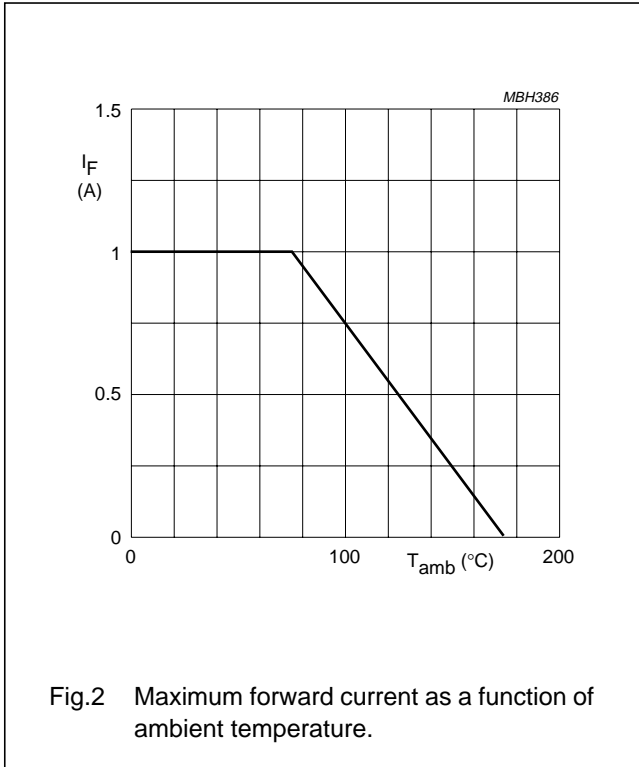
Note

1. Device mounted on epoxy-glass printed-circuit board, 1.5 mm thick; thickness of copper $\geq 40\ \mu\text{m}$, see Fig.4. For more information please refer to the "General Part of associated Handbook".

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GRAPHICAL DATA



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PACKAGE OUTLINE



Dimensions in mm.

Fig.5 SOD57.

DEFINITIONS

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

LIFE SUPPORT APPLICATIONS

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.