

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number: PMEG2005AELD,315
Manufacturer: Nexperia USA Inc.
Package: 2-XDFN
Availability: Please confirm with sales

Product Page:

<https://antrexco.com/product/details/nexperia-usa-inc/pmeg2005aeld-315.html>

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Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.



PMEG2005AELD

20 V, 0.5 A low VF Schottky barrier rectifier

12 August 2026

Product data sheet

1. General description

Planar Schottky barrier rectifier with an integrated guard ring for stress protection, encapsulated in a SOD882D leadless ultra small Surface-Mounted Device (SMD) plastic package with visible and solderable side pads.

2. Features and benefits

- Forward current: $I_F \leq 0.5$ A
- Reverse voltage: $V_R \leq 20$ V
- Low forward voltage: $V_F \leq 440$ mV
- Ultra small and leadless SMD plastic package
- Solderable side pads
- Package height typ. 0.37 mm

3. Applications

- Low voltage rectification
- High efficiency DC-to-DC conversion
- Switch Mode Power Supply (SMPS)
- Reverse polarity protection
- Low power consumption applications
- Ultra high-speed switching

4. Quick reference data

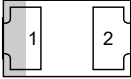
Table 1. Quick reference data

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
$I_{F(AV)}$	average forward current	square-wave pulse; $\delta = 0.5$; $f = 20$ kHz; $T_{amb} \leq 85$ °C	[1]	-	-	0.5	A
		square-wave pulse; $\delta = 0.5$; $f = 20$ kHz; $T_{sp} \leq 130$ °C		-	-	0.5	A
I_R	reverse current	$V_R = 10$ V; $T_{amb} = 25$ °C		-	300	600	μ A
V_R	reverse voltage			-	-	20	V
V_F	forward voltage	$I_F = 500$ mA; single pulse; $t_p \leq 300$ μ s; $\delta \leq 0.02$; $T_{amb} = 25$ °C		-	365	440	mV

[1] Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for cathode 1 cm².

5. Pinning information

Table 2. Pinning information

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	K	cathode[1]	 Transparent top view DFN1006D-2 (SOD882D)	 <i>sym001</i>
2	A	anode		

[1] The marking bar indicates the cathode.

6. Ordering information

Table 3. Ordering information

Type number	Package		
	Name	Description	Version
PMEG2005AELD	DFN1006D-2	leadless ultra small plastic package with side-wettable flanks (SWF); 2 terminals; 0.65 mm pitch; 1 mm x 0.6 mm x 0.4 mm body	SOD882D

7. Marking

Table 4. Marking codes

Type number	Marking code
PMEG2005AELD	1001 0000

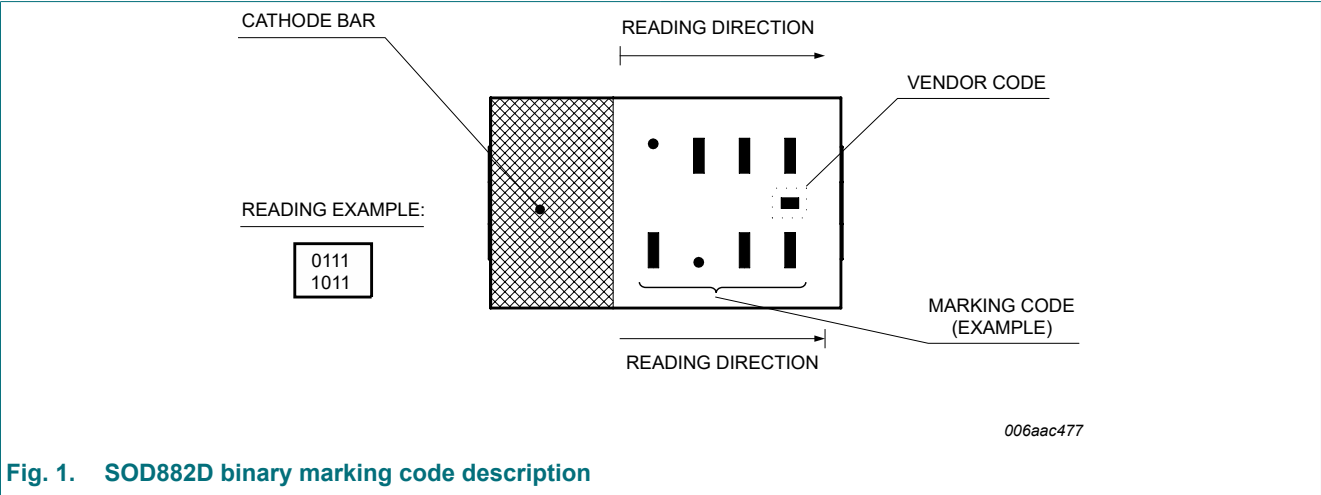


Fig. 1. SOD882D binary marking code description

8. Limiting values

Table 5. Limiting values

In accordance with the Absolute Maximum Rating System (IEC 60134).

Symbol	Parameter	Conditions		Min	Max	Unit
V_R	reverse voltage			-	20	V
$I_{F(AV)}$	average forward current	square-wave pulse; $\delta = 0.5$; $f = 20$ kHz; $T_{amb} \leq 85$ °C	[1]	-	0.5	A
		square-wave pulse; $\delta = 0.5$; $f = 20$ kHz; $T_{sp} \leq 130$ °C		-	0.5	A
I_{FRM}	repetitive peak forward current	$t_p \leq 1$ ms; $\delta \leq 0.25$		-	2.5	A
I_{FSM}	non-repetitive peak forward current	square-wave pulse; $t_p = 8$ ms; $T_{j(init)} = 25$ °C		-	3	A
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C	[2]	-	340	mW
			[1]	-	660	mW
			[3]	-	1	W
T_j	junction temperature			-	150	°C
T_{amb}	ambient temperature			-55	150	°C
T_{stg}	storage temperature			-65	150	°C

[1] Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for cathode 1 cm².

[2] Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

[3] Device mounted on a ceramic PCB, Al₂O₃, standard footprint.

9. Thermal characteristics

Table 6. Thermal characteristics

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
$R_{th(j-a)}$	thermal resistance from junction to ambient	in free air	[1] [2]	-	-	370	K/W
			[1] [3]	-	-	190	K/W
			[1] [4]	-	-	125	K/W
$R_{th(j-sp)}$	thermal resistance from junction to solder point		[5]	-	-	50	K/W

[1] For Schottky barrier diodes thermal runaway has to be considered, as in some applications the reverse power losses P_R are a significant part of the total power losses.

[2] Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

[3] Device mounted on an FR4 PCB, single-sided copper, tin-plated, mounting pad for cathode 1cm².

[4] Device mounted on a ceramic PCB, Al₂O₃, standard footprint.

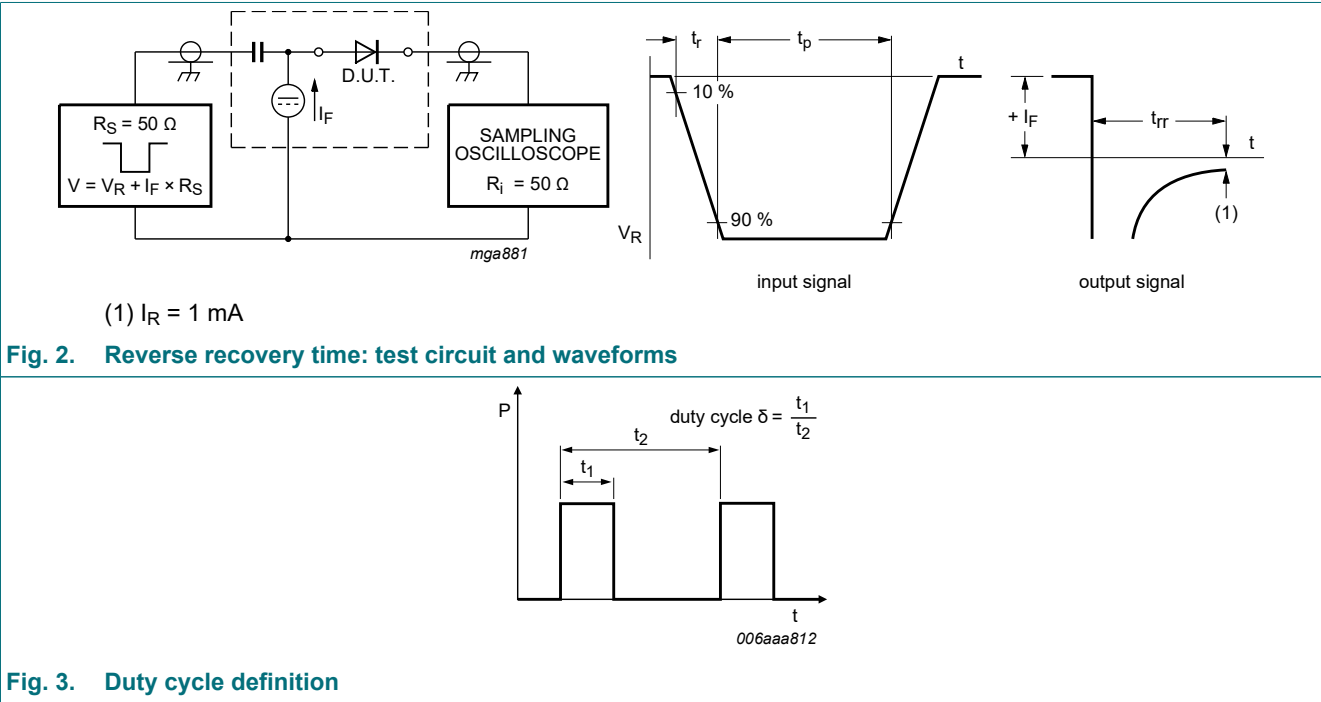
[5] Soldering point of cathode tab.

10. Characteristics

Table 7. Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V _F	forward voltage	I _F = 0.1 mA; pulsed; t _p ≤ 300 μs; δ ≤ 0.02; T _{amb} = 25 °C	-	20	60	mV
		I _F = 1 mA; pulsed; t _p ≤ 300 μs; δ ≤ 0.02; T _{amb} = 25 °C	-	65	110	mV
		I _F = 10 mA; pulsed; t _p ≤ 300 μs; δ ≤ 0.02; T _{amb} = 25 °C	-	125	190	mV
		I _F = 100 mA; pulsed; t _p ≤ 300 μs; δ ≤ 0.02; T _{amb} = 25 °C	-	210	290	mV
		I _F = 500 mA; single pulse; t _p ≤ 300 μs; δ ≤ 0.02; T _{amb} = 25 °C	-	365	440	mV
I _R	reverse current	V _R = 10 V; T _{amb} = 25 °C	-	300	600	μA
		V _R = 20 V; T _{amb} = 25 °C	-	500	1500	μA
C _d	diode capacitance	V _R = 1 V; f = 1 MHz; T _{amb} = 25 °C	-	19	25	pF
t _{rr}	reverse recovery time	I _F = 10 mA; I _R = 10 mA; I _{R(meas)} = 1 mA; R _L = 100 Ω	-	6	-	ns

11. Test information



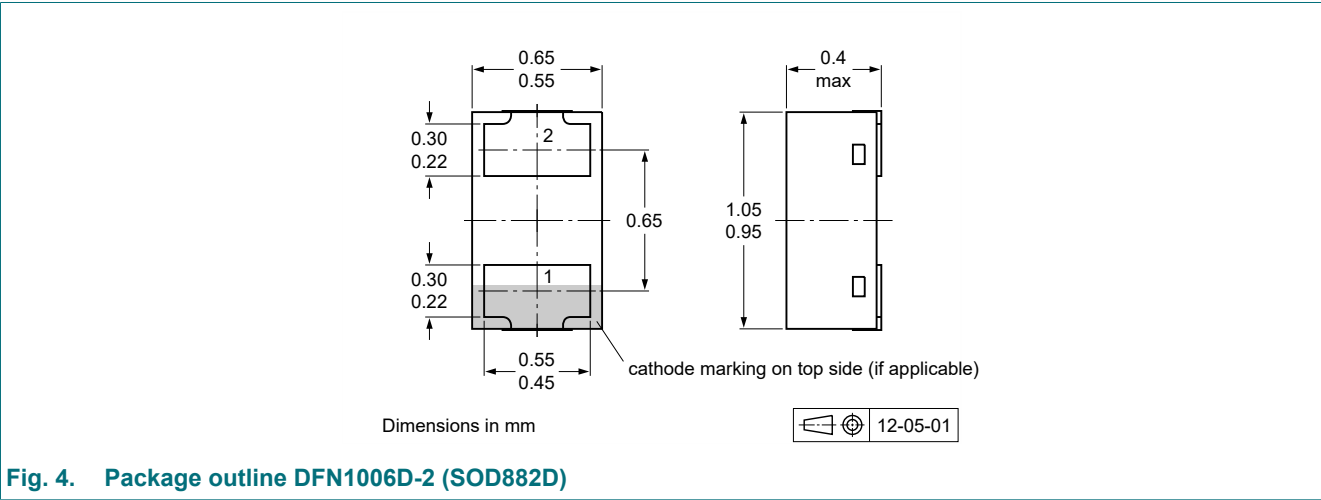
The current ratings for the typical waveforms are calculated according to the equations:

$$I_{F(AV)} = I_M \times \delta \text{ with } I_M \text{ defined as peak current}$$

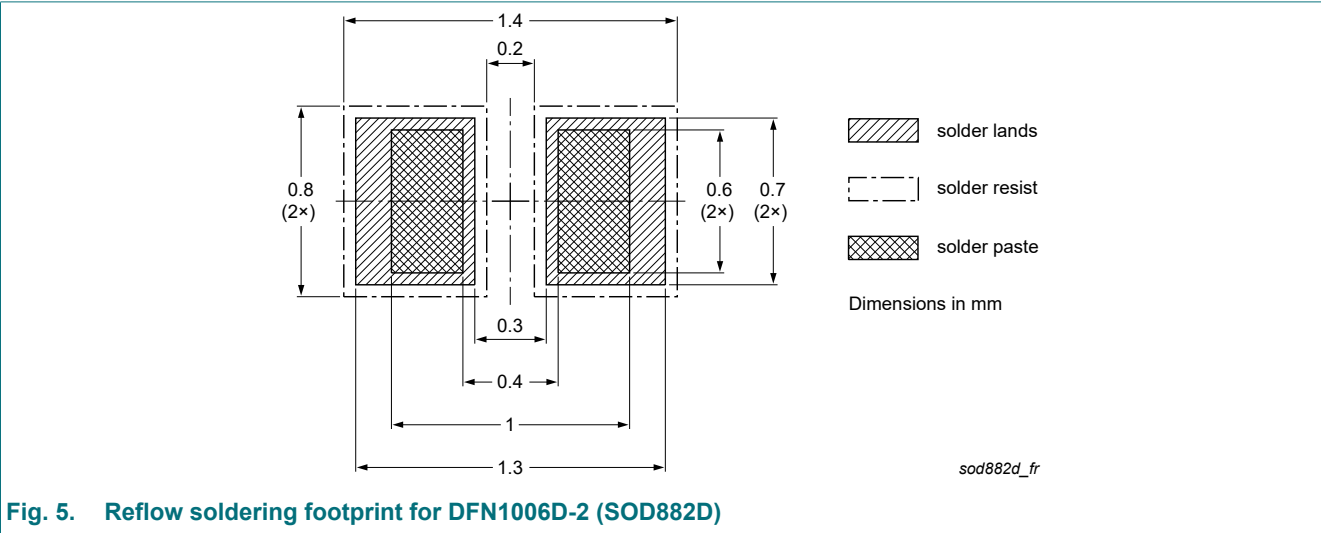
$$I_{RMS} = I_{F(AV)} \text{ at DC}$$

$$I_{RMS} = I_M \times \sqrt{\delta} \text{ with } I_{RMS} \text{ defined as RMS current}$$

12. Package outline



13. Soldering



14. Revision history

Table 8. Revision history

Data sheet ID	Release date	Data sheet status	Change notice	Supersedes
PMEG2005AELD v.2	20260812	Product data sheet	-	PMEG2005AELD v.1
Modifications:	- Product(s) changed to non-automotive qualification. Please refer to nexperia.com for automotive (-Q) product alternative(s). - Section "Packing information" removed.			
PMEG2005AELD v.1	20110510	Product data sheet	-	-

15. Legal information

Data sheet status

Document status [1][2]	Product status [3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

- [1] Please consult the most recently issued document before initiating or completing a design.
- [2] The term 'short data sheet' is explained in section "Definitions".
- [3] The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the internet at <https://www.nexperia.com>.

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