

PMEG2005ELD

20 V, 0.5 A low VF Schottky barrier rectifier

13 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
- Solderable side pads
- Low forward voltage: $V_F \leq 500$ mV
- Package height typ. 0.37 mm
- Low reverse current
- Ultra small and leadless SMD plastic package

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

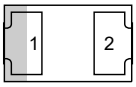
Symbol	Parameter	Conditions		Min	Typ	Max	Unit
$I_{F(AV)}$	average forward current	$\delta = 0.5$; $f = 20$ kHz; $T_{amb} \leq 85$ °C; square wave	[1]	-	-	0.5	A
		$\delta = 0.5$; $T_{sp} \leq 130$ °C; square wave		-	-	0.5	A
I_R	reverse current	$V_R = 10$ V; $T_{amb} = 25$ °C		-	5	30	µA
V_R	reverse voltage			-	-	20	V
V_F	forward voltage	$I_F = 500$ mA; pulsed; $t_p \leq 300$ µs; $\delta \leq 0.02$; $T_{amb} = 25$ °C		-	450	500	mV

[1] Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated, mounting pad for cathode 1 cm^2.

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5. Pinning information

Table 2. Pinning information

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	K	cathode	 Transparent top view **DFN1006D-2 (SOD882D)**	 *sym001*
2	A	anode		

6. Ordering information

Table 3. Ordering information

Type number	Package		
	Name	Description	Version
PMEG2005ELD	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
PMEG2005ELD	0101 0000

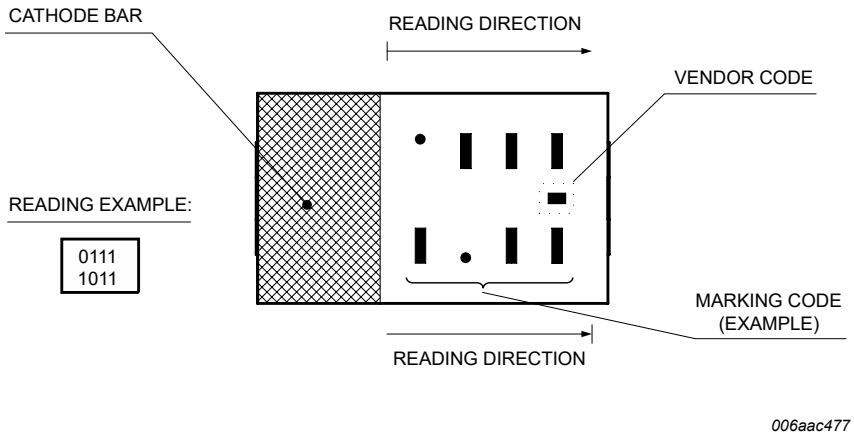


Fig. 1. SOD882D binary marking code description

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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	forward current	$T_{sp} \leq 130$ °C		-	0	A
$I_{F(AV)}$	average forward current	δ = 0.5; f = 20 kHz; $T_{amb} \leq 85$ °C; square wave	[1]	-	0.5	A
		δ = 0.5; $T_{sp} \leq 130$ °C; square wave		-	0.5	A
I_{FRM}	repetitive peak forward current	$t_p \leq 1$ ms; δ ≤ 0.25		-	2.5	A
I_{FSM}	non-repetitive peak forward current	square-wave pulse; t_p = 8 ms; square wave; prior to surge; $T_{j(init)}$ = 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 Printed-Circuit Board (PCB), single-sided copper, tin-plated, mounting pad for cathode 1 cm^2.
[2] Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.
[3] Device mounted on a ceramic PCB, Al_2O_3, 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] [1]	-	-	190	K/W
			[1] [3]	-	-	125	K/W
$R_{th(j-sp)}$	thermal resistance from junction to solder point		[4]	-	-	50	K/W

[1]
[2] Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.
[3] Device mounted on a ceramic PCB, Al_2O_3, standard footprint.
[4] Soldering point of cathode tab.

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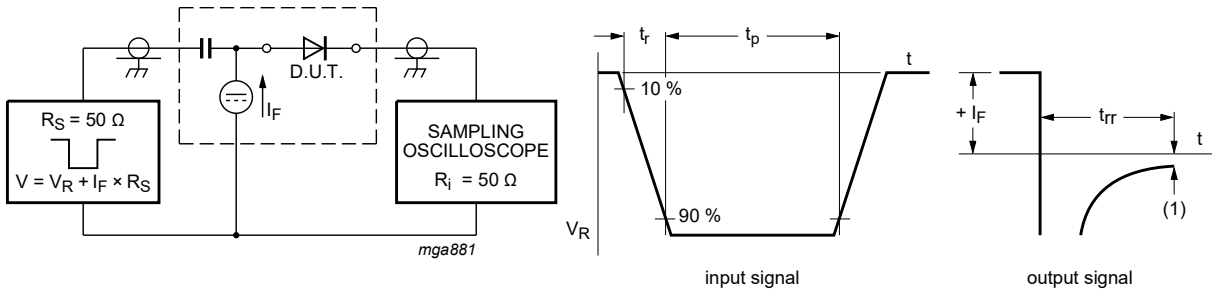
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10. Characteristics

Table 7. Characteristics

Symbol	Parameter	Conditions		Min	Typ	Max	Unit
V_F	forward voltage	I_F = 0.1 mA; pulsed; $t_p \leq$ 300 µs; δ ≤ 0.02; T_{amb} = 25 °C		-	115	180	mV
		I_F = 1 mA; pulsed; $t_p \leq$ 300 µs; δ ≤ 0.02; T_{amb} = 25 °C		-	175	240	mV
		I_F = 10 mA; pulsed; $t_p \leq$ 300 µs; δ ≤ 0.02; T_{amb} = 25 °C		-	240	290	mV
		I_F = 100 mA; pulsed; $t_p \leq$ 300 µs; δ ≤ 0.02; T_{amb} = 25 °C		-	320	380	mV
		I_F = 500 mA; pulsed; $t_p \leq$ 300 µs; δ ≤ 0.02; T_{amb} = 25 °C		-	450	500	mV
I_R	reverse current	V_R = 10 V; T_{amb} = 25 °C		-	5	30	µA
C_d	diode capacitance	V_R = 1 V; f = 1 MHz; T_{amb} = 25 °C		-	24	30	pF
t_{rr}	reverse recovery time	I_F = 10 mA; I_R = 1 mA; R_L = 100 Ω; when switched from IF = 10 mA to IR = 10 mA;		-	7	-	ns

11. Test information



(1) I_R = 1 mA

Fig. 2. Reverse recovery time: test circuit and waveforms

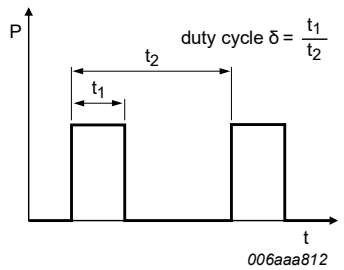


Fig. 3. Duty cycle definition

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

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

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

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

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12. Package outline

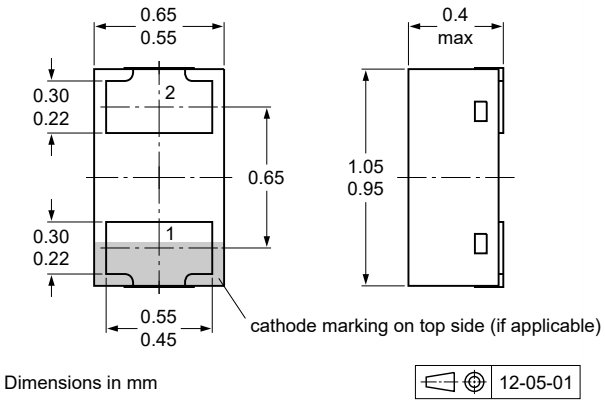


Fig. 4. Package outline DFN1006D-2 (SOD882D)

13. Soldering

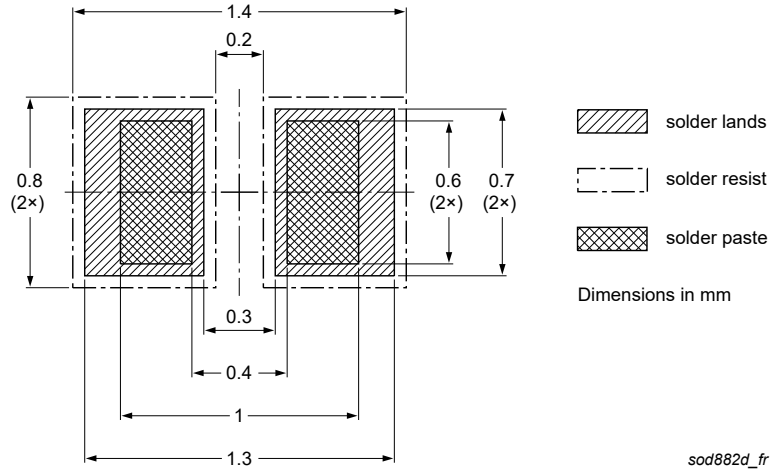


Fig. 5. Reflow soldering footprint for DFN1006D-2 (SOD882D)

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14. Revision history

Table 8. Revision history

Data sheet ID	Release date	Data sheet status	Change notice	Supersedes
PMEG2005ELD v.2	20260813	Product data sheet	-	PMEG2005ELD v.1
Modification:	• Product(s) changed to non-automotive qualification. Please refer to nexperia.com for automotive (-Q) product alternative(s). • Section "Packing information" removed.			
PMEG2005ELD v.1	20110504	Product data sheet	-	-

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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".
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