



# BAS40LS

## General-purpose Schottky diode

12 February 2021

Product data sheet

### 1. General description

General-purpose Schottky diode in a leadless ultra small DFN1006BD-2 (SOD882BD) Surface-Mounted Device (SMD) plastic package with side-wettable flanks.

### 2. Features and benefits

- High switching speed
- Low leakage current
- High breakdown voltage
- Low capacitance
- Suitable for Automatic Optical Inspection (AOI) of solder joint

### 3. Applications

- Ultra high-speed switching
- Voltage clamping

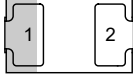

### 4. Quick reference data

Table 1. Quick reference data

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$I_F$	forward current		-	-	120	mA
$V_R$	reverse voltage		-	-	40	V
$V_F$	forward voltage	$I_F = 1 \text{ mA}$ ; $t_p \leq 300 \text{ } \mu\text{s}$ ; $\delta \leq 0.02$ ; pulsed; $T_{\text{amb}} = 25 \text{ } ^\circ\text{C}$	-	-	380	mV

## 5. Pinning information

Table 2. Pinning information

Pin	Symbol	Description	Simplified outline	Graphic symbol
1	K	cathode <sup>[1]</sup>	 <p>Transparent top view</p> <p><b>DFN1006BD-2 (SOD882BD)</b></p>	 <p><i>sym001</i></p>
2	A	anode		

[1] The marking bar indicates the cathode.

## 6. Ordering information

Table 3. Ordering information

Type number	Package		
	Name	Description	Version
BAS40LS	DFN1006BD-2	Leadless ultra small plastic package with side-wettable flanks (SWF); 2 terminals; 0.65 mm pitch; 1 mm x 0.6 mm x 0.47 mm body	SOD882BD

## 7. Marking

Table 4. Marking codes

Type number	Marking code
BAS40LS	N2

## 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		-	40	V
$I_F$	forward current		-	120	mA
$I_{FRM}$	repetitive peak forward current	$t_p \leq 1 \text{ s}; \delta \leq 0.5$	-	120	mA
$I_{FSM}$	non-repetitive peak forward current	$t_p \leq 10 \text{ ms}; T_{j(\text{init})} = 25 \text{ }^\circ\text{C}$	[1]	200	mA
$T_j$	junction temperature		-	150	$^\circ\text{C}$
$T_{\text{amb}}$	ambient temperature		-55	150	$^\circ\text{C}$
$T_{\text{stg}}$	storage temperature		-65	150	$^\circ\text{C}$

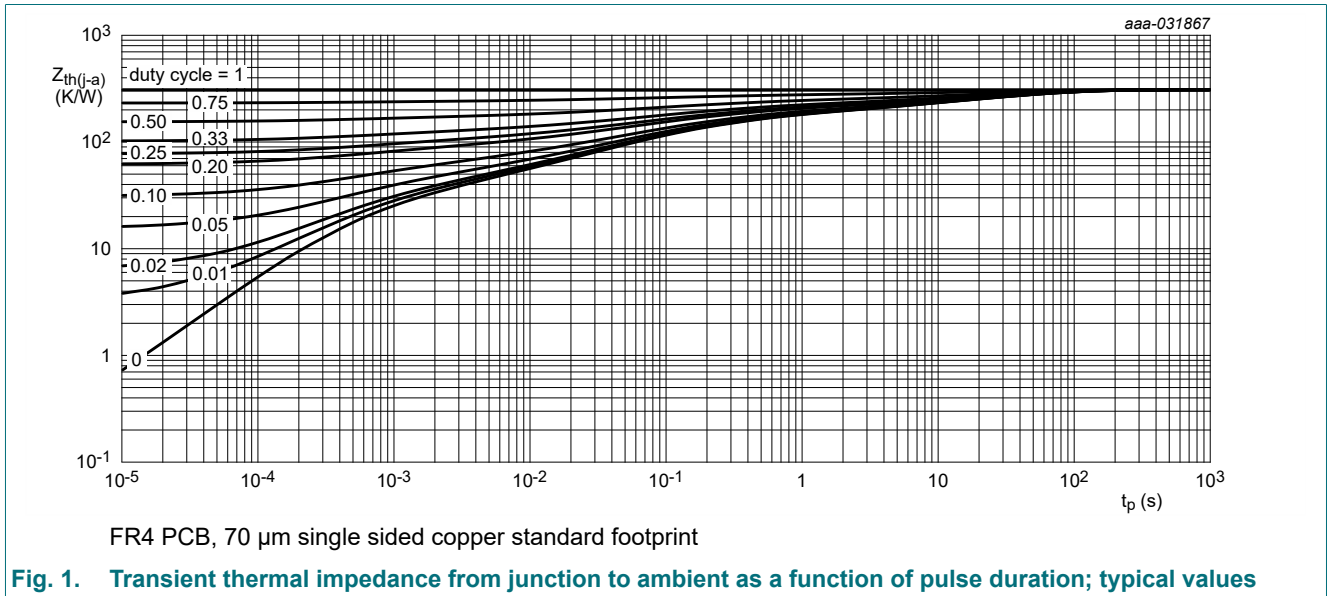
[1]  $T_j = 25 \text{ }^\circ\text{C}$  prior to surge

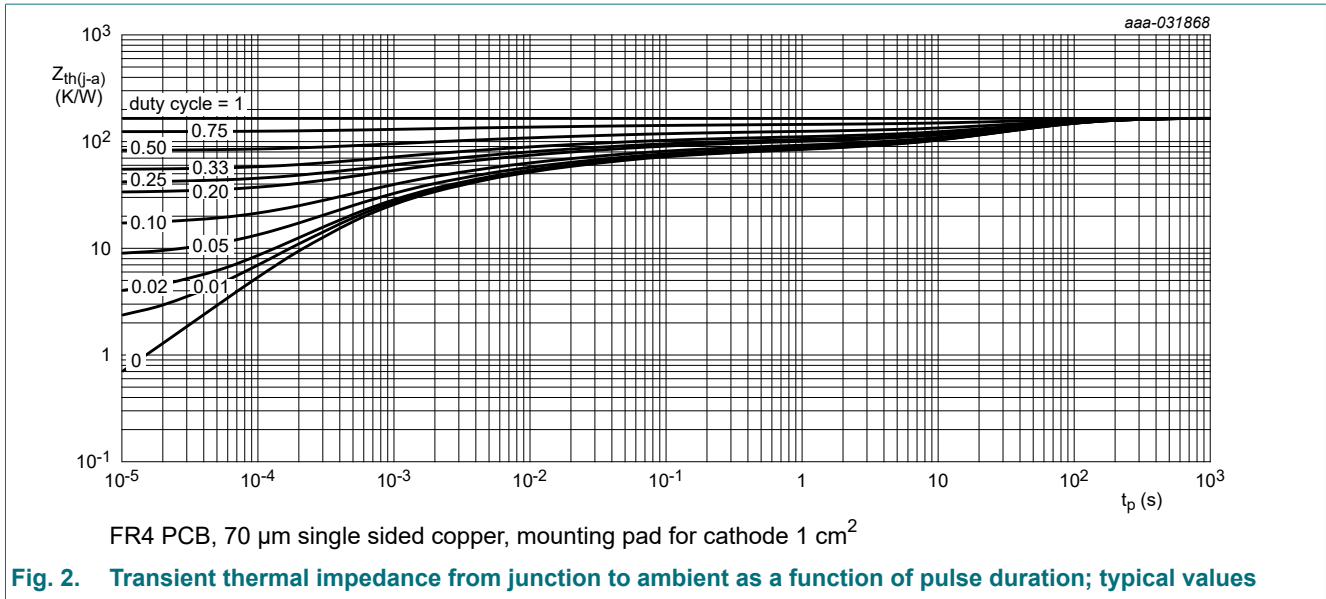
## 9. Thermal characteristics

**Table 6. Thermal characteristics**

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$R_{\text{th}(j-a)}$	thermal resistance from junction to ambient	in free air	[1]	-	360	K/W

[1] Device mounted on an FR4 Printed-Circuit Board (PCB), 70  $\mu\text{m}$  single-sided copper, tin-plated and standard footprint.

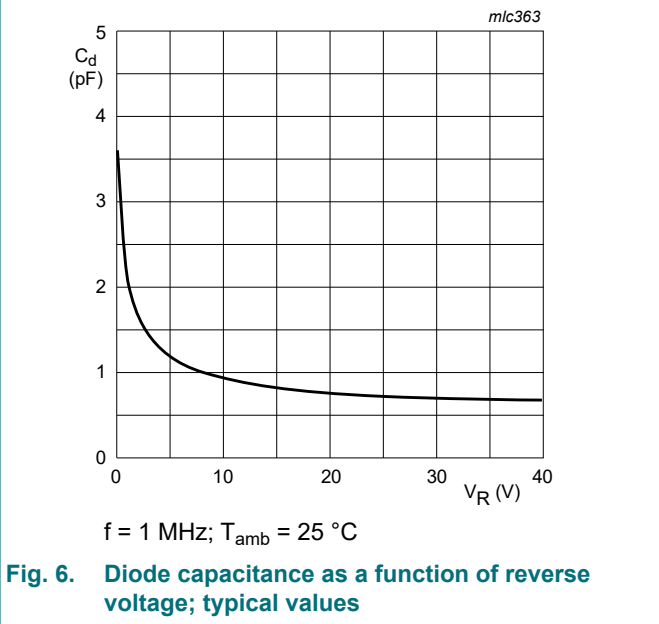
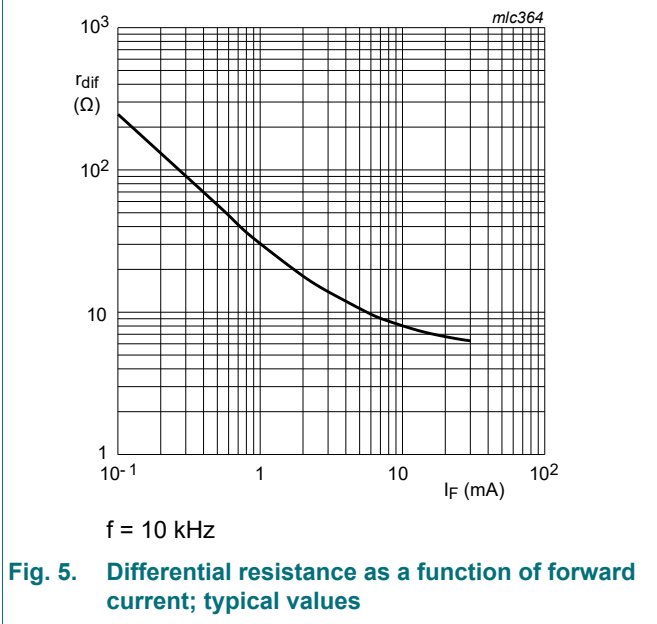
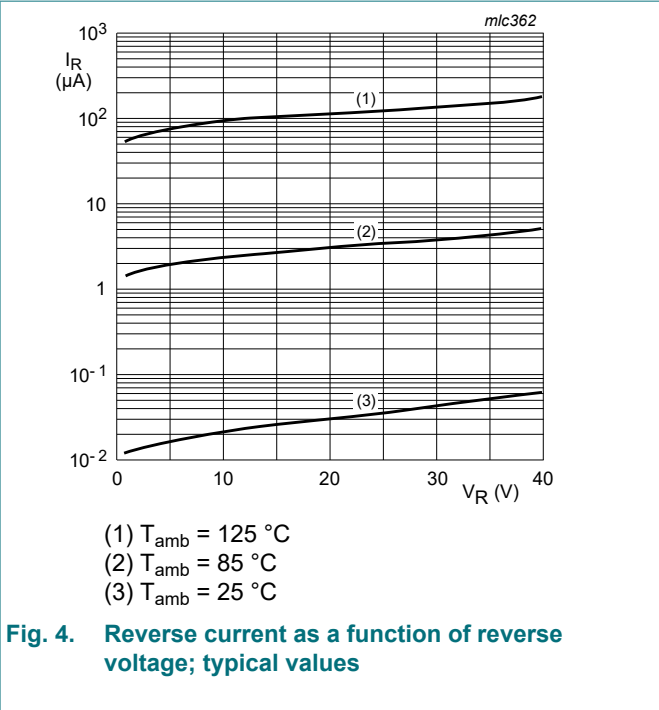
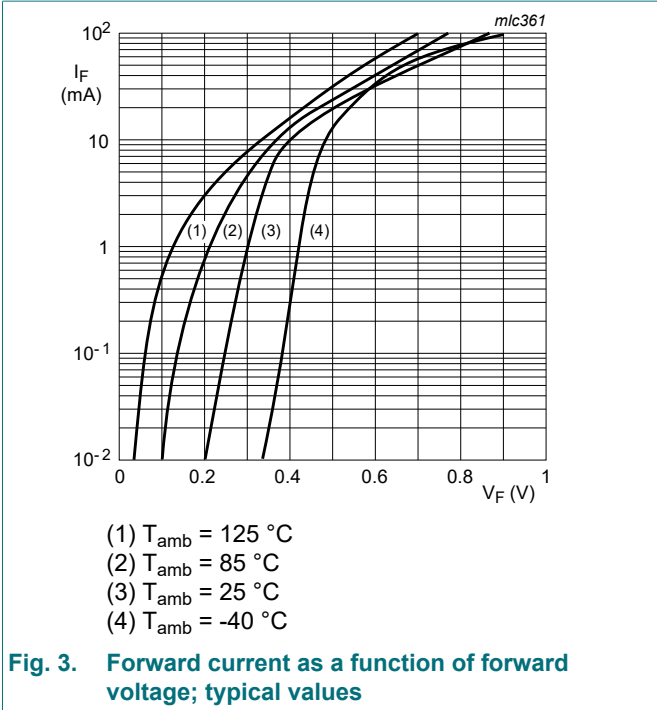




## 10. Characteristics

Table 7. Characteristics

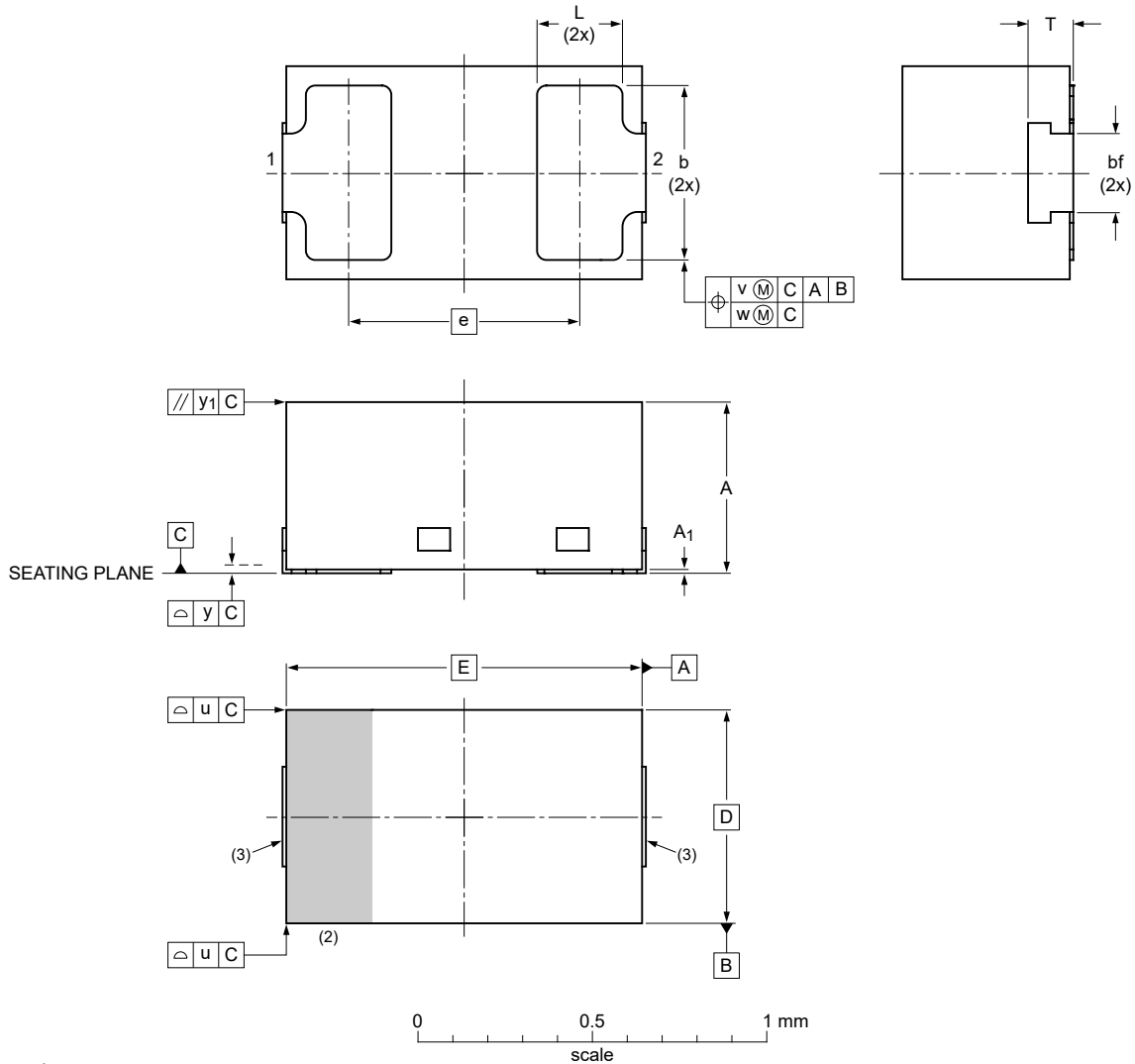
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$V_F$	forward voltage	$I_F = 1 \text{ mA}; t_p \leq 300 \mu\text{s}; \delta \leq 0.02;$ pulsed; $T_{\text{amb}} = 25 \text{ }^\circ\text{C}$	-	-	380	mV
		$I_F = 10 \text{ mA}; t_p \leq 300 \mu\text{s}; \delta \leq 0.02;$ pulsed; $T_{\text{amb}} = 25 \text{ }^\circ\text{C}$	-	-	500	mV
		$I_F = 40 \text{ mA}; t_p \leq 300 \mu\text{s}; \delta \leq 0.02;$ pulsed; $T_{\text{amb}} = 25 \text{ }^\circ\text{C}$	-	-	1	V
$I_R$	reverse current	$V_R = 30 \text{ V}; T_{\text{amb}} = 25 \text{ }^\circ\text{C}$	-	-	1	$\mu\text{A}$
		$V_R = 40 \text{ V}; T_{\text{amb}} = 25 \text{ }^\circ\text{C}$	-	-	10	$\mu\text{A}$
$C_d$	diode capacitance	$V_R = 0 \text{ V}; f = 1 \text{ MHz}; T_{\text{amb}} = 25 \text{ }^\circ\text{C}$	-	-	5	pF



### 11. Package outline

**DFN1006BD-2** Leadless ultra small plastic package with side-wettable flanks (SWF); 2 terminals;  
0.65 mm pitch; 1 mm x 0.6 mm x 0.47 mm body

**SOD882BD**



**Dimensions**

Unit	A <sup>(1)</sup>	A <sub>1</sub>	bf <sup>(1)</sup>	b	D	E	e	L	T <sup>(1)</sup>	u	v	w	y	y <sub>1</sub>
max	0.50	0.04		0.55				0.30	0.22					
nom	0.47			0.50	0.60	1.00	0.65	0.25	0.16	0.05	0.10	0.05	0.05	0.05
min	0.44		0.20	0.45				0.22	0.10					

**Note**

1. Dimension including plating thickness.
2. The marking bar indicates the cathode.
3. Solderable lead end, protrusion max. 0.02 mm.

sod882bd\_po

Outline version	References				European projection	Issue date
	IEC	JEDEC	JEITA			
SOD882BD		MO-343AA				20-06-22 20-06-23

**Fig. 7. Package outline DFN1006BD-2 (SOD882BD)**

## 12. Soldering

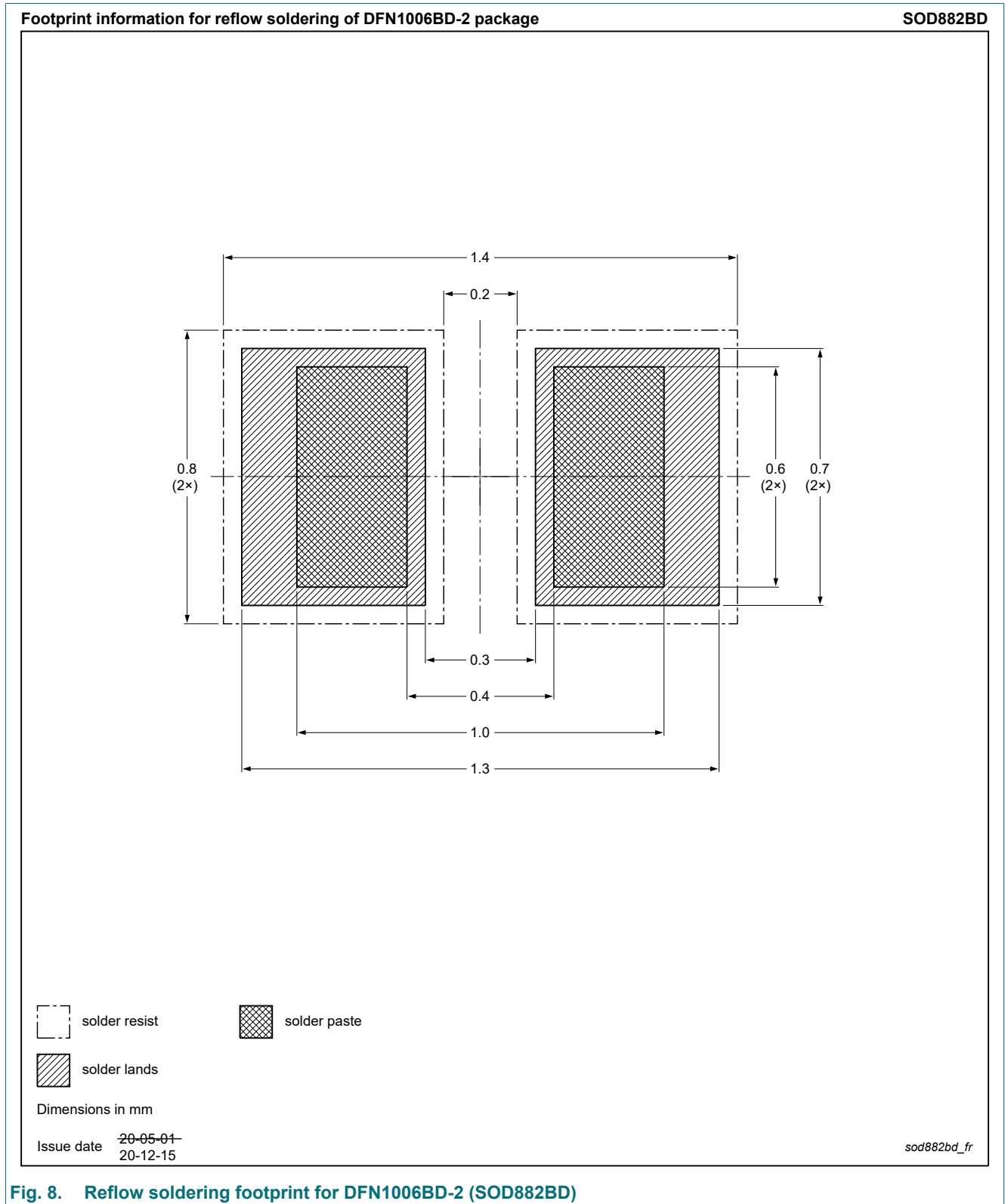


Fig. 8. Reflow soldering footprint for DFN1006BD-2 (SOD882BD)

## 13. Revision history

Table 8. Revision history

Data sheet ID	Release date	Data sheet status	Change notice	Supersedes
BAS40LS v.2	20210212	Product data sheet	-	BAS40LS v.1
Modifications:	• Changed to non-automotive. Please refer to the automotive product(s) with -Q.			
BAS40LS v.1	20200807	Product data sheet	-	-



## 14. 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.

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- [2] The term 'short data sheet' is explained in section "Definitions".
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Date of release: 12 February 2021

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