Featured Products

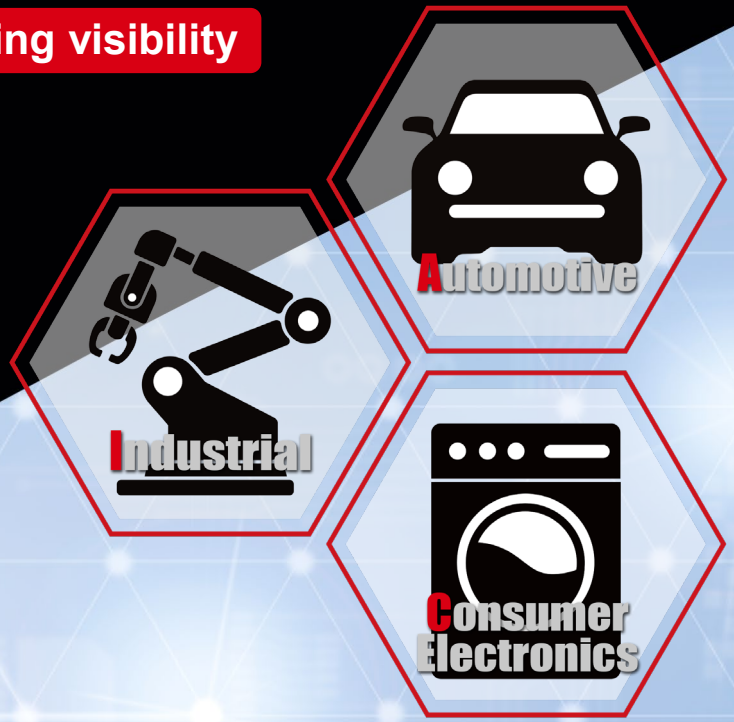
Electronics for the Future

ROHM SEMICONDUCTOR

DFN1006 wettable flank package improves mounting visibility

Class-Leading* Compact Automotive-Grade Schottky Barrier Diodes

*ROHM July 2023 study



RBxxxASA-x0FH series
(For General Rectification)

RB886ASAFH
(For Detection)

Overview of ROHM's Class-Leading* Compact Automotive-Grade Schottky Barrier Diodes

The RBxxxASA-x0FH (for general rectification) and RB886ASAFH (for detection) series are the industry's smallest class of Schottky barrier diodes mainly designed for automotive applications. These new ultra-compact products improve heat dissipation over conventional products, making them ideal for automotive ECUs and ADAS-related devices where higher board densities and high mounting visibility are being pursued.

Features

- **Proprietary Wettable Flank technology guarantees a side electrode height of 125µm**

  Enables reliable confirmation of solder mounting during Automated Optical Inspection (AOI) of automotive-related equipment.

- **ROHM's ultra-compact high heat dissipation Schottky barrier diodes support high-density mounting**

  Optimized for ADAS and vehicle ECUs requiring higher board densities.

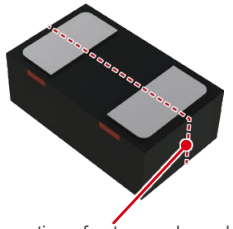
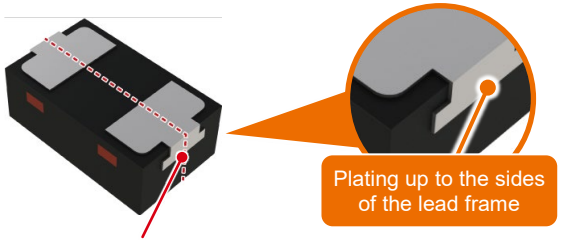
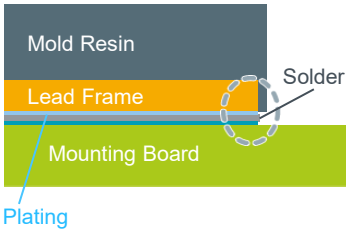
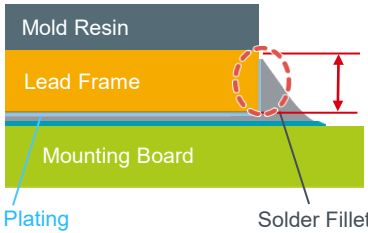
*ROHM July 2023 study

SOD-882
(DFN1006-2W)
1.0×0.6 t=0.4mm

Package notation in parenthesis ( ) denotes the ROHM package type.

Proprietary Wettable Flank Technology Guarantees a Side Electrode Height of 125µm ①

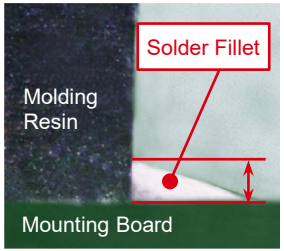
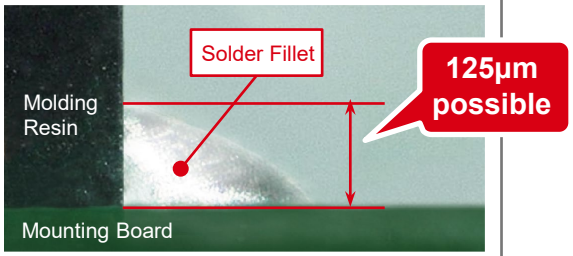
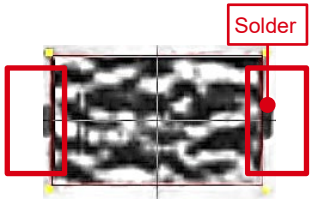
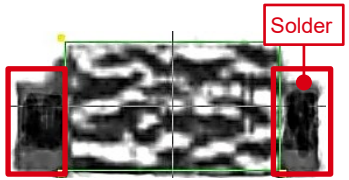
Structural Comparison

	Conventional Technology	ROHM Wettable Flank Technology (DFN1006-2W)
Terminal Surface		
Cross-Section When Mounted	Cross section of cut area shown by the red dotted line 	Cross section of cut area shown by the red dotted line  **Achieves a side electrode section of 125µm or more**

ROHM Wettable Flank Technology enables soldering to the sides of the electrodes

Proprietary Wettable Flank Technology Guarantees a Side Electrode Height of 125µm ②

Mounting Visibility Comparison

	Standard Product	ROHM Wettable Flank Technology
Solder Height When Mounted **(Images of package sides)**		
AOI Inspection Results **Solder Condition** □ :White areas indicate no solder visible (**NG**) ■ :Black areas indicate visible solder (**OK**) Inspection Equipment: BF-Planet-X II (Saki Corp.)	 **NG**	 **OK**

Guaranteeing the industry's highest side electrode height* of 125µm in a 1.0mm×0.6mm size improves visibility of the side electrodes during AOI after component mounting

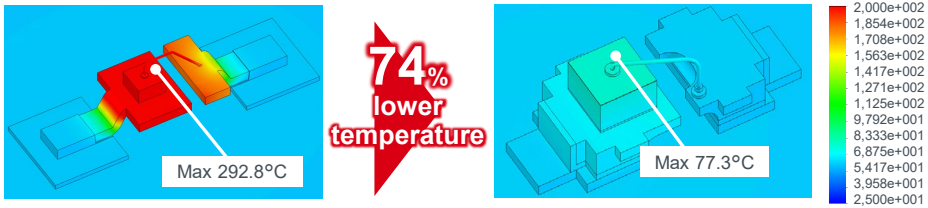
*ROHM July 2023 study

Ultra-Compact High Heat Dissipation Schottky Barrier Diodes Support High Density Mounting

Comparison of Package Heat Dissipation

Chip surface temperature after 0.5W is applied

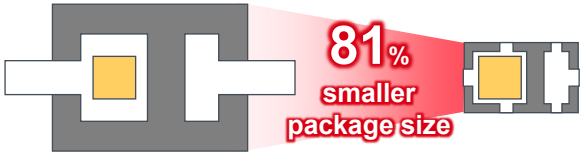
Conventional Product	New Product
SOD-323FL (UMD2)	SOD-882 (DFN1006-2W)



Package Size Comparison

with same size chips

Conventional Product	New Product
SOD-323FL (UMD2) 2.5×1.25mm	SOD-882 (DFN1006-2W) 1.0×0.6mm



Package notation in parenthesis ( ) denotes the ROHM package type.

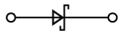
Adopting a bottom electrode structure that provides both greater compactness and high heat dissipation makes it ideal for ADAS and vehicle ECUs requiring higher board densities

Automotive-Grade Schottky Barrier Diodes (Wettable Flank DFN1006-2W Package)

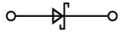
For General Rectification

Click on the icon to access the product page on ROHM's website.

Click on the icon to access the product datasheet on ROHM's website.

Part No.	Absolute Maximum Ratings (T_a=25°C)				Electrical Characteristics (T_j=25°C)				Package	Equivalent Circuit Diagram	Automotive Grade AEC-Q101
	V_{RM} [V]	V_R [V]	I_O [mA]	I_{FSM} [A] 60Hz.1	V_F [V] (Max)	I_F [mA]	I_R [μA] (Max)	V_R [V]			
New RB551ASA-30FH	30	20	500	1	0.47	500	100	20	(DFN1006-2W) SOD-882		YES
New RB751ASA-40FH	40	30	30	0.5	0.37	1	0.5	30			YES
New RB520ASA-30FH	30	30	200	1	0.58	200	1	10			YES
New RB521ASA-30FH	30	30	200	1	0.47	200	30	10			YES
New RB550ASA-30FH	30	30	500	1	0.59	500	35	30			YES
New RB520ASA-40FH	40	40	200	1	0.55	100	10	40			YES

For Detection

Part No.	Absolute Maximum Ratings (T_a=25°C)				Electrical Characteristics (T_a=25°C)					Package	Equivalent Circuit Diagram	Automotive Grade AEC-Q101
	V_R [V]	I_F [mA]	T_j [°C]	T_{stg} [°C]	V_F [V] (Max)	I_F [mA]	C_t [pF] (Max)	V_R [V]	f [MHz]			
New RB886ASAFH	5	10	150	-50 to +150	0.35	1.0	0.8	1.0	1.0	(DFN1006-2W) SOD-882		YES

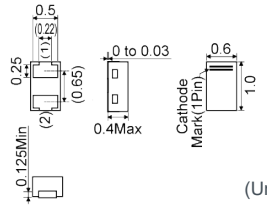
Application Examples

- Autonomous driving control ECUs
- Engine control ECUs
- ADAS
- Car infotainment
- Drive recorders

…and more

Ideal for applications requiring high mounting visibility in a compact size

External Dimensions (DFN1006-2W)



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