

# PCRL75120SQF

## Product Preview

### 1200 V Rectifier Die

Low forward voltage rectifier die for free-wheeling applications. Ideal for use as a reverse diode in IGBT applications.

#### Features

- Low Vf
- Soft Fast Reverse Recovery Diode

#### Typical Applications

- Solar Inverters
- UPS Systems

#### MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Peak Reverse Voltage, $T_J = 25^\circ\text{C}$	$V_{RRM}$	1200	V
Max Forward Conduction Current	$I_F$	(Note 1)	A
Operating Junction Temperature	$T_J$	-55 to +175	$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. Depending on thermal properties of assembly.

#### MECHANICAL DATA

Parameter	Symbol	Unit
Die Size	6200 × 3300	$\mu\text{m}^2$
Die Thickness	121	$\mu\text{m}$
Wafer Size	150	mm
Total Pad Size (Anode)	5552 × 2652	$\mu\text{m}^2$
Top Pad metal	3.9 $\mu\text{m}$ AISi	
Back metal	2 $\mu\text{m}$ AlTiNiAg	
Passivation	1.5 $\mu\text{m}$ HR NIT	
Max possible chips per wafer	610	
Reject Ink dot size	25 mils	
Recommended storage environment: In original container, in dry nitrogen, or temperature of 18–28 $^\circ\text{C}$ , 30–65% RH	Type: Sawn wafer on tape. Storage time: <3 months	

#### ORDERING INFORMATION

Device	Inking?	Shipping
PCRL75120SQF	Yes	Sawn Wafer on Tape



ON Semiconductor®

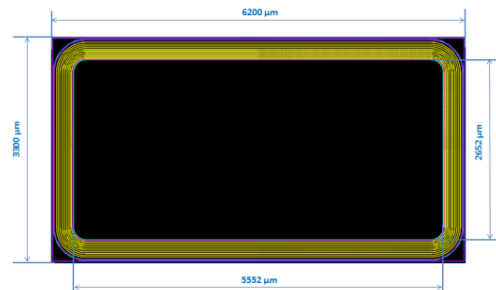
[www.onsemi.com](http://www.onsemi.com)

$V_{RRM} = 1200\text{ V}$   
 $I_F = \text{Limited by } T_{J(\text{max})}$

#### DIODE DIE



#### DIE OUTLINE



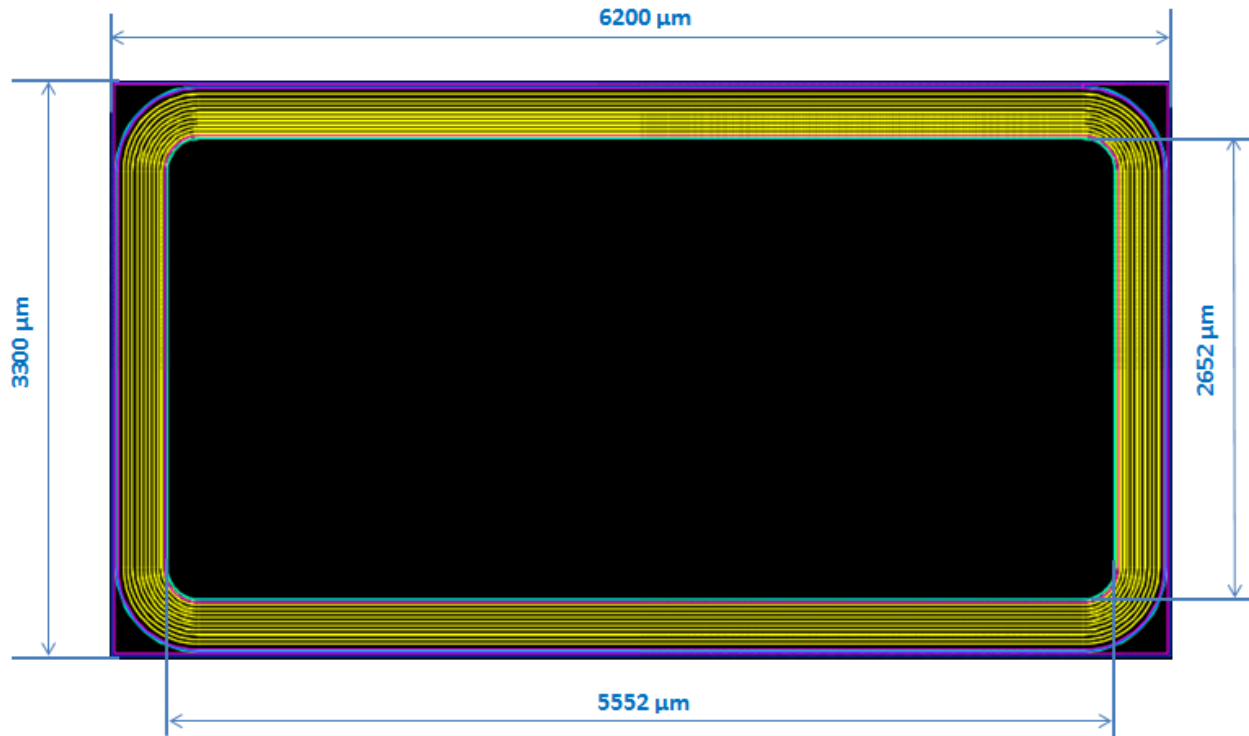
This document contains information on a product under development. ON Semiconductor reserves the right to change or discontinue this product without notice.

# PCRL75120SQF

## ELECTRICAL CHARACTERISTICS ( $T_J = 25^\circ\text{C}$ unless otherwise specified)


Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
<b>STATIC CHARACTERISTICS</b>						
Forward Voltage	$I_F = 75 \text{ A}$	$V_F$	-	3.4	4.0	V
Reverse Voltage	$I_R = 500 \mu\text{A}$	$V_R$	1200	-	-	V
Reverse Current	$V_R = 1200 \text{ V}$	$I_R$	-	-	400	$\mu\text{A}$

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.



(all dimensions in  $\mu\text{m}$ )

**Figure 1. Die Layout**

ON Semiconductor and  are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of ON Semiconductor's product/patent coverage may be accessed at [www.onsemi.com/site/pdf/Patent-Marking.pdf](http://www.onsemi.com/site/pdf/Patent-Marking.pdf). ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using ON Semiconductor products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by ON Semiconductor. "Typical" parameters which may be provided in ON Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. ON Semiconductor does not convey any license under its patent rights nor the rights of others. ON Semiconductor products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use ON Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold ON Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that ON Semiconductor was negligent regarding the design or manufacture of the part. ON Semiconductor is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

## PUBLICATION ORDERING INFORMATION

### LITERATURE FULFILLMENT:

Literature Distribution Center for ON Semiconductor  
 19521 E. 32nd Pkwy, Aurora, Colorado 80011 USA  
**Phone:** 303-675-2175 or 800-344-3860 Toll Free USA/Canada  
**Fax:** 303-675-2176 or 800-344-3867 Toll Free USA/Canada  
**Email:** [orderlit@onsemi.com](mailto:orderlit@onsemi.com)

**N. American Technical Support:** 800-282-9855 Toll Free  
 USA/Canada  
**Europe, Middle East and Africa Technical Support:**  
 Phone: 421 33 790 2910

**ON Semiconductor Website:** [www.onsemi.com](http://www.onsemi.com)

**Order Literature:** <http://www.onsemi.com/orderlit>

For additional information, please contact your local Sales Representative