PCRL7565F6

Product Preview

Fast Switching Rectifier Die

Fast switching low Vf rectifier die for free-wheeling applications.

Features

- Fast Switching
- Low Vf

Typical Applications

- Solar Inverters
- Industrial Motor Control

MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Peak Reverse Voltage	V_{RRM}	650	V
Max Forward Conduction Current	I_F	(Note 1)	A
Maximum Junction Temperature	T_J	175	°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	3857 × 3857	μm^2
Emitter Pad Size	3310 × 3310	μm^2
Die Thickness	4.3	mils
Wafer Diameter	150	mm
Back Metal thickness	1.12	μm
Front Metal thickness	4	μm
Top Pad metal	AlSi	
Back metal	TiNiAg	
Passivation	OA6N 1.3 A	
Storage Temperature Range	−55 to +175	°C

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

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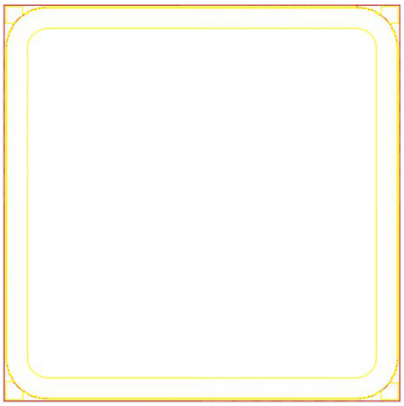
V_{RCE} = 650 V
I_C = Limited by $T_{j(max)}$

Diode Die



DIE Outline

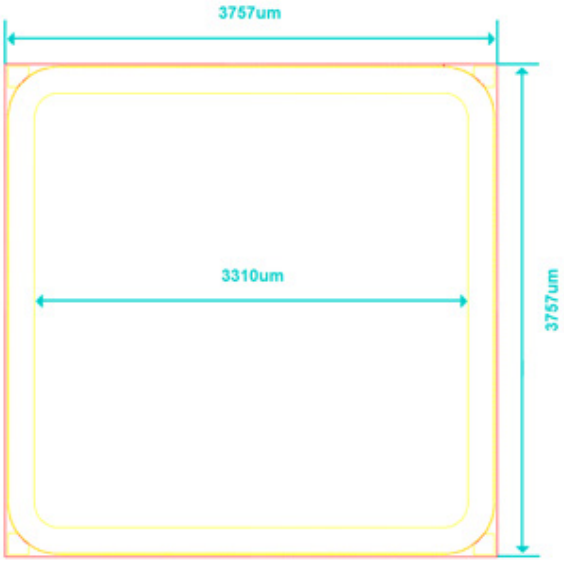
ORDERING INFORMATION

Device	Inking?	Shipping Method
PCRL7565F6	No	Sawn Wafer on Tape

ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise specified)

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
STATIC CHARACTERISTICS						
Forward Voltage	V_{GE} = 0 V, I_F = 75 A	V_F	–	1.60	2.0	V
	V_{GE} = 0 V, I_F = 75 A, T_J = 175°C		–	1.70	–	V
Reverse Voltage	I_R = 250 μA	V_R	650	–	–	V
Reverse Current	V_R = 650 V	I_R	–1.0	–	1.0	μA
Reverse Recovery Time	I_F = 75 A, V_R = 200 V, id_F/dt = 200 A/μs, T_J = 25°C	trr	–	134	–	ns
Reverse Recovery Charge		Qrr	–	0.78	–	μC
Reverse Recovery Current		Irrm	–	10	–	A
Reverse Recovery Time	I_F = 75 A, V_R = 200 V, id_F/dt = 200 A/μs, T_J = 175°C	trr	–	202	–	ns
Reverse Recovery Charge		Qrr	–	2.54	–	μC
Reverse Recovery Current		Irrm	–	20.2	–	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 μm)

Figure 1. Die Layout

PUBLICATION ORDERING INFORMATION

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