

IPC313N10N3R

OptiMOS™3 Power MOS Transistor Chip

Type	$V_{(BR)DSS}$	$R_{DS(on)}$	Die size	Thickness
IPC313N10N3R	100 V	2.7 mΩ ¹⁾	6 * 5.2 mm ²	220 μm

DESCRIPTION

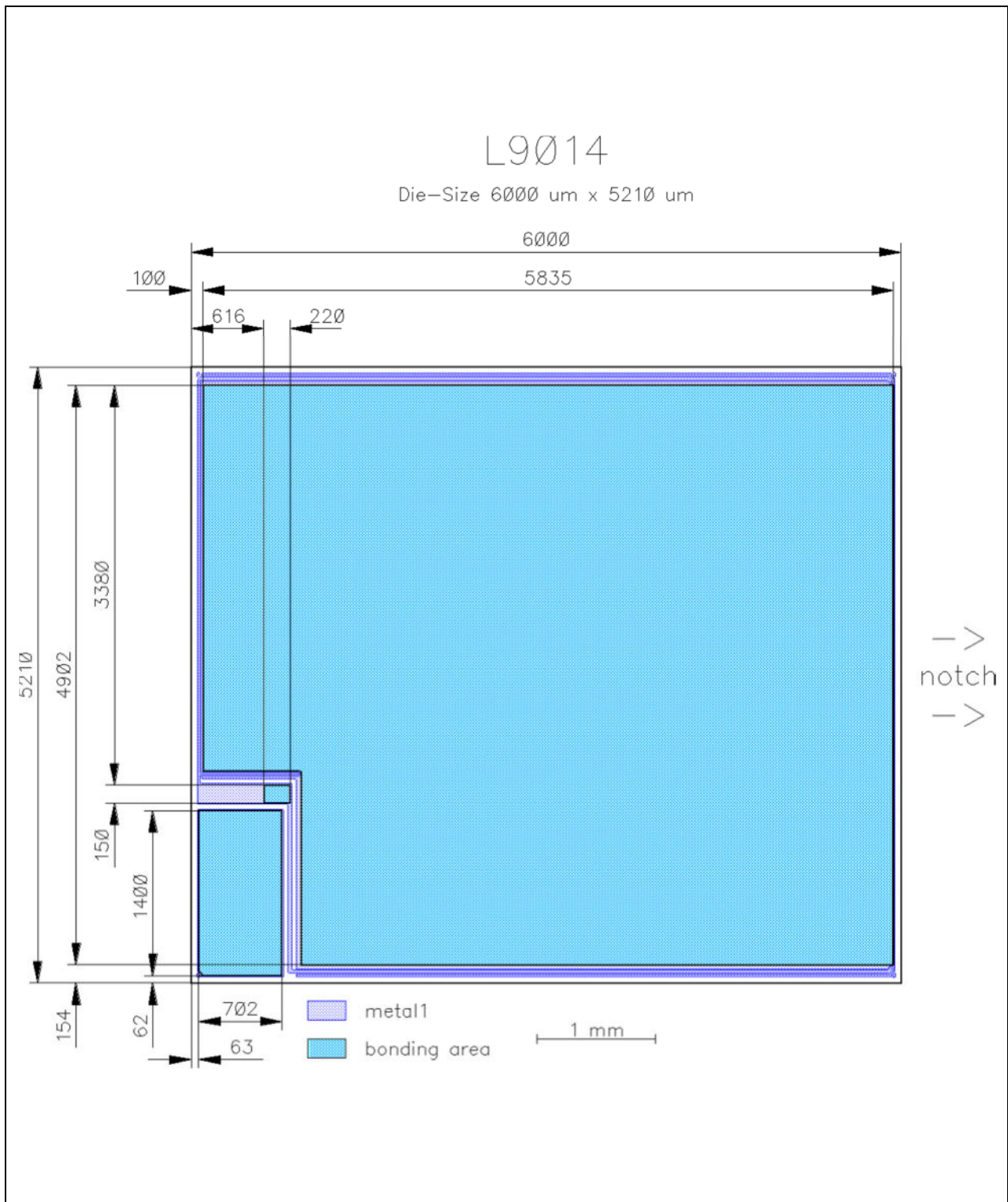
- N-channel enhancement mode
- For dynamic characterization refer to the datasheet of IPB027N10N3 G²⁾
- AQL 0.65 for visual inspection according to failure catalogue
- Electrostatic Discharge Sensitive Device according to JEDEC
- Die bond: soldered or glued
- Backside metallization: NiV system
- Frontside metallization: AlCu system
- Passivation: nitride (only on edge structure)

Electrical Characteristics on Wafer Level

at $T_j = 25\text{ °C}$, unless otherwise specified.

Parameter	Symbol	Value			Unit	Conditions
		min.	typ.	max.		
Drain-source breakdown voltage	$V_{(BR)DSS}$	100	-	-	V	$V_{GS} = 0\text{ V}$ $I_D = 1\text{ mA}$
Gate threshold voltage	$V_{GS(th)}$	2	2.7	3.5	V	$V_{DS} = V_{GS}$ $I_D = 275\text{ μA}$
Zero gate voltage drain current	I_{DSS}	-	0.1	1	μA	$V_{GS} = 0\text{ V}$ $V_{DS} = 100\text{ V}$
Gate-source leakage current	I_{GSS}	-	1	100	nA	$V_{GS} = 20\text{ V}$ $V_{DS} = 0\text{ V}$
Drain-source on-resistance	$R_{DS(on)}$	-	1.9 ³⁾	100 ⁴⁾	mΩ	$V_{GS} = 10\text{ V}$ $I_D = 2.0\text{ A}$
Reverse diode forward on-voltage	V_{SD}	-	1.0	1.2	V	$V_{GS} = 0\text{ V}$ $I_F = 1\text{ A}$
Internal gate resistance	R_G	-	8	-	Ω	
Avalanche energy, single pulse	E_{AS}	-	45 ⁵⁾	-	mJ	$I_D = 30\text{ A}$, $R_{GS} = 25\text{ Ω}$

Chip-Layout:



¹⁾ packaged in a P-TO263-3 (see ref. product)

²⁾ IPB027N10N3 G dynamic characterization does not include the internal added R_G

³⁾ typical bare die $R_{DS(on)}$; $V_{GS}=10V$

⁴⁾ limited by wafer test-equipment

⁵⁾ Wafer tested. For general avalanche capability refer to the datasheet of IPB027N10N3 G



IPC313N10N3R

Published by
Infineon Technologies AG
81726 Munich, Germany
© 2013 Infineon Technologies AG
All Rights Reserved.

Legal Disclaimer

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of intellectual property rights of any third party.

Information

For further information on technology, delivery terms and conditions and prices, please contact the nearest Infineon Technologies Office (www.infineon.com).

Warnings

Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Infineon Technologies Office.

Infineon Technologies components may be used in life-support devices or systems only with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.