

International IOR Rectifier

IR590SG..HCB

PHASE CONTROL THYRISTORS

- Junction Size: Square 590 mils
- Wafer Size: 4"
- V_{RRM} Class: 600 to 1200 V
- Passivation Process: Glassivated MESA
- Reference IR Packaged Part: 181RKI Series

Major Ratings and Characteristics

Parameters	Units	Test Conditions
V_{TM} Maximum On-state Voltage	1.2 V	$T_J = 25^\circ\text{C}$, $I_T = 25\text{ A}$
V_{DRM}/V_{RRM} Direct and Reverse Breakdown Voltage	600 to 1200 V	$T_J = 25^\circ\text{C}$, $I_{DRM}/I_{RRM} = 100\text{ }\mu\text{A}$ (1)
I_{GT} Max. Required DC Gate Current to Trigger	140 mA	$T_J = 25^\circ\text{C}$, anode supply = 6 V, resistive load
V_{GT} Max. Required DC Gate Voltage to Trigger	2 V	$T_J = 25^\circ\text{C}$, anode supply = 6 V, resistive load
I_H Holding Current Range	5 to 180 mA	Anode supply = 6 V, resistive load
I_L Maximum Latching Current	900 mA	Anode supply = 6 V, resistive load

(1) Nitrogen flow on die edge.

Mechanical Characteristics

Nominal Back Metal Composition, Thickness	Cr - Ni - Ag (1 KA - 4 KA - 6 KA)
Nominal Front Metal Composition, Thickness	Cr - Ni - Ag (1 KA - 4 KA - 6 KA)
Chip Dimensions	590 x 590 mils (see drawing)
Wafer Diameter	100 mm, with std. <110> flat
Wafer Thickness	370 $\mu\text{m} \pm 10\text{ }\mu\text{m}$
Maximum Width of Sawing Line	130 μm
Reject Ink Dot Size	0.25 mm diameter minimum
Ink Dot Location	See drawing
Recommended Storage Environment	Storage in original container, in dessicated nitrogen, with no contamination

Ordering Information Table

Device Code

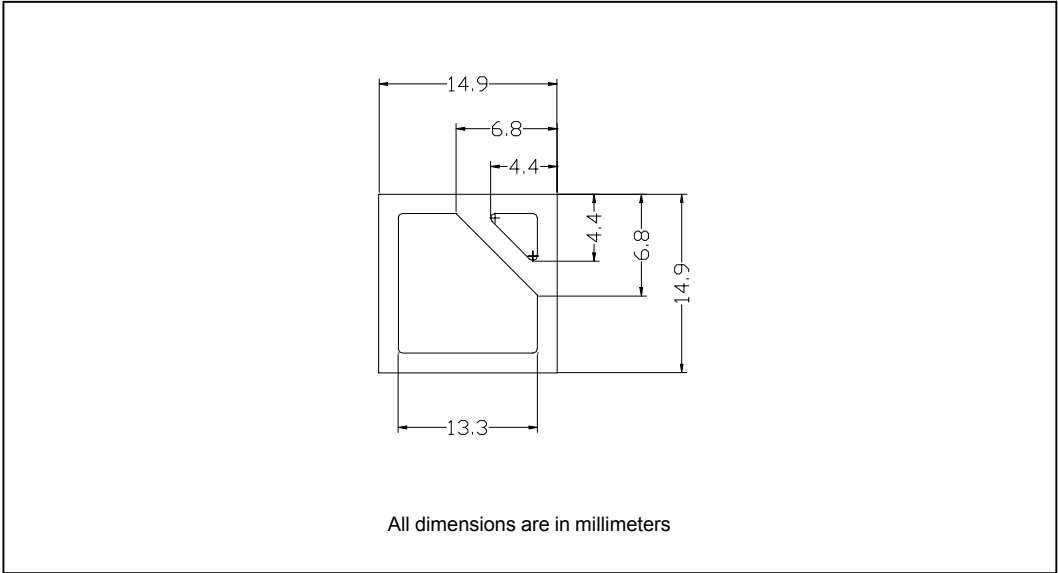
IR	590	S	G	12	H	CB
1	2	3	4	5	6	7

- 1** - International Rectifier Device
- 2** - Chip Dimension in Mils
- 3** - Type of Device: S = Solderable SCR
- 4** - Passivation Process: G = Glassivated MESA
- 5** - Voltage code: Code x 100 = V_{RRM}
- 6** - Metallization: H = Silver (Anode) - Silver (Cathode)
- 7** - CB = Probed Uncut Die (wafer in box)
None = Probed Die in chip carrier

Available Class

06 = 600 V
08 = 800 V
12 = 1200 V

Outline Table



Wafer Layout

