

EMPOWERING



SOLAR EFFICIENCY

ROICERAM™-HS (SiC)

AGC's ROICERAM™ is high purity material for SiC jigs and suitable for semiconductor thermal process.

High purity SiC components for solar cell thermal process.

PRODUCT DESCRIPTION

Applications

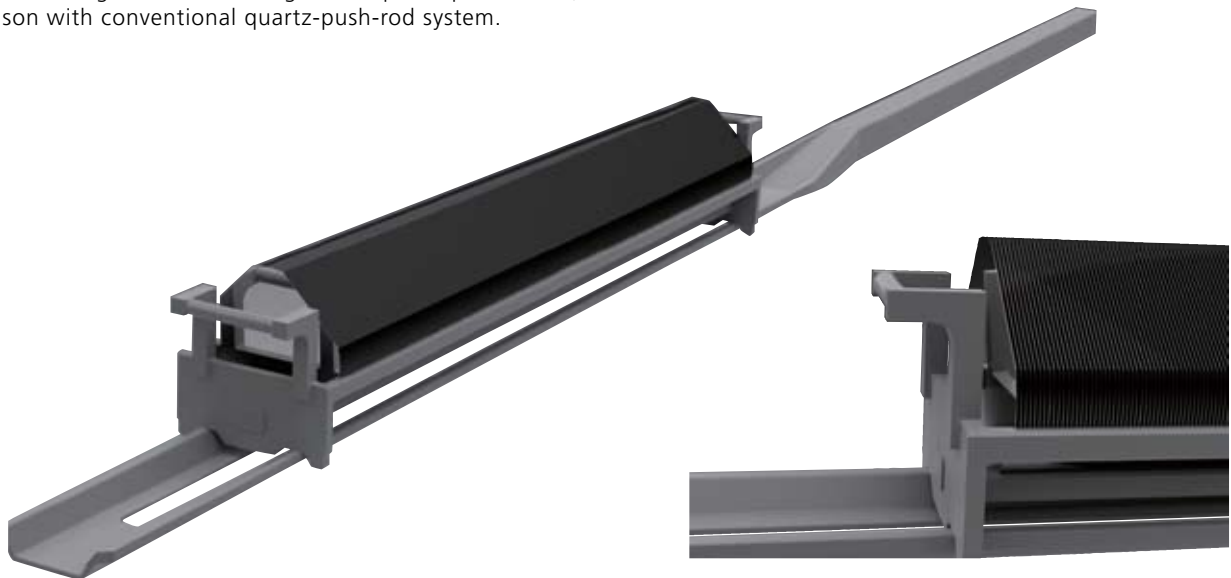
Thermal-resistant jigs for doping process.

SiC Boat

Superior thermal durability makes full loading of wafers on the jigs in small spacing and improves productivity.

SiC Cantilever

Adoption of SiC cantilever system suppresses vibration during loading/unloading and reduces negative impact upon wafers, in comparison with conventional quartz-push-rod system.



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Properties of ROICERAM™-HS(SiC)

Impurities

Typical Data

Element	Unit	ROICERAM™-HS U -Grade SiC+Si (Recrystallized SiC+Si)	ROICERAM™-HS SiC-CVD coat	Quartz
Fe	ppm	3	0.028	0.1-0.8
Al	ppm	25	0.017	8-28
Ni	ppm	1	0.004	0.05
Ca	ppm	5	0.015	0.2-1.0
Cu	ppm	<1	0.008	0.005-0.1
Na	ppm	<1	0.004	0.2-2.0
Ti	ppm	1	0.003	0.3-2.0

Mechanical and Thermal Properties

Typical Data

Properties	Unit	ROICERAM™-HS U -Grade SiC+Si (Recrystallized SiC+Si)	ROICERAM™-HS S-Grade SiC-CVD	Quartz
Density	g/cm ³	3.02	3.21	2.20
Porosity	%	0	0	0
Hardness	GPa	25	35	9
Bending Strength	Mpa	230	650	59
Young's Modulus	Gpa	350	490	74
CTE (\times)	$\times 10^{-6}/K$	4.3	4.3	0.54
Thermal Conductivity	W/m·k	170	240	1.4
Electrical Resistivity	$\Omega \cdot cm$	10^{-1}	10^2	10^{14}
Softening point	°C	Non	Non	1070

※Coefficient of thermal expansion

Acid resistance of wafer jig materials

