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ABSTRACT

QUARTZ GLASS CRUCIBLE FOR PULLING UP SINGLE SILICON CRYSTAL
AND PRODUCTION METHOD THEREFOR

In a quartz glass crucible for pulling up single silicon crystal comprising a crucible base body having a bottom part and a straight shell part with an inner layer provided to the inner surface thereof, the quartz glass crucible is characterized by that said inner layer comprises a synthetic quartz glass layer from the lowest end to at least a height of $0.25H$; a natural quartz glass layer or a mixed layer of natural and synthetic quartz glass extended in a range of from at least $0.5H$ to $0.8H$; and one selected from a synthetic quartz glass layer, a natural quartz glass layer, and a mixed quartz glass layer of natural and synthetic quartz glass for the rest of the inner layer; wherein H represents the height from the lowest end of the bottom part to the upper end plane of the shell part, which reduces a generation of vibration occurring on the surface of a silicon melt and is free from a generation of rough surface and cristobalite spots, yet capable of pulling up single silicon crystal stably and at high yield even in long-term operations, and the production method therefor.



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