

Thick Film Chip Resistors: World Market Outlook: 2017-2022..... 1
 It is our mission to empower manufacturers, distributors, OEM, EMS, financial institutions and governments with unbiased market research to protect their assets, build their wealth and prosper in good times and bad..... 2
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Introduction To Thick Film Chip Resistors: 2017-2022

Scope of Report Coverage:

Technical and Industry Accepted Definition of Thick Film Chip Resistors:

- Specifically surface mount thick film chip resistors as recognized by the global Electronic Industries Alliance and all its chapters and for the purposes of this report a more specific definition is offered that captures the spirit of the EIA designation- thick film chip resistors are electronic components that provide resistance measured in ohms in all electronic devices, that are manufactured in specific chip resistor case sizes as designated by the EIA, that have a 96% aluminum ceramic substrate, that have a ruthenium based thick film resistive layer with glass overcoat layer and precious metal terminations.

Technology Background:

There are many manufacturers of chip resistors although the largest producers with the greatest economies of scale are Yageo Corporation of China, and KOA Corporation of Japan. The technology is easily reproducible for lower ohmic value applications and is highly automated from start to finish. Pricing is therefore extremely low, and chip resistors are liberally designed into electronic circuits, because large volumes of them do not change the cost to produce electronic goods by very much. A Smartphone would use as many as 400 to 500 chip resistors per phone (2016).

The major producers of thick film chip resistors are in Taiwan and Japan; with emphasis upon Yageo Corporation. With its purchase of Philips Components MLCC and chip resistor operations, combined with its existing production base in China and Taiwan, Yageo is now the largest chip resistor producer in the world in terms of unit output. Japanese companies KOA CORP., Rohm Corporation, and Panasonic Electronic Devices also have massive economies of scale to produce thick film chip resistors. The Taiwanese company- Walsin, and their purchase of Kamaya Electric of Japan has also placed them in top tier status in chip resistor production in 2016. Outside of Asia the only producer of note is Vishay who produces large volumes of chip resistors in Dimona, Israel. Chip resistor production in the USA and Europe is small to non-existent, especially for thick film devices. Small quantities of thin film nickel

