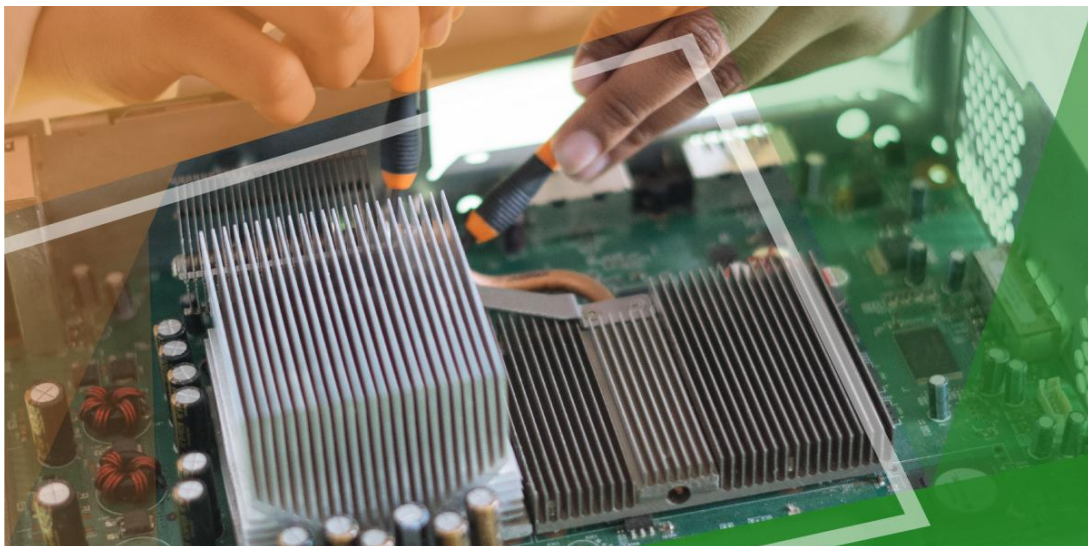


ARBITRARY WAVEFORM GENERATORS FOR SEMICONDUCTOR TESTING | THE MODEL 685

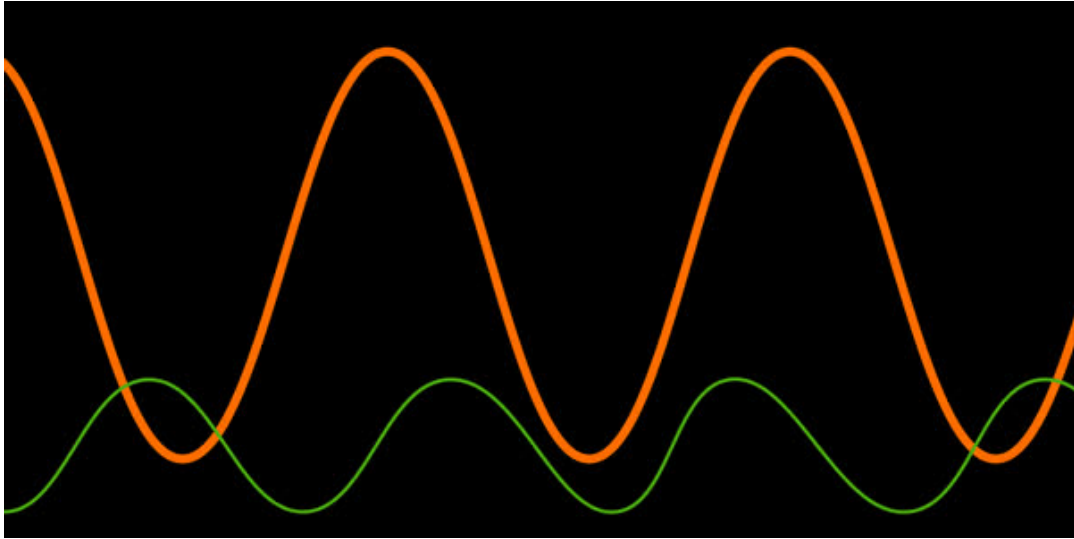
Blog Post

Arbitrary Waveform Generators (AWGs) are essential tools for semiconductor testing and production. They can generate complex waveforms and signals that emulate the real-world conditions required for semiconductor devices. AWGs are used to create test signals that can simulate real-world conditions for semiconductor devices during the testing phase, which helps to ensure their performance and reliability.



Here are some ways AWGs support semiconductor testing and production:

- **Developing and testing analog and digital circuits:** AWGs can generate a wide range of signals such as sine waves, square waves, sawtooth waves, and more, allowing engineers to test the performance of various circuits in a controlled and precise manner. This enables them to identify any issues or malfunctions before the product goes to market.
- **Characterizing RF components:** AWGs can create complex waveforms with specific frequencies and amplitudes, making them ideal for testing and characterizing RF components such as filters, amplifiers, mixers, and more. This helps engineers to determine the properties of these components and identify any issues, such as spurious signals, that may affect their performance.
- **Signal integrity testing:** AWGs can generate complex signals and waveforms that can be used to test the signal integrity of a system. By sending these signals through a system, engineers can identify any issues that may affect signal quality, such as reflections, noise, or crosstalk.
- **Stimulating sensors:** AWGs can generate precise waveforms and signals that can be used to stimulate sensors and other transducers, allowing engineers to measure their response accurately. This helps to ensure that sensors and transducers perform as expected in real-world conditions.



The development of waveforms is a crucial aspect of semiconductor production and testing, requiring advanced tools capable of delivering high-performance results. The Model 685 High-Performance Arbitrary Waveform Generator is an exceptional solution that offers significant advancements in waveform development, featuring industry-leading flexibility, speed, and power levels.

The Model 685 offers world-leading 16-bit arbitrary waveforms with 5Vpp and 110ps rise and fall times, enabling users to define complex waveforms with up to 16,384 analog waveforms and digital pattern sequences. Additionally, the flexible software interface allows users to define their execution flow with loops, jumps, and condition branches.

With a waveform memory length of 4GSamples, the Model 685 can generate a wide range of complex pulse trains, radar pulses, pulsed RF signals with impairments, Gaussian pulses, multi-level pulses, double pulses for IGBT/Mosfet experiments, and more, making it an ideal partner for advanced research and semiconductor testing.



The Model 685 offers premium signal integrity, an easy-to-use touch-screen display, and a host of new operational modes, including differential outputs that offer immunity to external noise, especially on low-voltage systems. Moreover, the Model 685 is upgradeable for the life of the instrument and can synchronize with three additional units to generate up to 32 analog/128 digital channels, keeping users

up-to-date with the latest advancements in semiconductor testing without having to invest in new equipment every time.

The Model 685 High-Performance Arbitrary Waveform Generator is an excellent choice for anyone involved in semiconductor production and testing, capable of handling the most complex tests and cutting-edge applications with ease, making it a valuable tool for any lab or research facility. [Click here to view the Model 685 product page.](#)