



Introduction

Sonix™ is pleased to offer a new line of S-series 110 MHz transducers that provide improved signal sensitivity, reduced delay line reflections, and more robust performance than our V-series 110 MHz transducers.

Like the V-series transducers, the S-series transducers are delay line transducers, but they have been modified using Sonix™ proprietary technology to reduce delay lines and improve signal strength while maintaining image resolution.

A new style cable has also been developed to minimize electrical resonances that can contaminate the A-scan signal.

A description of how to use the S-series transducers in pulse echo (PE) mode follows.

PE Inspection

The S-series transducers operate in a similar fashion to the V-series transducers. The transducer is screwed into the transducer collar and dropped into place (or on older systems is screwed into the search tube), and the cable is then used to connect the transducer to the H or U series remote pulser.

As with the V-series, the transducer is focused by moving the z-axis until the reflection of interest is maximized. However, the time position of the focus will be different due to changes in the delay line, which will add approximately 5 μ s to the focus position as compared to the V-series. However, it is important to still optimize the focus position using the z-axis to obtain the highest image quality. Please also note that due to the improved signal sensitivity a lower gain value will typically be needed.

Figures 1 and 2 show the PE results obtained from a bare flip chip sample using the V-series and S-series 110's respectively. Figure 2 shows the improved defect contrast possible with the S-series 110 MHz. Figures 3 and 4 show the respective A-scans. Note

that the S-series 110 MHz A-scan shows no extra delay line signals.

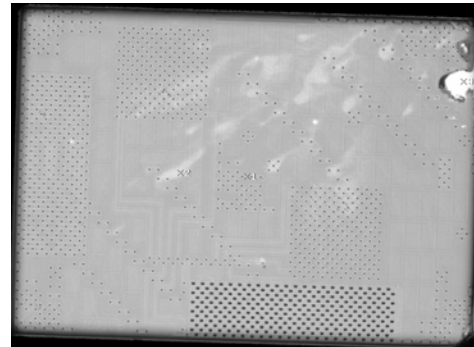


Figure 1: V-series 110 MHz PE image

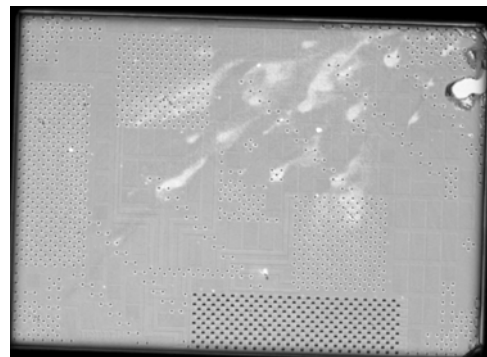


Figure 2: S-series 110 MHz PE image showing improved defect contrast

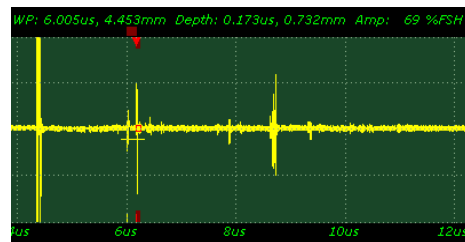


Figure 3: V-series 110 MHz A-scan with an extra delay line reflection at 8.8 μ s

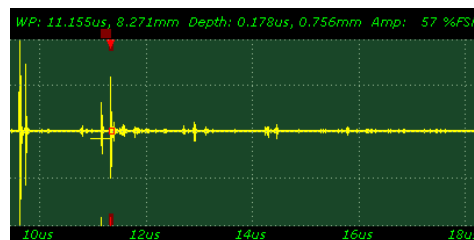


Figure 4: S-series 110 MHz A-scan with no extra delay line signals