

**FEATURES**

- UMTS & 3G Communications Band
- Low Loss, High Power, Suspended Stripline Design
- Surface Mount, Pic-n-Place compatible
- Low Passive Intermodulation (PIM) Design
- -40 to + 125° C Operating Temperature Range

**SSH SERIES**

Patented

The SSH-Series Surface Mount Hybrid Combiner / Dividers are specifically designed for use in single and multicarrier Cellular Base Station Amplifiers which operate between 1700 and 2500 MHz. In these applications premium performance in conjunction with low cost and high volume automated assembly is a must. The product achieves the lowest real insertion loss available on the market today through a patented combination of state of the art "Suspended Stripline" technology and automated volume manufacturing. This combination also provides the highest possible power handling capability without the need for extensive and costly thermal accommodations. The result is a product that provides significant improvements in power combining efficiency, when used in an amplifier output stage, and extremely low noise figure performance when used as part of a balanced low noise input stage.

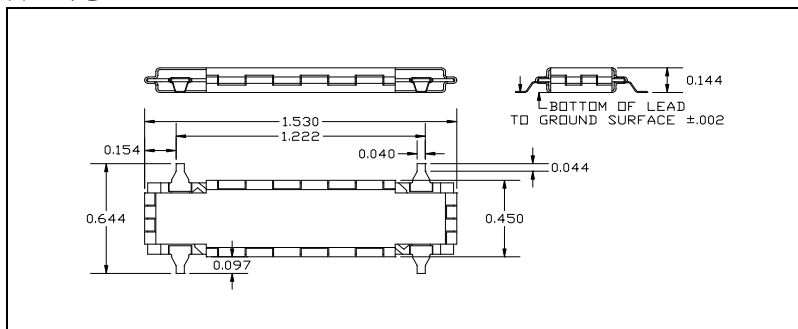
**SPECIFICATIONS**

Frequency (MHz)	Coupling (dB)	Unbalance <sup>1</sup> (dB)	Return Loss min (dB)	Loss <sup>2</sup> max (dB)	Phase Balance (degrees)	Isolation min (dB)	Power Handling max CW (Watts)	Model Number
1700-2500	3	± 0.15	23	0.1	+/-3	23	200	SSH-01
1900-2200	3	± 0.075	23	0.1	+/-1	23	200	SSH-02

**NOTES:**

1. Unbalance specifies the maximum coupling loss variation within the specified operating range.
2. Loss is the actual dissipated and reflected loss. It does NOT include coupling loss.

**OUTLINE DRAWING**



**NOTES:**

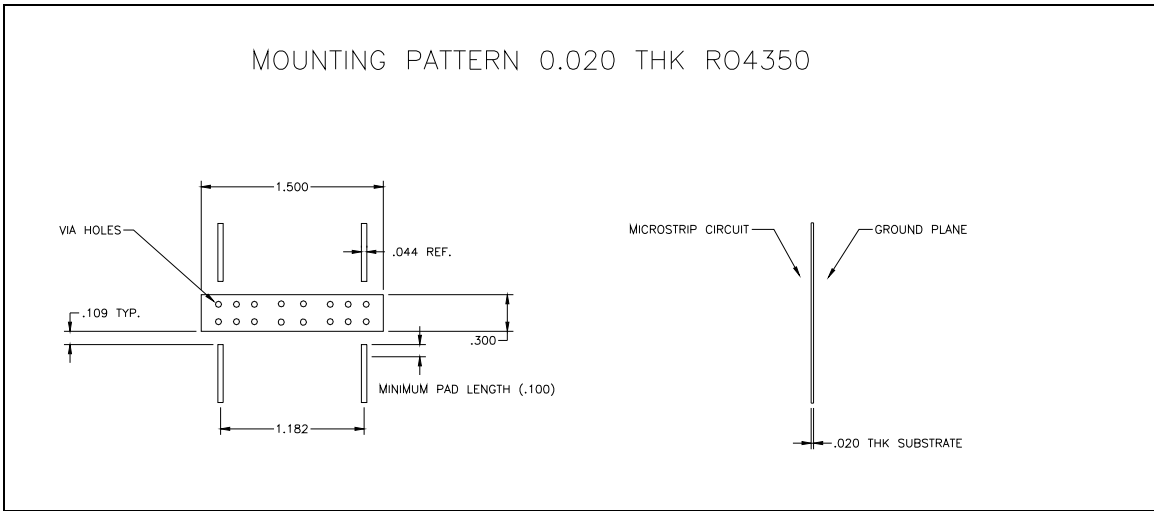
1. Dimensions are in inches. Tolerance on all dimensions is +/-0.005 unless otherwise specified.



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**MOUNTING AND INSTALLATION**

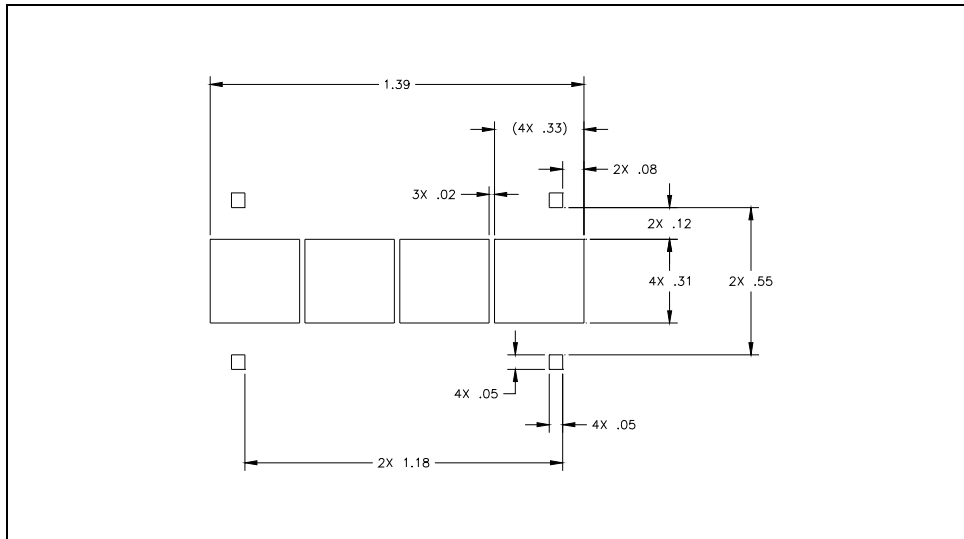
**RECOMMENDED CIRCUIT MOUNTING PATTERN:**



**NOTES:**

1. The 0.044 inch trace width shown above is optimized for 0.020 Thk RO4350 substrate only. For all other substrate thicknesses and dielectric constants, the trace width should be varied to achieve 50 Ohm nominal impedance to the end point of the trace. All other features should be as shown.
2. The mounting tabs of the product are designed for use on a 0.044 inch minimum trace width but will perform to specification for all larger trace widths.
3. Dimensions are in inches. Tolerance on all dimension is +/- .001

**RECOMMENDED SOLDER PASTE PATTERN**



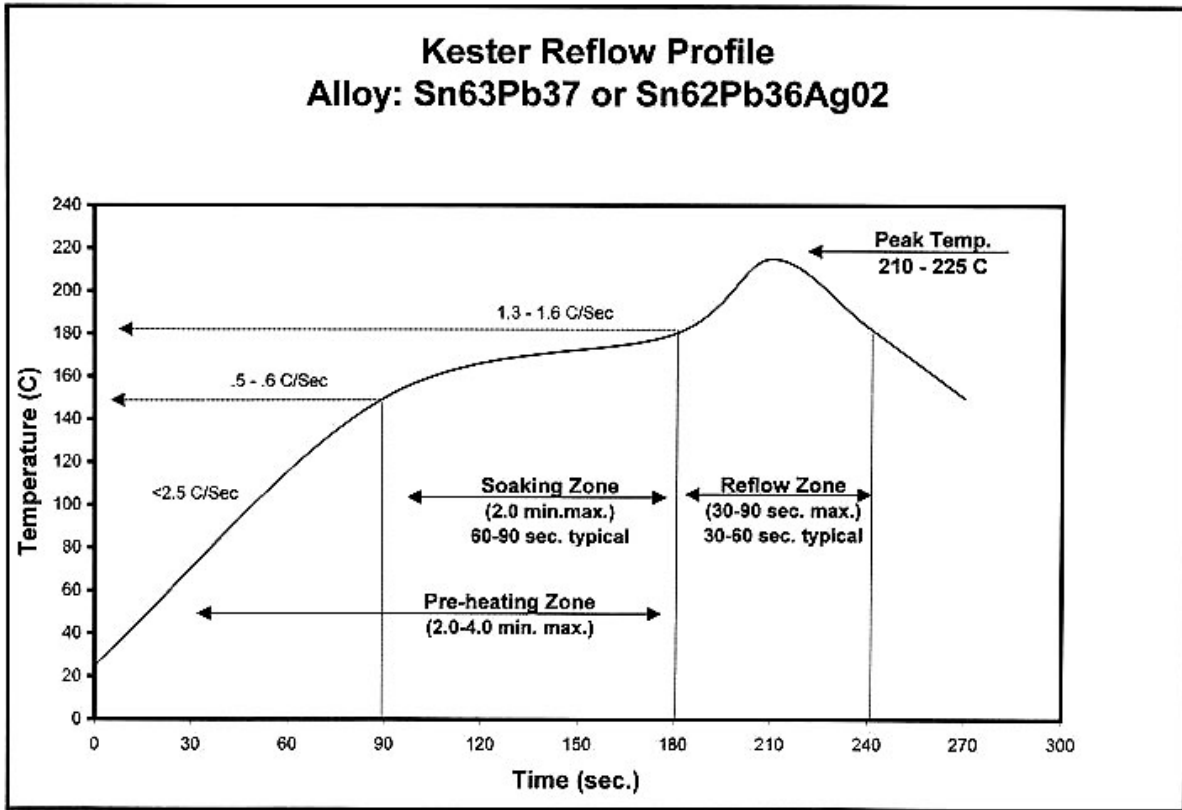
**NOTES:**

1. Apply 6-8 mil screened paste in the pattern shown for ALL trace widths (See Recommended Circuit Mounting Pattern).
2. The pattern should be used for ALL installations regardless of trace width



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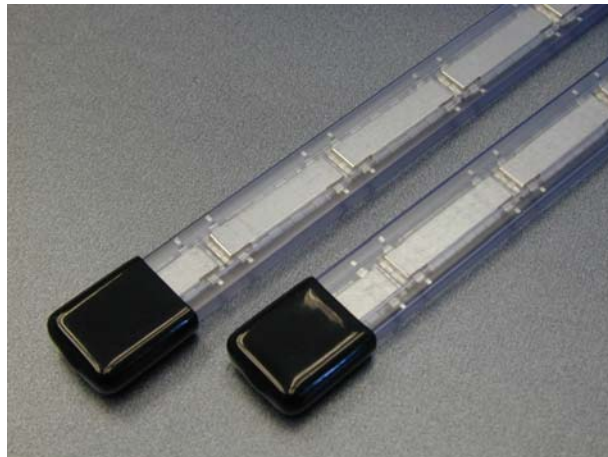
**INSTALLATION SOLDER REFLOW PROFILE**



**NOTES:**

- 1. All parts of the product are 90/10 Solder Plated. Reflow of the entire part is INTENDED during installation.

**PACKAGING**



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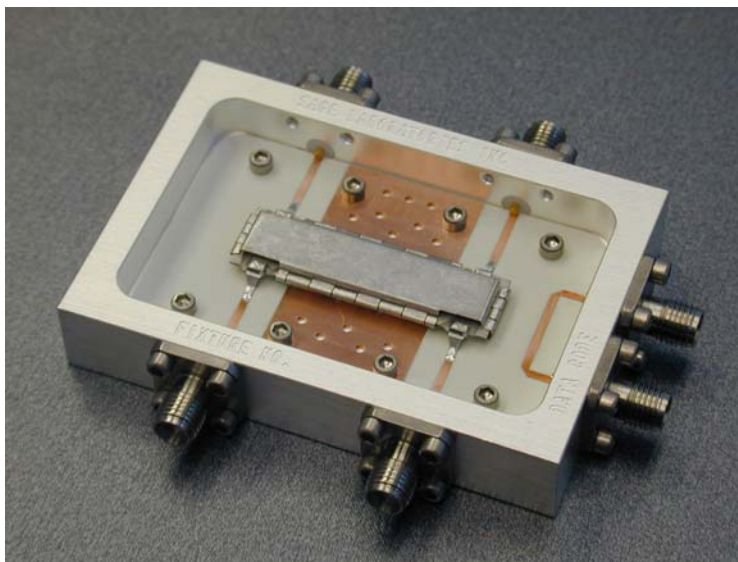
**PACKAGING ALTERNATIVES:**

Two standard packaging alternatives are offered. See Ordering Information for part number suffix.

1. Gravity tubes. Thirteen units per tube.
2. Standard Molded Trays
3. Prior to installation, parts should be stored by customer using methods appropriate for environmentally sensitive electronic parts.

**DEMONSTRATION UNITS**

Demonstration units, packaged as shown below are available from the factory customer for test and evaluation. All demonstrators have been fabricated using automated pic-n-place equipment and processed using the information provided in this data sheet. HALT and other environmental qualification screening test results performed on a sample of the demonstrator unit lot are available for customer review. Contact the factory or your local representative for more information or to arrange for a demonstrator unit



**ORDERING INFORMATION**

**PACKAGING ALTERNATIVES:**

1. Add suffix “-TU” to the part number for Gravity tubes.
2. Add suffix “-TR” to the part number for Trays.

**MISCELLANIOUS:**

1. Sage Laboratories Inc. “Standard Warranty and Order Terms and Conditions” apply to all orders.
2. All specifications subject to change without notice.
3. Parts are available from stock. Contact factory for delivery confirmation for all quantities over 10,000.
4. Contact our local Manufacturers Representative for pricing.

Specification Revision – 060605



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