

SOLDER RELIABILITY SOLUTIONS™, SRS 1.1

PC-BASED SOFTWARE TO BUILD-IN SOLDER JOINT RELIABILITY
AND PREVENT WEAR-OUT FAILURES IN THE FIELD.

SPECIAL OFFER (incl. 30 day money back guarantee)

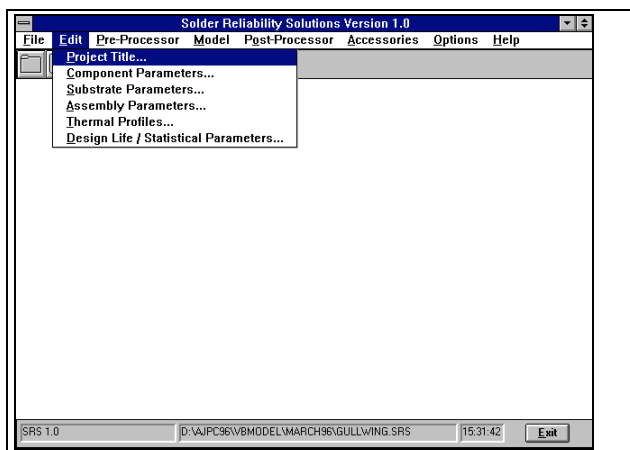
WHY SRS?

Cyclic thermal stress conditions in surface mount assemblies leads to **solder fatigue, a major cause of failure in electronic systems**. To help prevent wear-out failures, the SRS software estimates solder joint fatigue life and enables **building-in reliability in the design and manufacturing stages** of product development. SRS is the PC implementation of thermal stress and life prediction methodologies that capture years of thermal cycling and model development across the electronics industry.

FEATURES

- Microsoft Windows™ environment.
- Interactive data entry, Windows™ filing system, Help File.
- Pre-processor and post-processor modules.
- Stress/strain analysis (includes solder creep).
- Statistical life predictions.

SRS is a **PC-based design-for-reliability tool** that enables rapid “**what if**” **analysis** of the effects of board, component and thermal load parameters on the attachment reliability of near-eutectic tin-lead assemblies.

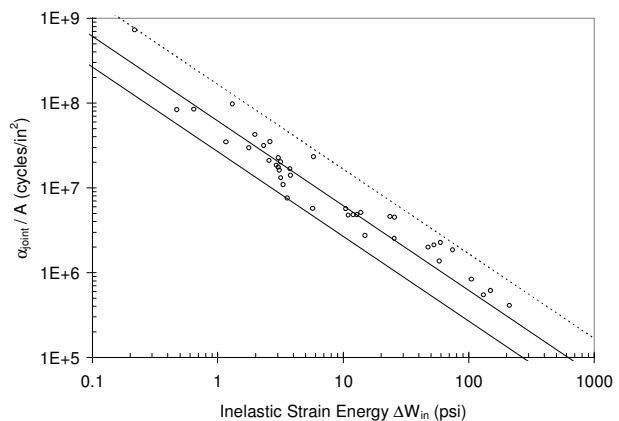


PHYSICAL MODEL

SRS implements **analytical / empirical models** that correlate solder joint fatigue life to cyclic inelastic strain energy **for near-eutectic Sn-Pb assemblies**. The reliability model is validated by over 50 accelerated tests and the correlation of solder joint thermal fatigue lives over **three orders of magnitude**.

Model input includes:

- Component, board and assembly geometry and material properties (CTEs ...).
- Thermal profiles: cold and hot temperatures, dwell times, frequency, including multiple thermal loads.
- Targeted design life; statistical parameters.

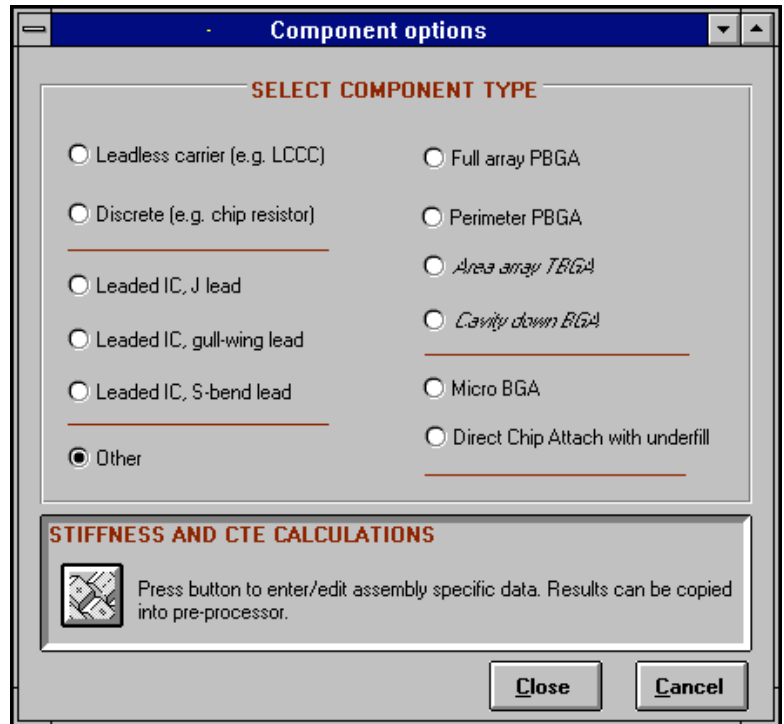


Fit of thermal cycling test results to SRS model.

STIFFNESS / COMPONENT OPTIONS

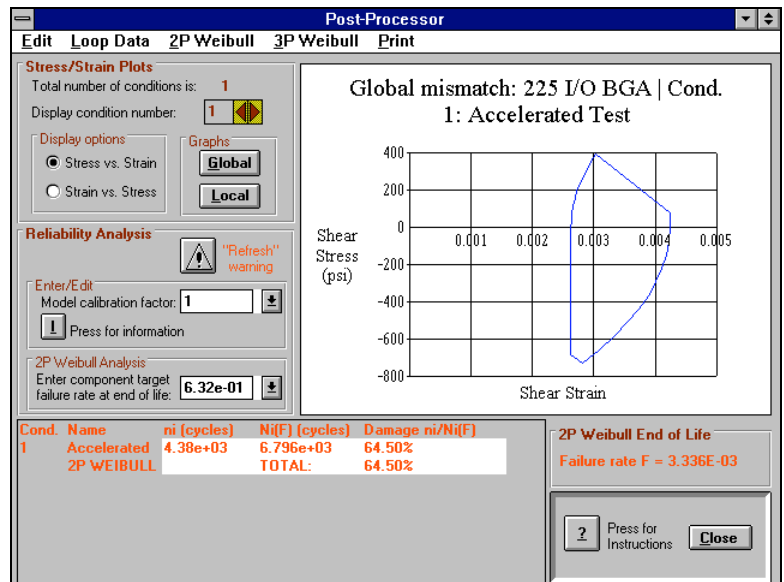
- The assembly stiffness, which accounts for the elastic deformations of the assembly, impacts the solder joint stress / strain response and fatigue life. Design tools are provided to determine stiffness parameters for common families of surface mount components and assemblies.
 - Conventional leadless and leaded components (gull-wing, S, J lead shapes).
 - PBGA: full and perimeter array.
 - NEW!** DCA /flip-chip with underfill; micro-BGA with compliant layer strain relief.
 - Model also applies to cavity down BGAs.

Note: EPSI offers mechanical analysis services to determine stiffness parameters for less common or specialized components and assemblies.



OUTPUT

- Stress/strain hysteresis loops and tables.
- Cumulative damage distribution (chart and tables).
- Two and three parameter Weibull statistics, failure rates, failure free time.
- Model calibration to fit predicted life to test results.
- Copy plots to printer or clipboard.
- Listing of input data (for pasting into text editor).



SYSTEM REQUIREMENTS

- PC running Microsoft Windows™ 3.1 (or greater), or Mac/PowerPC™ running Insignia SoftWindows™ (version 2.0); 4 Mbytes of RAM, 4 Mbytes of available hard disk space.

ABOUT THE SPECIAL OFFER

SRS 1.1 is currently offered at a reduced price. Under the terms of this offer (see ordering information) customers will get free Series 1.X upgrades and software support for one year.

SINGLE USER LICENSE: SRS 1.1 SPECIAL OFFER[†] (July / September 2003)

ORDERING INFORMATION

Send your product registration along with payment or P.O. number to:

EPSI Inc. Attn: Dr. Jean-Paul Clech, P.O. Box 1522, Montclair, NJ 07042 - USA

or fax this form with your purchase order, shipping and billing address to: +1 (973)655-0815.

	Price	Quantity	TOTAL
SRS 1.1: one copy (3 1/2" disk) per user	US \$995 ⁽¹⁾		
Shipping and handling ⁽²⁾	US \$5 each		
Add \$15 per copy for next day express delivery (US only)	US \$15 each		

Sub-total:

Sales tax ⁽³⁾:

Note: prices are subject to change without notice. Call for current list price.

TOTAL: US \$ _____

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 Title: _____ Company Name: _____
 Address: _____
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Thank you for your interest in SRS. If you need further information on the SRS software or EPSI 's other products and services, please call +1 (973)746-3796 or send e-mail to jpclech@aol.com .

[†] This *special offer* of SRS 1.1 entitles the registered user to:

- A free one hour tutorial - please call at your convenience, tutorial will get you up the learning curve fast.
- Free software support for one full year and SRS Series 1.X upgrades, including documentation.

[‡] SRS 1.1 is *licensed to individual users* for use on multiple machines. A registered user can install the software on several computers (laptop, office and home computer) as long as *s/he is the only individual using the software. Unless authorized in writing by EPSI, software license is non-transferrable and separate copies must be ordered by other individuals who wish to use the software.*

SRS 1.1-D: DEPARTMENT LICENSE (July / September 2003)

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 or fax this form with your purchase order, shipping and billing address to: +1 (973)655-0815.

Item Designation / Description	Price ^{(1), (2)}	Maintenance ⁽³⁾	TOTAL
SRS 1.1- D3: up to 3 users & installation on up to 3 computers.	US \$2400.00	US\$450.00	
SRS 1.1- D6: up to 6 users & installation on up to 6 computers.	US\$4200.00	US\$800.00	
SRS 1.1- D12: up to 12 users & installation on up to 12 computers.	US \$7200.00	US\$1200.00	

Sub-total:

Sales tax⁽⁴⁾:

Note: prices are subject to change without notice. Call for current list price.

TOTAL: US \$ _____

Purchase comes with a 30 day money back guarantee.

⁽¹⁾ International - The recipient is responsible for all taxes, bank fees and duties customary to international shipments and payments.

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⁽³⁾ Yearly maintenance fee is optional. Maintenance includes unlimited software support and 1 hour of training or technical consulting per user up to the maximum number of authorized users.

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Title: _____ Company Name: _____

Address: _____

City: _____ State / Zip Code: _____

Country: _____

Phone: _____ Fax: _____

E-mail: _____

MODE OF PAYMENT

US Check or International Money Order in US \$ - Make check or order payable to EPSI Inc.

Purchase Order No. (major institutions only): _____

Enclose copy or send fax. Terms are net 30 days.

Thank you for your interest in SRS. If you need further information on the SRS software or EPSI 's other products and services, please call +1 (973)746-3796 or send e-mail to jpclech@aol.com .

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EPSI Inc. warrants to the registered and licensed user of this program that the disk on which this program is recorded will be free of defects in materials and workmanship under normal use for a period of 90 days from the date of purchase. EPSI Inc.'s liability pursuant to this limited warranty shall be limited to the replacement of the defective disk.

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EPSI Inc. does not guarantee the usefulness and accuracy of any analysis performed with the SRS software. Assessing the program applicability and the usefulness and accuracy of the analysis results is the sole responsibility of the licensed and registered user. EPSI Inc. shall not be liable for possible technical limitations and/or errors in the SRS software and the underlying physical models and algorithms. No warranty is implied except as provided by law.

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SOFTWARE SUPPORT

Operational software support is available exclusively to licensed registered users of the software. Software support covers use of the SRS software tool per se, installation and computational issues.

TECHNICAL SUPPORT

Technical support covering modeling questions, applications, definitions, interpretation of results etc... is available upon request. Please call (973)746-3796 or send e-mail to jpclech@aol.com for price information or to discuss how your specific needs can be addressed. Technical support is available as: on-site training / workshops, or phone / e-mail engineering support via an open purchase order or pre-payment of a set number of support hours (at the current 2003 rate of \$150/hour).