

accupr*be

*Probing the World
of Microelectronics

CHIP RESISTOR PROBE CARDS

FOR ESI LT2300 LASER TRIM SYSTEMS
Including Resistor Networks

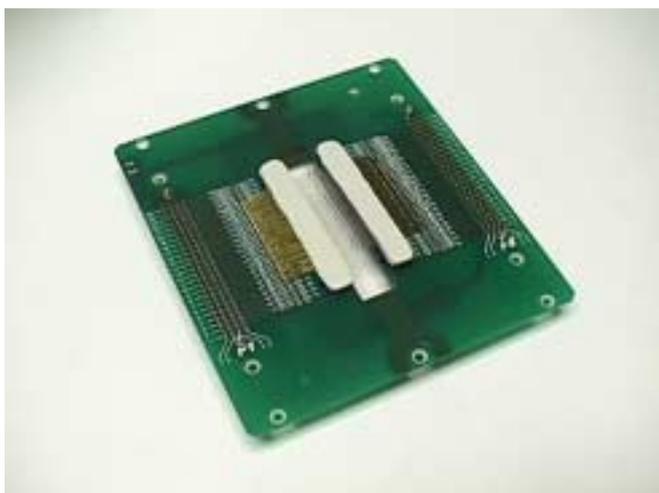


Probe Card assemblies are now available for the ESI LT2300 Laser trim systems. Accuprobe, in conjunction with ESI, designed a new family of Laser Trim probe cards for 1206, 0805, 0603, 0402 and smaller chip formats. Other chip formats or chip arrays (Resistor Networks) can be accommodated on a custom basis. The LT2300 probe card assemblies utilize Accuprobe's Probe Ring style epoxy probe arrays or traditional metal blade probes, and the entire probe fixture concept has been separated into two modules for easy repair and replacement to minimize cost for the laser trim operation.

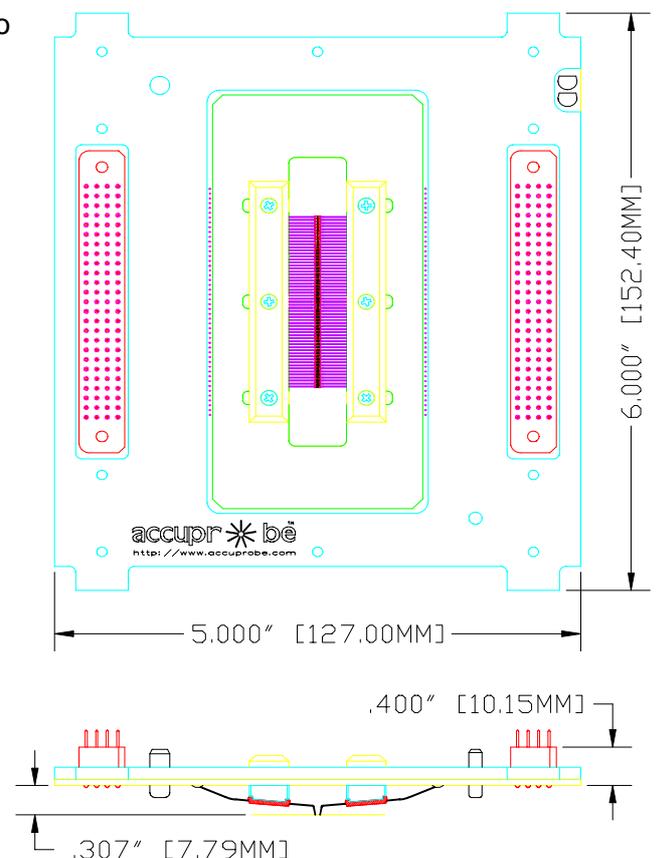
The complete probe card assembly with the card frame attached.

Accuprobe offers the basic card assembly and a card frame to hold and support the card for attachment to the laser. The card assembly mates directly to the measurement interface without cables.

The probe card frame is designed with dowel pins to simplify card installation in the laser to help facilitate initial alignment. Please order each module separately as described below.



Bottom View-Probe Ring style



**CR-LT2300-PR
Probe Card**

Accuprobe's Probe Ring style probe card is intended to be applied to smaller, high density formats such as 0402 and 0603 but will accommodate larger devices.

To order a complete Probe Ring card assembly please order as follows:

CR-LT2300-PR-XXXX-O-XT?-##

XXXX=DEVICE (e.g. 0603)

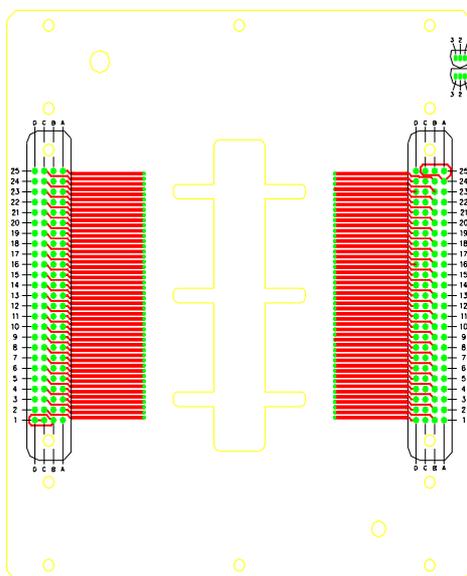
O=C-column, R-Row

XT?=Measurement Config.

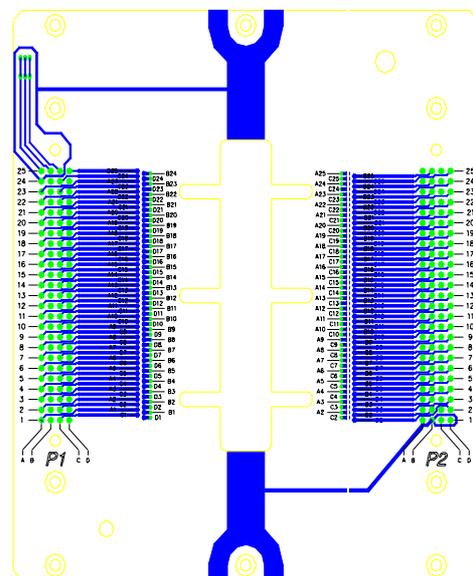
2TF=2 Termination

4TC=4 Partial Kelvin

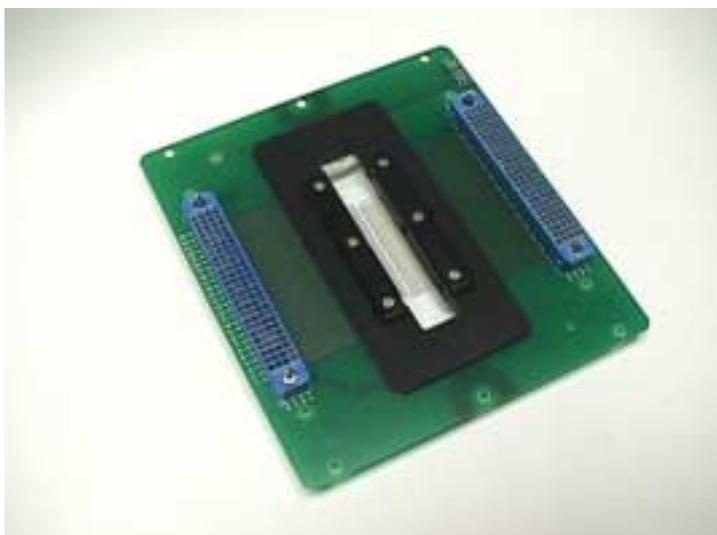
##=No. of Resistors in Column



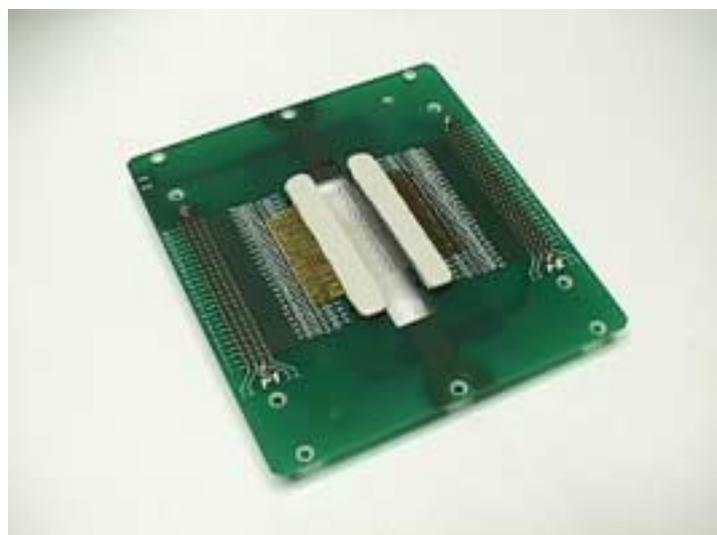
TOP VIEW



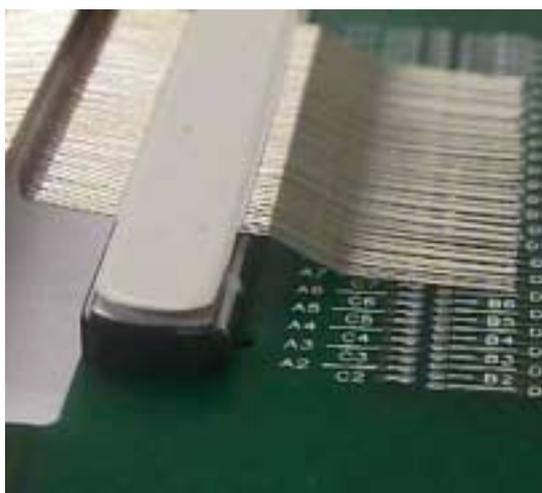
BOTTOM VIEW



Probe Ring-Top View



Probe Ring-Bottom View



REPLACEMENT PROBE ARRAYS

Replacement probe arrays are available for all device formats. Replacement probe arrays are offered as one individual bank of probes. Two banks of probe arrays would be required to completely rebuild a probe card.

To order a replacement probe array, please order as follows: CR-XXXX-XT-##-PR-RA

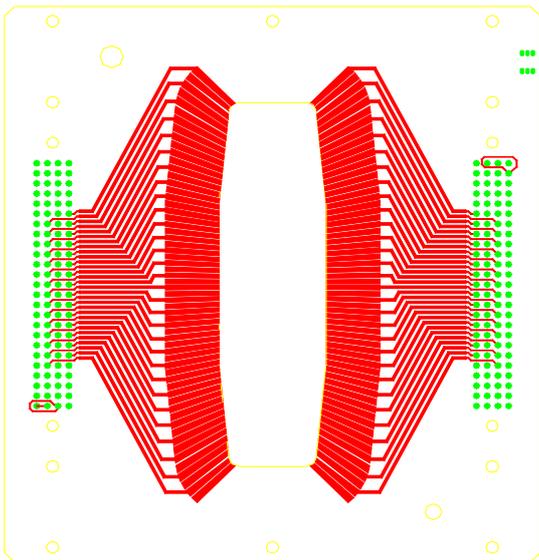
XXXX=DEVICE (e.g.:0603)

XT=Measurement Config.

2T=2 Pin Termination

4T=4 Pin Kelvin

##-No. of resistors in column



Accuprobe offers both metal blade and epoxy ring style formats for assembly of the probe cards. Traditional metal blade probes can be used with the model CR-LT2300-BLD card. This card can be assembled by the user with Accuprobe's PCAM-100 probe card assembly machine with the CR-LT2300-CA card adapter. This configuration is suitable for use when trimming 0805 and larger chip formats. It is also the ideal solution for the assembly of probe cards for pre-production tests

To order a complete blade probe card assembly, please order as follows:

CR-LT2300-BLD-XXXX-O-2TF-##
 XXXX=DEVICE (e.g.0603)
 O=C-column, R-Row (see comment)
 2TF=Measurement Config.
 2TF=2 pin Termination

##=No. of
 Resistors
 in
 Column

CR-LT2300-BLD Probe Card

Blank Blade cards can be ordered separately as model CR-LT2300-BLD

METAL BLADE PROBES FOR USE WITH CR-LT2300-BLD PROBE CARDS

Accuprobe manufactures a wide range of metal blade probes with different tip materials and sizes. However, for the purpose of assembly of this CR-LT2300-BLD card the following blade probe model numbers are appropriate: (Please check the Accuprobe Blade Probe data sheet for more details)



Model No.	Blade Profile	Blade Length	Needle Material	Tip Size
BCSE8D	C	Short	Tungsten 12 Mil needle	10 Mils
BCSE7D	C	Short	Tungsten 12 Mil Needle	5 Mils
BCSW8D	C	Short	Tungsten 10 Mil needle	10 mils
BCSW7D	C	Short	Tungsten 10 Mil needle	5 mils
BCSB8D	C	Short	BeCu 15 Mil needle	10 Mils
BCSB7D	C	Short	BeCu 15 Mil Needle	5 Mils
BCSC8D	C	Short	BeCu 12 Mil needle	10 mils
BCSC7D	C	Short	BeCu 12 Mil needle	5 mils

ASSEMBLY ADAPTER FOR PCAM-100 PROBE CARD ASSEMBLY MACHINE

The probe card adapter is designed to position and hold any LT2300 probe card without the card frame during assembly or repair. The adapter is precision machined from 1/4 inch aluminum tool plate and is black anodized for protection and long life.

To Order the Card Adapter specify CR-LT2300-CA for card adapter to PCAM-100



CARD SUPPORT FRAME

The card support frame must be ordered separately. It is machined from 1/8 inch aluminum tool plate and provides a structural support for the LT2300 probe card to minimize probe card flexing or distortion. Dowel pins provide the ability for repeatable card alignment from the measurement system connectors to the probe pins and

effectively eliminates user adjustment when changing cards. The card frame is required for both Probe Ring and Metal Blade style probe card assemblies.

*CR-LT2300-CF
Probe Card Frame*

To order, please specify Model CR-LT2300-CF



Accuprobe offers a wide variety of tools and equipment to assemble and maintain probe card assemblies to provide an in-house assembly and repair capability. This assures not only convenience and in-house control but also builds local confidence and skill to assure fast repair turn-around, more frequent probe card maintenance for maximum probe fixture life. Accuprobe is also willing and able to provide expert training and continuing support for all of your probing and laser trim needs.

PCAM-100 Probe Card Assembly Machine

Blade type probe card assemblies can be assembled and repaired on the PCAM-100 Probe Card Assembly Machine. Ask your sales representative for more details to support you internal card assembly requirements.

PTS-100 PLANARIZATION TEST STATION

The PTS-100 is the perfect solution for the measurement and adjustment of probe to probe planarization. Measurement resolution to 1/10 of a mil (.0001" or 2.5 um) provides superb accuracy for precision probe measurement in the Z axis. The PTS is supplied with a digital linear gauge with a data port output for PC data logging or for future upgrade to a computer based probe card planarization system.



ROWS AND COLUMNS

Chip resistor plates or resistor networks are typically trimmed in columns in order to maximize the throughput in a single trim pass. This is almost always the case for a 2T trim configuration. When kelvin trimming, it is sometimes necessary to rotate the plate by 90 degrees in order to accommodate the probe contact requirements in relation to the measurement I/O capability. For example, a 57 resistor (column) 0603 would require 114 probes for 2T measurement. The same application orientation would require 228 probes for kelvin measurement. If the typical 0603-57 plate were rotated 90 degrees (there are typically 38 resistors in a row, sharing the probes on conductor pad between the chip-r) then only $(38+1) \times 2 = 78$ probes would be required for kelvin measurement. The LT2300 probe cards have a maximum of 192 I/O's at this time. Therefore, 0603 and 0402 plates for full Kelvin measurement requires a 90 degree rotation.

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