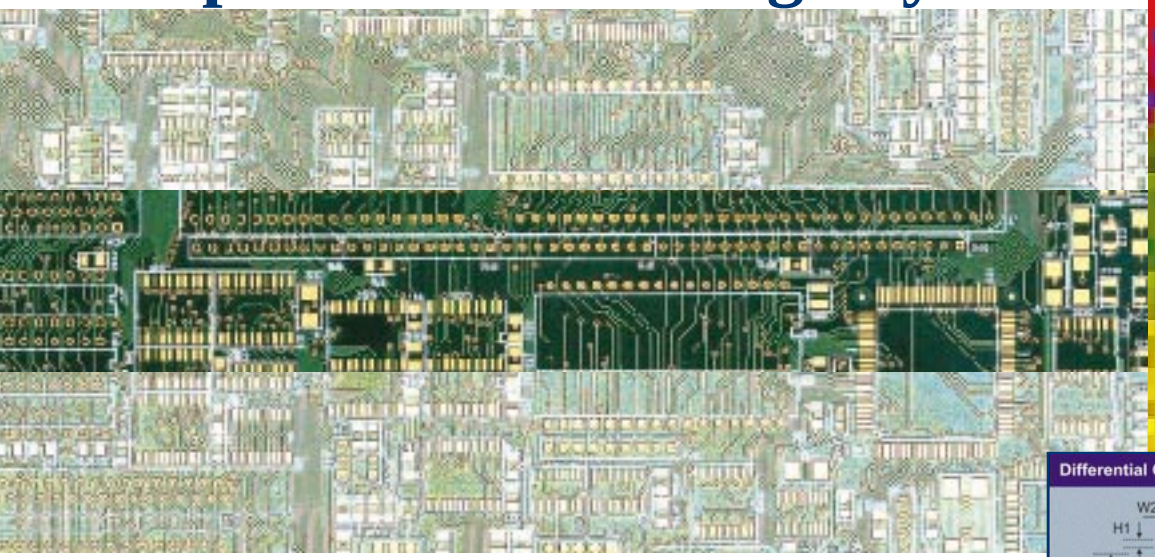
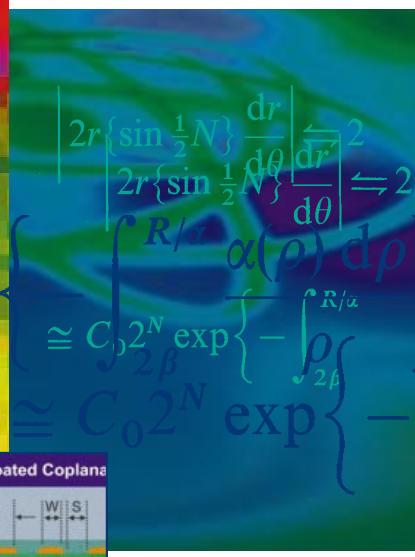
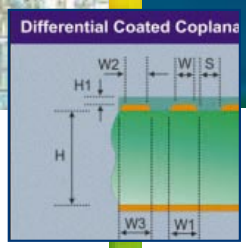
Field Solving Controlled Impedance PCB Design System







A family of Advanced Field Solvers to model most circuit designs

Si6000

Impedance goal seeking shortens design cycle

Sensitivity Analysis increases yields

Ideal for PCB designers and front end engineers

Goal Seek calculates dimensions
Microsoft Excel provides a versatile user interface

Model odd, even, differential and common mode

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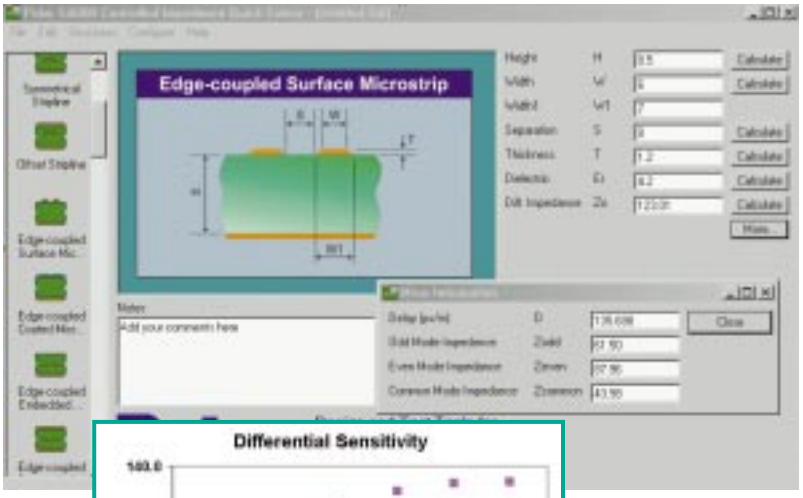
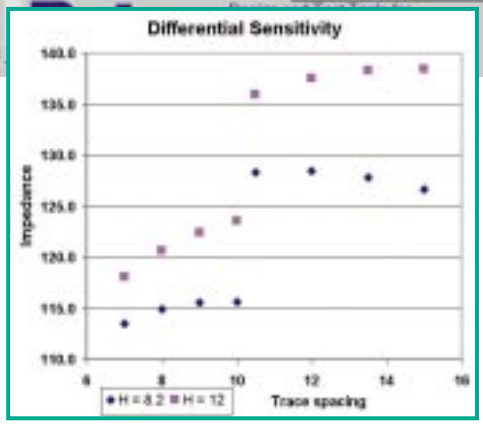




Field Solvers in the Si6000 allow you to accurately graph impedance against various PCB parameters.
The new, intuitive Quicksolver Calculator can operate stand alone for rapid design modifications.

Using Microsoft Excel as a powerful and convenient user interface, the Si6000 graphs impedance against board parameters to enable optimisation of fine controlled impedance tracks on screen. Plus, the new QuickSolver module is friendly, and runs alone without the need to launch the full Si6000 program. The Si6000 supports 39 popular controlled impedance structures and allows you to fully evaluate their behaviour.

You benefit by producing controlled impedance boards with better yields and with fewer board turns before ramping up production. Polar field solvers are in widespread use from original design through to production. Using common modelling tools simplifies communication between design and fabrication.

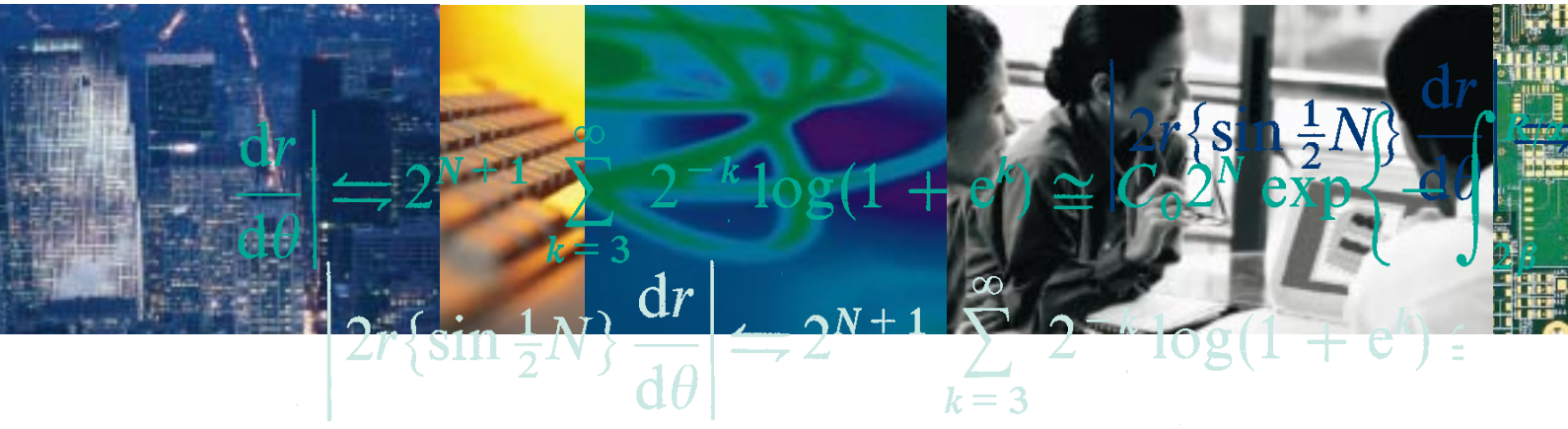
Stand alone Quicksolver speeds design

Powerful impedance design system Sensitivity Analysis increases yields

Ideal for PCB designers, front end and electrical design engineers

Easy graphing and sharing of data through Microsoft Excel user interface

The ever increasing speeds of modern circuitry demand high quality controlled impedance printed circuit boards. Today's PCB is not just a simple electrical interconnection device, it is a complex, highly specified component in its own right, bringing with it an increased requirement for board design verification prior to manufacture.



The Si6000 field solving impedance design system offers advanced field solving methods to model most track designs and is the natural partner of the CITS500s and RITS520a manual and automatic Controlled Impedance Test Systems. CITS measurement systems have been in use with leading PCB manufactures throughout the world since 1991, and Polar is the world leader in production line impedance testing.

The Si6000 version "c" adds the ability to extract even mode and common mode impedance, this is ideal for USB 2.0, LVDS and other high speed technologies.

Calc Type	Zdiff	Zodd	Zeven	Zcommon
Z	121.18	60.59	84.83	42.42
Z	124.64	62.32	90.99	45.49
Z	127.39	63.69	96.74	48.37
Z	129.60	64.80	102.15	51.07
Z	131.41	65.70	107.24	53.62
Z	132.89	66.45	112.04	56.02
Z	134.12	67.06	116.59	58.29
Z	135.15	67.58	120.91	60.45
Z	136.03	68.01	125.01	62.51
Z	136.77	68.39	128.92	64.46
Z	137.41	68.71	132.66	66.33
Z	137.96	68.98	136.23	68.11
Z				
Z				
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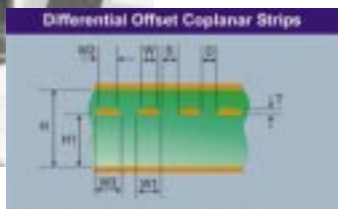
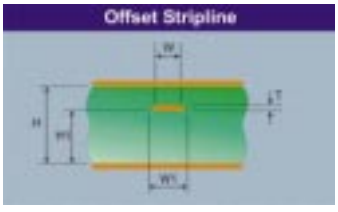
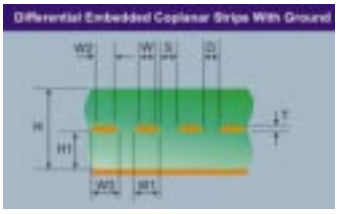
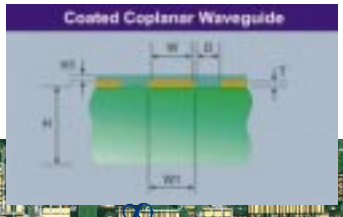
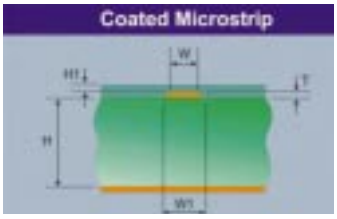
Z				
Z				
Z				67.16
Z				88.21

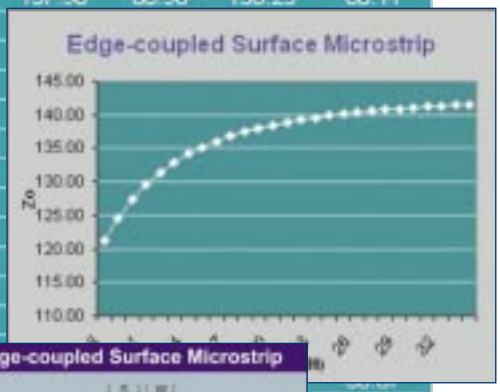


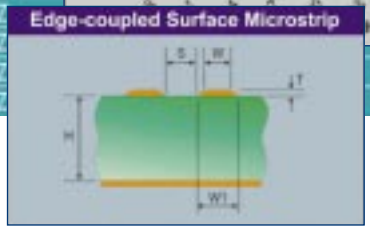












Differential Impedance PCB Structures

Differential Coplanar Impedance Structures

Single Ended Impedance Modelling

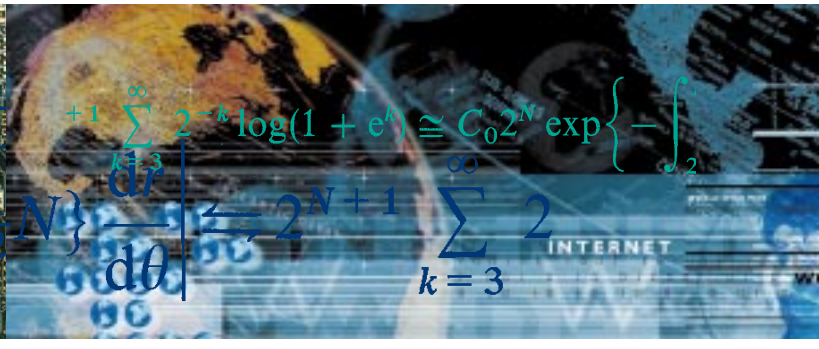
Microstrip and Stripline Constructions

Field Solving by Greens Function and Method of Moments

*** Extraction of Odd, Even and Common mode impedance**

*** Si6000c**

Just click the Polar field solvers into your own Excel spreadsheets. Quick and easy graphing shows your proposal against a background of alternatives, while the Microsoft Office environment permits you to share your results with almost anyone.



USA / CANADA
Polar Instruments Inc
T: (800) 328 0817
F: (650) 344 7964
E: richard.smith@polarinstruments.com

ASIA / PACIFIC
Polar Instruments (Asia Pacific) Pte Ltd
T: +65 6873 7470
F: +65 6873 7471
E: amit.bhardwaj@polarinstruments.com

GERMANY, AUSTRIA, SWITZERLAND
Polar Instruments
T: +43 1 98 54 680-0
F: +43 1 98 54 680-20
E: hermann.reischer@polarinstruments.com

KOREA
Polar Instruments Korea Corp
T: +82 2 2644 2493/4
F: +82 2 2644 2495
E: k.i.kim@polarinstruments.com

UNITED KINGDOM / EUROPE
Polar Instruments UK Ltd.
T: +44 23 9226 9113
F: +44 23 9226 9114
E: neil.chamberlain@polarinstruments.com

REST OF WORLD
Polar Instruments Ltd.
(Head office)
Garenne Park, Guernsey
UK. GY2 4AF
United Kingdom
T: +44 1481 253081
F: +44 1481 252476
E: martyn.gaudion@polarinstruments.com

LIT:194

Si6000 Field Solving PCB Controlled Impedance Design System

STRUCTURES SUPPORTED	Zo	Zdiff	Zoo	Zoe	Zcm	L	C	Tpd
Single-Ended								
Surface Microstrip	✔					✔	✔	✔
Coated Surface Microstrip	✔					✔	✔	✔
Embedded Microstrip	✔					✔	✔	✔
Symmetric Stripline	✔					✔	✔	✔
Offset (Asymmetric) Stripline	✔					✔	✔	✔
Differential								
Surface Edge Coupled Microstrip		✔	✔	C	C			✔
Coated Edge Coupled Microstrip		✔	✔	C	C			✔
Embedded Edge Coupled Microstrip		✔	✔	C	C			✔
Symmetric Edge Coupled Stripline		✔	✔	C	C			✔
Offset Edge Coupled Stripline		✔	✔	C	C			✔
Broadside Coupled Stripline		✔	✔	C	C			✔
Coplanar								
Surface Coplanar Waveguide	✔					✔	✔	✔
Surface Coplanar strips	✔					✔	✔	✔
Coated Coplanar Waveguide	✔					✔	✔	✔
Coated Coplanar strips	✔					✔	✔	✔
Embedded Coplanar Waveguide	✔					✔	✔	✔
Embedded Coplanar strips	✔					✔	✔	✔
Offset Coplanar Stripline	✔					✔	✔	✔
Above structures with or without ground plane								
Differential Coplanar								
Surface Coplanar Waveguide		✔	✔	C	C			✔
Surface Coplanar strips		✔	✔	C	C			✔
Coated Coplanar Waveguide		✔	✔	C	C			✔
Coated Coplanar strips		✔	✔	C	C			✔
Embedded Coplanar Waveguide		✔	✔	C	C			✔
Embedded Coplanar strips		✔	✔	C	C			✔
Offset Coplanar Stripline		✔	✔	C	C			✔
Above structures with or without ground plane								

✔ in versions b and c
C in version c only

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