

PADS2000→Gerber

1. 进入 PADS-PERFORM 画面, 打开一个文件



注意到有铜皮未被填实的地方, 先来填铜皮;

| F1 F2 Select | F3 | F4 | F5 | F6 | F7 I | ⁵ 8 F9 | F10 Exit |
|-------------------------------------------------------------------------|-----------------------------------------------|----------------------------|--------------------------------------------|-------------------------------------------------------------|--------------------------------------------|--------------------------|-------------|
| | SI | et-up globi | al param | ETERS | Vers | ion 6.01 | |
| Database Units Show Current Le Current Net Hig Tear Drop Pad (| Type: :vel Last: ;hlight: Generation | Mils On On 1: Off | Coppe Coppe Coppe | r Hatch M r Hatch D r Hatch G | ode: irection: rid: | Normal Diag + 8 | |
| Dot Grid: Real Width: Mouse Speed (1- Backup Interva) | -9): !: | 964.57 1 6 5 | Pad-Pa Pad-T Track Drill Drill | ad Cleara rack Clea -Irack Cl Hole Cle Oversize | nce: rance: earance: arance: ; | 11 10 6 10 3 | |
| Max Routing Lev Old to New Leve | vel: el re-assi | 2 ignnent: | | | | | |
| 1 1 2 2 9 10 | 3 11 | 4 12 | 5 13 | 6 14 | 7 15 | 8 16 | |
| 17 18 25 26 | 19 27 | 20 28 | 21 29 | 22 30 | 23 | 24 | |

图二

在图二中,将 DataBase Unit Type 改为 Mils, Copper Hatch Grid 作适当调整(这个值随要求不同而不同,取决于 是铜皮或是网格),顺便查一下改板的 Max Routing Level:确定层数;按右键退出至图三



图三

可以看到铺铜后的效果了!

在图三中按 F5,查看个层的网络属性,在多层板中,如有电地层,会在图四种的 Plane 列显示出来,以此来决定,转换 Gerber 时是否转换电底层;

图一



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| F1 Select | F2 | F3 Ju | F4 Istify | F5 RouteOpt | F6 Add | D | F7 Jelete | I | 8 | F9 | F10 Exit |
|--------------|---------|----------|---------------|-----------------------|------------------|--------------|--------------|------|------|-------|-------------|
| | Net Nan | e | SET-L Disp | JP NET AT LMType S | TRIBUI hare l | TES P1ane | TVia | PVia | Clea | rance | |
| | All | | On | Min | Yes | 0 | Yes | Yes | 6 | | |

图四

在图三中,按F1查看每层文件所打开的属性,以决定转Gerber时选项的打开和关闭;

| F1 Select | F2 | | F3 | F | 4 | F5 | | F6 | F | 7 | F8 | | F9 | F10 Exit |
|--------------|------|----|----|----|----|----|-----|----|-----|-----|----|-----|-----|-------------|
| Conns | 8 | | | | | | | | For | Gnd | | Bal | Gnd | |
| Lines | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Text | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Copper | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Pads | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Tracks | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Vias | 1 | 2 | 3 | 4 | 5 | 6 | -7- | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Errors | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Top | E | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Botton | E | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Dant | Name | | | 2 | | | | | Day | + T | | 4 | 0 | |

图五

在主菜单下选择 CAM,设置好存盘路径,进入 CAM 模块。点击 Drill 出现图六画面,有几个选项需说明: 第二行是指元器件孔(具体说就是非过孔),Plated 代表金属化孔,Non-plated 代表非金属化孔,本人多次发现, 许多工程师忘记选中非金属化孔,导致缺失安装孔,切记切记! 第三行是指过孔,Thru 代表 Top-Bot 过孔,Partial 代表半通孔(埋孔或盲孔); 设置完,点击 start 既可转换钻孔文件!



图六

| | ф | 王 | 电 | 子 | 科 | 技 | 集 | 团 | 公 | 司 | 第 | 七 | 研 | 究 | 所 |
|------------------------|-----------|---------|--------------------|----------|-----|----|-----|--------------|-------|---------|--------|-----|--------|---------|--------|
| JESAL | <u>شر</u> | 州 | 杰赛 | 科 | 技 | 股(| 分有 | 限 | 公: | 司印 | 制 | 电 | 路分 | 入公 | 司 |
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在 CAM 功能菜单中,点击 device,选择 PHOTO PLOTTER 设置参数,在选中 GERBER,有三个选项需注意: ①.Number of Apertures 数值应足够大,它代表使用的光圈数,光圈数越多,自动匹配的几率越大; ②.Plotting area X Size

③. Plotting area Y Size 应依据板的尺寸,给出合适的选择,否则,系统会提示尺寸偏小;

| F1 F2 F3 Select | F4 F5 | F6 F7 | F8 | F9 | F10 Exit |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------------------------------|-------------|
| Select Plotter On-line: Type of Units: Coordinate Type: Zero Suppression: Supress Repeated Coords: Circular Interpolation: Second Science & Flocking: | PHOTO PLOTTER Device Name: No English Absolute Leading Yes None | SETUP GERBER Output Port: Number of Apen Plotting area Plotting area Coordinate Siz | rtures: X Size: Y Size: ze: Left: Right: | COM2 250 56000 56000 5 3 | Exit |
| Jane urawiny α rrashiny: | GERBER LASER | | | | |

图七

做完以上设置,下次就不用再次设置了。接下来,我们开始转换 Gerber,在 CAM 模块中选择 Photo plot,出现 图八的画面,Artwork Plot 是指走线层,有几层走线,就要操作几次;

| Select | | | | | | NextMenu | Exit |
|------------------------|----|-----|-------|-------|-------|----------|------|
| Select Plot Type | | | Devic | e: Ph | oto-p | lotter | |
| General Plot | | Sel | ect L | evel | | | |
| Artwork Plot | 1 | 2 | 3 | 4 | 5 | | |
| Silkscreen – Top Side | 6 | 7 | 8 | 9 | 10 | | |
| Silkscreen – Botn Side | 11 | 12 | 13 | 14 | 15 | | |
| Assy Dwg - Top Side | 16 | 17 | 18 | 19 | 20 | 3 | |
| Assy Dwg - Botn Side | 21 | 22 | 23 | 24 | 25 | | |
| Drill Drawing | 26 | 27 | 28 | 29 | 30 | | |
| Solder Mask | | | | | | | |
| Power/Ground Plane | | | Nex | t Men | u | | |
| SMD Paste Mask | | | E | kit | | | |

图八

点击 Next 进入图九,设置走线层应打开的选项,这就是为何要查看图五的原因;



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图九

点击 Next 进入图十画面,记着把 Automatic Aperture Assignment 选中,这样,系统自动匹配光圈; 有几层走线层就执行几次图八到图十的过程;

| Select . | | New Plo | tPrevMenu <mark>StartPlt</mark> | Exit |
|------------------------------------------------------------------|------------|-----------------------|---------------------------------|------|
| Enter Transformation Options: | | Device: Plot Type: | Photo-plotter Artwork Plot | |
| Plot Scaling Ratio: 1 | to 1 | | | |
| Mirror Plot: | | | | |
| Plot Location: Origi | n Offset | | | |
| Offsets: X: 4000 | Y: 4000 | | | |
| Plot Jobnane: No On-line Plot: No | | | | |
| Plot Output File: art01 | . pho | | | 8 |
| Pad shapes for track back-off: | Annular | | | |
| | | | | |
| Autonatic Aperture Assignment: Save Selections in Batch File: | Yes Yes | New Plot | Previous Menu | |
| | | Start Plot | Exit | |

图十

再转换丝印层,系统已经区分开顶层丝印和底层丝印,在图十一中,如果有其它层的信息需要出现在丝印层,也需 在右边的小方块中选中相应的数字;



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| Select | | | | | | NextMenu | Exit |
|------------------------|----|-----|--------|-------|-------|----------|------|
| Select Plot Type | | j | Devico | e: Ph | oto-p | olotter | |
| General Plot | | Sel | ect L | evel | | | |
| Artwork Plot | 1 | 2 | 3 | 4 | 5 | | |
| Silkscreen – Top Side | 6 | 7 | 8 | 9 | 10 | | |
| Silkscreen - Botn Side | 11 | 12 | 13 | 14 | 15 | | |
| Assy Dwg - Top Side | 16 | 17 | 18 | 19 | 20 | | |
| Assy Dwg - Botn Side | 21 | 22 | 23 | 24 | 25 | | |
| Drill Drawing | 26 | 27 | 28 | 29 | 30 | | |
| Solder Mask | | an | 26 | 0111Q | ř.111 | | |
| Power/Ground Plane | | | Nex | t Men | u | | |
| SMD Paste Mask | | | E | kit | | | |

图十一



图十二



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| Select | | | | | | NextMenu | Exit |
|------------------------|----|-----|-----------|-------|-------|------------|------|
| Select Plot Type | | | Devic | e: Ph | oto-p | lotter | |
| General Plot | | Sel | ect L | evel | | | |
| Artwork Plot | 1 | 2 | 3 | 4 | 5 | | |
| Silkscreen – Top Side | 6 | 7 | 8 | 9 | 10 | | |
| Silkscreen - Botn Side | 11 | 12 | 13 | 14 | 15 | | |
| Assy Dwg - Top Side | 16 | 17 | 18 | 19 | 20 | | |
| Assy Dwg - Botn Side | 21 | 22 | 23 | 24 | 25 | - | |
| Drill Drawing | 26 | 27 | 28 | 29 | 30 | | |
| Solder Mask | | · | · · · · · | · | X | T r | |
| Power/Ground Plane | | | Nex | t Men | u | | |
| SMD Paste Mask | | | E | kit | | | |

图十三

图十三是转换孔位图;

| Select | | | | | | NextMenu | Exit |
|------------------------|----|------|--------|--------|-------|----------|------|
| Select Plot Type | | J |)evice | e: Pho | oto-p | lotter | |
| General Plot | | Sele | ect Le | evel | | | |
| Artwork Plot | 1 | 2 | 3 | 4 | 5 | | |
| Silkscreen – Top Side | 6 | 7 | 8 | 9 | 10 | | |
| Silkscreen – Botn Side | 11 | 12 | 13 | 14 | 15 | | |
| Assy Dwg - Top Side | 16 | 17 | 18 | 19 | 20 | | |
| Assy Dwg - Botn Side | 21 | 22 | 23 | 24 | 25 | | |
| Drill Drawing | 26 | 27 | 28 | 29 | 30 | | |
| Solder Mask | | | | | | | |
| Power/Ground Plane | | | Next | t Meni | 1 | | |
| SMD Paste Mask | | | E | kit | | | |

图十四

图十四是转绿油层,需分两次分别转换顶层绿油和底层绿油;



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| elect | NextMenu Exit |
|------------------------|-----------------------|
| Select Plot Type | Device: Photo-plotter |
| General Plot | Select Level |
| Artwork Plot | 1 2 3 4 5 |
| Silkscreen – Top Side | 6 7 8 9 10 |
| Silkscreen – Botn Side | 11 12 13 14 15 |
| Assy Dwg - Top Side | 16 17 18 19 20 |
| Assy Dwg - Botn Side | 21 22 23 24 25 |
| Drill Drawing | 26 27 28 29 30 |
| Solder Mask | 4- |
| Power/Ground Plane | Next Menu |
| SMD Paste Mask | Exit |

图十五

图十五是转换电地层,这就是我们检查各层网络属性的原因,25层是电地层的公用层,需分别匹配电地层来转换!