Excellent Integrated System Limited

Stocking Distributor

Click to view price, real time Inventory, Delivery & Lifecycle Information:

Pulsar 50-1501

For any questions, you can email us directly: sales@integrated-circuit.com



Distributor of Pulsar: Excellent Integrated System Limited

Datasheet of 50-1501 - PCB S/S .032" 8X10" 1/2OZ 2PANEL

Contact us: sales@integrated-circuit.com Website: www.integrated-circuit.com

BLANK COPPER LAMINATE

MASTER REFERENCE OF ALL "PULSAR" PRODUCTS:

 PCB "Fab-In-A-Box"
 182-1027-ND

 - TTS Transfer Paper
 182-1003-ND

 - GreenTRF film
 182-1021-ND

 - WhiteTRF film
 182-1022-ND

PCB (Single Sided)
 PCB (Double Sided)
 182-1017-ND (Shown Here)
 182-1018-ND (Shown Here)

DecalPRO® <u>182-1026-ND</u>

"Combo" (both kits) 182-1028-ND

GBC® Laminator ("TIA") 182-1029-ND

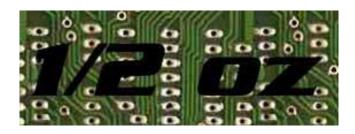
One of the most important factors for being able to make a circuit board with very fine traces is knowing before you start, how much copper is on my board!

Undercutting of your traces during long etch times is what destroys fine traces. The longer the etch, the more the undercutting - it's a straight line proportional problem. So, the lower the amount of copper, the finer your traces can be. As an example, all commercially produced boards that have incredibly fine traces (on the order of .002" to .004" widths) actually start off using copper laminate with 1/8oz copper. The etch time is very fast which doesn't give the etchant enough time to work sideways under the etch resist (ie undercutting). The board is then plated-up to 1oz (or 2oz for MilSpec) before being sent back to the customer.

For our purposes here, "plating up" is totally impractical due to the complexity of additive plating, so the next best thing is to have the copper reduced to a reasonable level which in our case is 1/2oz copper. You still have plenty of "resolderability" without traces being damaged and decent current carrying capability with the big advantages being that you can image down to .008" (and even .006" if you are very "clean" in the board's preparation) and the board is very easy to cut using a paper cutter since it's .032" thick vs. .064" thick. The trade-off from using a lesser amount of copper is reduced current carrying capability. Most users are low voltage, low current so this isn't a problem, however, if you require high current traces, all you need to do is slightly widen your traces. Our website has a chart to give you the required trace width for amount of current to be carryied.

The "weight" of a copper laminate board by the way comes from the technique of pouring 1 "Troy" ounce of liquid copper into a $12" \times 12"$ pan and letting it "flatten out". There is no prescribed "thickness" of the actual laminated copper per-se.





Laminate Specs:

Material Characteristics: Difunctional FR-4/G10 rigid laminates are manufactured from the same high reliable epoxy resin and woven glass fabrics used for multilayers, copper clad one or both sides.

Underwriters Laboratories:

All materials meet UL-94VO

General Information:

MIL-P-13949G Type Designation	GF
U.L. Designation – ANSI Grade	FR-4
U.L. File Number	E38534
Flammability Rating	94V-0
Maximum Operating Temperature	130°C
Copper Weight	1/2 oz.

Peel Strength:

As received	10 lbs/in, min
After Thermal Stress (550°F, 20 sec)	10 lbs/in, min
After Processing Solutions	9 lbs/in, min
At Elevated Temperature	8 lbs/in, min

Difunctional FR-4/G-10 Properties:

Flexural Strength Lengthwise90 KSI, min		
Permittivity, 1MHZ	4.7 max	
Loss Tangent, 1MHZ	.015, max	
Water Absorption	.15, max	
ARC Resistance	120 sec, min	
Volume Resistivity (Cond F)	1.0 x 10 ⁸ , min	
Surface Resistivity (Cond. F)	1.0×10^7 , min	
Volume Resistivity E-24/125	5 x 10⁵, min	
Surface Resistivity E-24/125	1 x 10⁵, min	
Chemical Resistance	1.5%	
Standard Tolerance	+/0050	
Class 3 Tolerance	+/0035	