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Design and End Product Requirements for Discrete Wiring Boards

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2215 Sanders Road
Northbrook, Illinois
60062-6135

Tel 847 509.9700
Fax 847 509.9798
URL: http://www.ipc.org

Design and End Product Requirements for Discrete Wiring Boards

1.0 SCOPE

1.1 This standard covers design and end product requirements of discrete wiring boards which utilize discrete wires to interconnect termination areas on or within flexible or rigid materials that may contain common on-board foil electrical conductors.

1.2 Units Unless otherwise specified, dimensions will be metric (SI).

1.3 Classification This standard provides levels (1, 2, 3, 4, etc.) to reflect progressive increases in sophistication for tooling, materials, and processing. Selections of the classification should be based on the minimum need. The reference of a single level does not preclude invoking specific requirements defined in other levels.

1.3.1 Designation The discrete wiring system (part number) shall be in the following form and as specified herein:

IPC-DW-425/S	(A1)	E (2112)
Where S is the Specification Number Sheet (See 1.3.2)	Type (See 1.3.2.1)	Edge Board Plating Level (See 1.3.3 & 1.3.3.1)

H (5211)	T (1111)	L (4511)
Hole Plating Level (See 1.3.3 & 1.3.3.1)	Terminal Plating Level (See 1.3.3 & 1.3.3.1)	Lands or Surface Plating (See 1.3.3 & 1.3.3.1)

1.3.2 Specification Sheet Beginning with page 10 of this document are a series of specification sheets. Each sheet outlines a discrete wiring system and indicates a connection type (see 1.3.2.1). The discrete wiring systems contained in this standard represent known techniques. As new systems are available, they will be added to future revisions. User and system developers are encouraged to supply information on new systems for review by the IPC Discrete Wiring Committee. Users that wish to invoke this specification for discrete wiring systems not listed in the specification sheets shall place a zero (0) for the specification sheet number (IPC-DW-425A/0).

1.3.2.1 Connection Type The connection types listed describe the routing and terminating of discrete wires to form point to point electrical connections. A letter type designator is assigned to each generic connection type in effect on the date of publication and may not be all inclusive. Listing of the trade name does not imply endorsement by the IPC.

***Type*—**Mechanically Separable Connections
A1 – Solderless Wrap Connection
A2 – Clip Termination Connection
A3 – Insulation Displacement

***Type B*—**Semi-Permanent Connections
B1 – Wrapped and Soldered Connection
B2 – Reflowed Solder Connection
B3 – Heat Shrinkage Solder Connection

***Type C*—**Permanent Connections
C1 – Plated-Through or Blind Via Hole Connection
C2 – Welded Pin
C3 – Welded Land

1.3.3 Plating Area The user of a discrete wiring system can indicate the areas of the discrete wiring system to be plated. This is accomplished by a letter designation system as follows:

E ..... edge board contacts
H ..... hole plating
T ..... terminal plating
L ..... surface or land plating

Each plating area shall be followed by four numbers indicating the type of plating and thickness level required (see 1.3.3.1). If an area does not need plating the letter designation shall still be included followed by four ''1''s (see example 1.3.3.1 and 3.5.2.1-3.5.2.4).

Example:

The designation T (1111) would indicate a terminal with no plating.

The designation E (2112) is an edgeboard contact with 14.17g (1/2 oz.) copper and .000254 mm [0.000010 in] gold.

1.3.3.1 Plating The plating required on the end product discrete wiring system shall be designated in the following form: