

# memorandum



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T10/05-265r0

To INCITS T10 Committee From Michael Banther, HP Subject ADT-2 Smaller Connector

Date 24 October 2005

## Revision History

Revision 0 – Initial document.

## Background

Several vendors have noted that the existing ADT connector requires a larger amount of space than they would like. HP proposes to address this concern by standardizing a new, smaller connector, based on the Molex PanelMate™ 51146-1400 plug and 53780-1490 jack.

## Changes to the ADT-2 draft standard

### 5.3 Connector pin-out

ADT ports shall use ~~the~~ either:

- The plug connector defined in SFF-8054; or
- The plug connector defined in SFF-xxxx.

Editorial Note: Replace SFF-xxxx with the correct SFF name once it becomes available.

Table 8 defines the pinout for the ADT port connector on the DT device when using SFF-8054.

**Table 8 – DT device ADT port connector pinout for SFF-8054**

Pin Number	Connection Name
1	+ Tx <sub>a</sub> - Rx <sub>d</sub>
2	- Tx <sub>a</sub> - Rx <sub>d</sub>
3	Ground
4	- Tx <sub>d</sub> - Rx <sub>a</sub>
5	+ Tx <sub>d</sub> - Rx <sub>a</sub>
6	Sense <sub>d</sub>
7	Sense <sub>a</sub>
8	Reset <sub>a</sub>
9	Signal <sub>aux</sub>
10	Sense <sub>aux</sub>

Table y defines the pinout for the ADT port connector on the DT device when using SFF-xxxx.

**Table y – DT device ADT port connector pinout for SFF-xxxx**

Pin Number	Connection Name
1	+ Tx <sub>a</sub> - Rx <sub>d</sub>
2	- Tx <sub>a</sub> - Rx <sub>d</sub>
3	Ground
4	- Tx <sub>d</sub> - Rx <sub>a</sub>
5	+ Tx <sub>d</sub> - Rx <sub>a</sub>
6	Sense <sub>d</sub>
7	Sense <sub>a</sub>
8	Reset <sub>a</sub>
9	Signal <sub>aux</sub>
10	Sense <sub>aux</sub>
11	+3.3V
12	Signal <sub>aux</sub>
13	Signal <sub>aux</sub>
14	Ground



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### **Request for SFF standardization**

This proposal authorizes the ADI-2 Chair to request that the Small Form Factor committee undertake to standardize the physical dimensions and tolerances of an ADI fixed board connector and an ADI free cable connector based on the Molex PanelMate™ 51146-1400 plug and 53780-1490 jack. As with SFF-8054, the SFF standard thus produced shall not include:

- a. Attachment of the ADI fixed board connector to a circuit board;
- b. Location of the ADI fixed board connector in a DT device or Automation device;
- c. Signal names assigned to the pins;
- d. Electrical characteristics of the connectors; and
- e. The protocols used for communications through the connectors.

## FEATURES AND SPECIFICATIONS

### Features and Benefits

- Sizes 2 to 30 circuits
- Very thin design (1.80mm)
- Housing lance provides extra terminal retention
- Friction lock provides secure mating
- Polarized design

### Reference Information

Packaging: Bag

Use With: [50641](#) or [50753](#) terminal

Mates With: [53779](#), [53780](#), [55063](#), [55176](#), [55177](#)  
and [55178](#)

Designed In: Millimeters

### Electrical

Voltage: 125V

Current: 1.0A

Contact Resistance: 20mΩ max.

Dielectric Withstanding Voltage:

Mated with 55063, 53779 or 53780—250V AC

Mated with 55176, 55177 or 55178—500V AC

Insulation Resistance: 100 MΩ min.

### Physical

Housing: PBTP, UL 94V-0

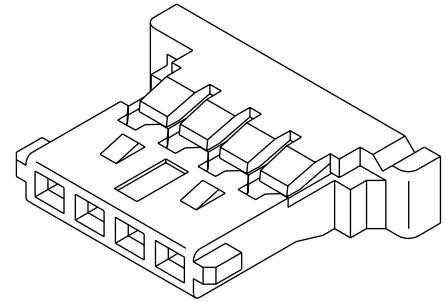
Operating Temperature:

Mated with 55063, 53779 or 53780 — -40 to +85°C

Mated with 55176, 55177 or 55178 — -40 to +105°C

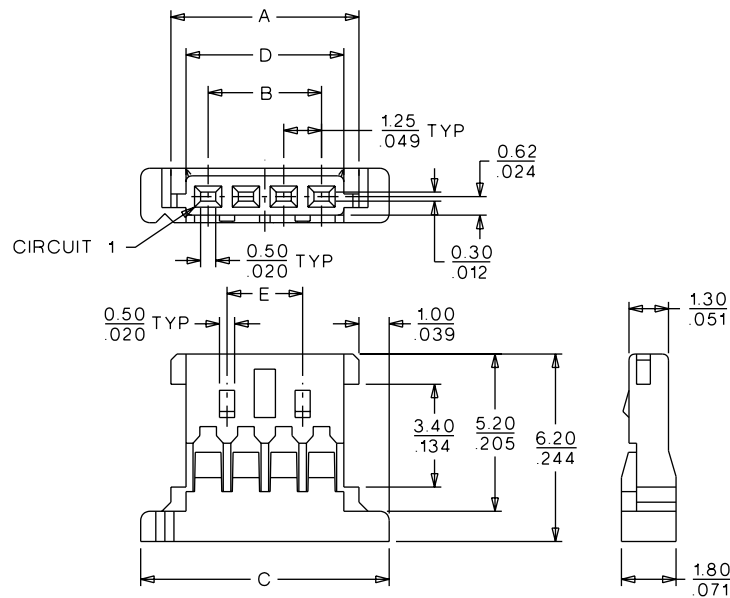
# molex® 1.25mm (.049") Pitch PanelMate™ Wire-to-Board Housing

## 51146 Ultra Low Profile



0.40 to 1.60mm (.016 to .063") Pitch

## CATALOG DRAWING (FOR REFERENCE ONLY)



## ORDERING INFORMATION AND DIMENSIONS

Circuits	Order No.	Dimension				
		A	B	C	D	E
2	51146-0200	3.72 (.146)	1.25 (.049)	5.72 (.225)	2.72 (.107)	
3	51146-0300	4.97 (.195)	2.50 (.098)	6.97 (.274)	3.97 (.156)	
4	51146-0400	6.22 (.245)	3.75 (.148)	8.22 (.324)	5.22 (.206)	2.50 (.098)
5	51146-0500	7.47 (.294)	5.00 (.197)	9.47 (.373)	6.47 (.255)	3.75 (.148)
6	51146-0600	8.72 (.343)	6.25 (.246)	10.72 (.422)	7.72 (.304)	5.00 (.197)
7	51146-0700	9.97 (.393)	7.50 (.295)	11.97 (.471)	8.97 (.353)	6.25 (.246)
8	51146-0800	11.22 (.442)	8.75 (.334)	13.22 (.520)	10.22 (.402)	7.50 (.296)
9	51146-0900	12.47 (.491)	10.00 (.394)	14.47 (.570)	11.47 (.452)	8.75 (.344)
14	51146-1400	18.72 (.737)	16.25 (.640)	20.72 (.816)	17.72 (.695)	15.00 (.591)
15	51146-1500	19.97 (.786)	17.50 (.689)	21.97 (.865)	18.97 (.747)	16.25 (.640)
20	51146-2000	26.22 (1.032)	23.75 (.935)	28.22 (1.111)	25.22 (.993)	22.50 (.886)
22	51146-2200	28.72 (1.131)	26.25 (1.033)	30.72 (1.209)	27.72 (1.091)	22.50 (.886)
26	51146-2600	33.72 (1.328)	31.25 (1.230)	35.72 (1.406)	32.72 (1.288)	22.50 (.886)
30	51146-3000	38.72 (1.524)	36.25 (1.427)	40.72 (1.603)	37.72 (1.485)	22.50 (.886)

