



# PRODUCT SPECIFICATION

## USB A SINK REVERSE TYPE (Lead-Free Version)

(MOLEX P/N: 48258-XXXX)

REVISION: <b>B</b>	ECR/ECN INFORMATION: EC No: SH2007-0375 DATE: 2006/12/04	TITLE: <b>USB A SINK REVERSE TYPE (Lead - Free Version)</b>	SHEET No. <b>1 of 8</b>
DOCUMENT NUMBER: <b>PS-48258-001</b>	CREATED / REVISED BY: <b>Tom YU</b>	CHECKED BY: <b>Bosana Kang</b>	APPROVED BY: <b>Allen Lin</b>



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## USB A SINK REVERSE TYPE

### 1.0 SCOPE

This specification covers the requirements for product performance and test methods of USB A SINK REVERSE TYPE Connector.

### 2.0 PRODUCT DESCRIPTION

#### 2.1 PRODUCT NAME AND SERIES NUMBER(S)

2.1.1 PRODUCT NAME: USB A SINK REVERSE TYPE

2.1.2 SERIES NUMBER: 48258-XXXX

#### 2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See drawing No: SD-48258-001

### 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

EIA-364.

MIL-STD-202.

MIL-STD-1344A.

USB 2.0 SPECIFICATIONS

### 4.0 RATINGS

#### 4.1 VOLTAGE

250 Volts AC (RMS)

#### 4.2 CURRENT

1.5 Amps

#### 4.3 TEMPERATURE

Operating Temperature: -25°C to +85°C

Stock Temperature: -25°C to +100°C

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## 5.0 PERFORMANCE

### 5.1 APPEARANCE REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	Examination of Product	EIA-364-18 Visual inspection	Meets requirements of product drawing. No physical damage.

### 5.2 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
2	Low Level Contact Resistance	EIA 364-23 Mate connectors: apply a maximum voltage of <b>20 mV</b> and a current of <b>100 mA</b> .	<b>30 milliohms</b> MAXIMUM
3	Insulation Resistance	EIA 364-21 Unmate & unmount connectors: apply a voltage of <b>500 VDC</b> between adjacent terminals and between terminals to ground.	<b>1000 Megohms</b> MINIMUM
4	Dielectric Withstanding Voltage	EIA 364-20 Unmate connectors: apply a voltage of <b>500 volts VAC</b> for <b>1 minute</b> between adjacent terminals and between terminals to ground.	No breakdown; current leakage < <b>0.5 mA</b>
5	Contact Capacitance	EIA-364-30 Test between adjacent circuits of unmated connector at 1 KHz. The object of this test is to detail a standard method to determine the capacitance between conductive elements of a USB connector.	2 pF Maximum per Contact

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<b>6</b>	<b>Contact Current Rating</b>	<p><b>EIA 364-70 Method B</b></p> <p>When measured at an ambient temperature of 25°C. With Power applied to the contacts, the <math>\Delta T</math> shall not exceed + applied to the contacts, the 30°C at any point in the USB connector under test</p> <p>The object of this test procedure is to detail a standard method to assess the current carrying capacity of mated USB connector contacts.</p>	<p>1.5A at 250Vac minimum &amp; Temperature rise: <b>+30°C MAXIMUM</b></p>
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### 5.3 MECHANICAL REQUIREMENTS (continued)

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
<b>7</b>	<b>Connector Mate and Unmate Forces</b>	<p><b>EIA 364-13</b></p> <p>Mate and unmate connector (male to female) at maximum a rate of 12.5 mm (0.492 inch) per minute.</p>	<p><b>Mating Force : 35 N MAXIMUM</b></p> <hr/> <p><b>Unmating Force : 10 N MINIMUM</b></p>
<b>8</b>	<b>Durability</b>	<p><b>EIA-364-09</b></p> <p>Mate and unmate Connector assemblies for 1500 cycles at maximum rated of 200 cycles per hour.</p>	<p>1) Shall meet visual requirement, show no physical damage</p> <p>2) 30 milliohms MAXIMUM</p>
<b>9</b>	<b>Vibration (Random)</b>	<p><b>EIA-364-28</b></p> <p>Test Condition V Test Letter A.</p> <p>Mate connectors and subject to 5.35 Gs RMS. For a period of 15 minutes in each of 3 mutually perpendicular axes.</p>	<p>1).No discontinuities of 1 us microsecond or longer duration</p> <p>2).Shall meet visual requirement, show no physical damage.</p> <p>3) 30 milliohms MAXIMUM</p>

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<b>10</b>	<b>Mechanical Shock</b>	<b>EIA 364-27 Test Condition H</b> Subject mated connectors to 30G's half-sine shock pulses of 11ms duration. Three shocks in each direction applied along three mutually perpendicular planes, 18 total shock.	1).No discontinuities of 1 us microsecond or longer duration 2).Shall meet visual requirement, show no physical damage. 3) 30 milliohms MAXIMUM
<b>11</b>	<b>Cable Pull-out Force</b>	<b>EIA 364-38 Test condition A</b> Shall be measured with TENSION GAUGE or TENSION TESTER in same direction.	40 Newtons to the connector for 1 minute.

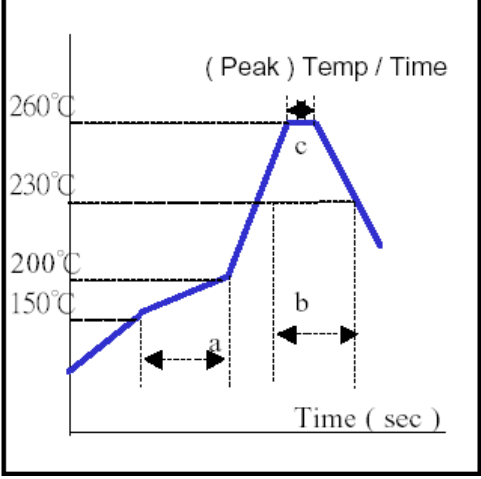
## 5.4 ENVIRONMENTAL REQUIREMENTS

TEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
<b>12</b>	<b>Humidity</b>	<b>EIA 364-31 Test condition A method III</b> Subject mated connectors to Duration : 168 hours temperature between -25°C to +65°C with 90 to 95% RH	1).Dielectric Withstanding Voltage: No Breakdown at 500 VAC 2).Insulation Resistance: 1000 Megohms MINIMUM 3).Visual: No Damage
<b>13</b>	<b>Shock (Thermal)</b>	<b>EIA 364-32, Test Condition I</b> Subject mated connectors to ten cycles between -55°C to +85°C.	1).Dielectric Withstanding Voltage: No Breakdown at 500 VAC 2).Insulation Resistance: 1000 Megohms MINIMUM 3).Visual: No Damage
<b>14</b>	<b>Temperature Life</b>	<b>EIA 364-17 Test Condition 2 Method A</b> Subject mated connectors to temperature life at 85°C for 240hours	1).30 milliohms MAXIMUM 2).Shall meet visual requirement, show no physical damage.
<b>15</b>	<b>Solderability</b>	<b>EIA 364-52</b> connector terminal tails in solder: (held at 245 ± 5°C) up to 0.5mm from the bottom of the housing for 5 ± 0.5 sec.	The surface of the portion to be soldered shall at least 95% covered with new solder coating

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<p>16</p>	<p><b>Resistance To Soldering Heat</b></p>	<p>REFLOW SOLDERING :</p> <p>Pre-heat : 150~200°C for 120 sec</p> <p>: 230°C 20~40sec</p> <p>REFLOW : 260 ± 5 °C 10sec</p> 	<p>No mechanical defect on housing or other parts</p>
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## 6.0 PRODUCT QUALIFICATION AND REQUALIFICATION TEST SEQUENCE

### TEST SEQUENCES IDENTIFICATION

Test Group		A	B	C	D	E
Item	Test Description					
1	Examination of product	1,10	1,5	1,9	1,3	1,3
2	Low Level Contact Resistance	3,7	2,4			
3	Insulation Resistance			3,7		
4	Dielectric Withstanding Voltage			4,8		
5	Contact Capacitance			2		
6	Contact Current Rating					2
7	Mating & Unmating Force	2,8				
8	Durability	4				
9	Random Vibration	6				
10	Mechanical Shock	5				
11	Cable Pull-out Force					4
12	Humidity			5		
13	Thermal Shock			6		
14	Temperature Life		3			
15	Solderability				2	
16	Resistance to solder heat	9				
Number of Test Samples (Minimum)		5	5	5	5	5

Note:

- Samples shall be prepared in accordance with applicable manufacturer's instructions and shall be selected at random from current production.
- Precondition samples with 3 cycles durability.
- All the tests shall be performed in the sequence.

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