

**SERIAL ATTACH SCSI HOST RECEPTACLE**
**1.0 SCOPE**

This Product Specification covers the performance requirements of the Serial Attach SCSI / High Speed Serialized host receptacle connector.

**2.0 PRODUCT DESCRIPTION**
**2.1 PRODUCT NAME AND SERIES NUMBER(S)**
**Product Name**
**Part Number**
**SERIAL ATTACH SCSI RECEPTACLE**

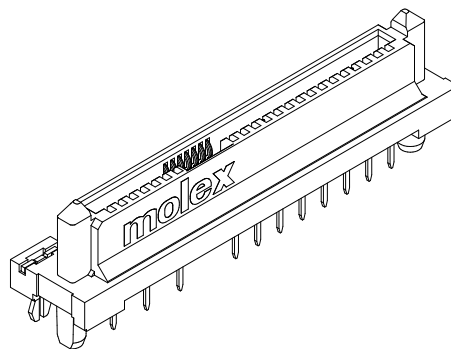
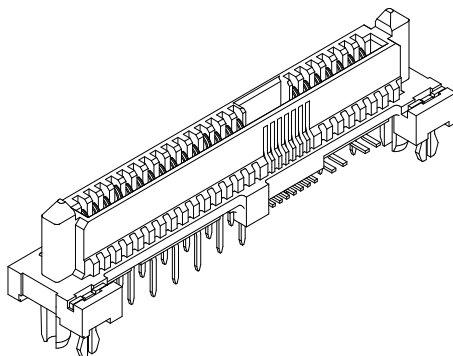
- |  |            |
|--|------------|
| • HYBRID BACKPLANE, 3.49MM SOLDER TAIL (TAPE & REEL) | 87839-0017 |
| • HYBRID BACKPLANE, 2.36MM SOLDER TAIL (TAPE & REEL) | 87839-0018 |
| • HYBRID BACKPLANE, 2.11MM SOLDER TAIL (TAPE & REEL) | 87839-0039 |

**2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS**

See Sales Drawing SD-87839-040 for information on dimensions, materials, platings and markings.

**2.3 SAFETY AGENCY APPROVALS**

UL FILE	:	E29179
CSA	:	LR 19980



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REVISION DESCRIPTION	REMOVED OBSOLETE PART NUMBER AS PER PCN#516675			SERIAL ATTACH SCSI HYBRID RECEPTACLE			
CHANGE NO.							
REVISED BY	DCPROXY	DATE	11/9/2020	DOC TYPE	DOC TYPE DESCRIPTION	DOC PART	SERIES
REV APPR BY		DATE	1/1/1900	PS	PRODUCT SPECIFICATION WORD	001	
INITIAL RELEASE				CUSTOMER	DOCUMENT NUMBER	REVISION	SHEET
INITIAL DRWN		DATE	1/1/1900		PS-87839-041	A1	1 OF 8
INITIAL APPR		DATE	1/1/1900				

**3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS**

See the Sales Drawing and other sections of this Specification for the necessary referenced Documents and Specifications.

Small Form Factor (SFF) Specification 8482

**4.0 RATINGS****4.1 VOLTAGE**

30 Volts Max.

**4.2 CURRENT**

1.5 Amperes per pin.

**4.3 TEMPERATURE**

Operating: 0°C to + 55°C

Non-Operating: -40°C to + 85°C

**4.4 HUMIDITY**

20% - 80%

**4.5 PRESSURE**

650 mm – 800 mm Hg

**5.0 PERFORMANCE****5.1 ELECTRICAL REQUIREMENTS**

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	<b>Low Level Contact Resistance (LLCR)</b>	Subject mated connectors to a maximum voltage of <b>20</b> mV and a current of <b>100</b> mA. (EIA 364-23)	<b>30</b> mΩ MAXIMUM [initial]  Delta Change <b>15</b> mΩ MAXIMUM From Initial Value
2	<b>Temperature Rise (via current cycling) (Power Segment, P1 thru P15)</b>	Mount connector to a test PCB with ½ oz copper layer. Wire power pins P1, P2, P8 and P9 in parallel for power. Wire ground pins P4, P5, P6, P10 and P12 in parallel for return. Supply <b>6A</b> total DC current to the power pins in parallel, returning from the parallel ground pins. Measure and record temperature after <b>96 hours</b> (45 minutes ON and 15 minutes OFF per hour).	<b>1.5</b> A per pin MINIMUM  Temperature rise shall not exceed <b>30°C</b> at any point in the connector when contacts are powered  Still Air at Ambient temperature <b>25°C</b>

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3	Insulation Resistance	After <b>500</b> VDC for <b>1</b> minute, measure the insulation resistance between adjacent terminals of the mated and unmated connector assemblies. (EIA 364-21)	<b>1000</b> Megohms MINIMUM
4	Dielectric Withstanding Voltage	Subject a voltage of <b>500</b> VAC for <b>1</b> minute between adjacent terminals of mated and unmated connector at sea level. (EIA 364-20)	No breakdown

## 5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
5	Connector Insertion and Removal Forces	Mate and Unmate connector assemblies at a rate of <b>25</b> mm per minute. (EIA 364-13)	MAXIMUM insertion force <b>25 N</b>  & MINIMUM removal force <b>5 N</b> for Backplane Receptacle  <i>[At Initial and After Durability]</i>
6	Durability	<b>500</b> cycles for Backplane Receptacle and <b>25</b> cycles for Cable Receptacle application. All at a maximum rate of <b>200</b> cycles per hour. (EIA 364)	No Physical damage  Delta Change <b>15 mΩ</b> MAXIMUM From Initial Value  Meet requirements of additional tests as specified in the test sequence in Section 7.0
7	Resistance to Soldering Heat	Subject connector to <b>225°C</b> for <b>1</b> minute, <b>235°C</b> for <b>15</b> seconds and <b>260°C</b> for <b>10</b> seconds.	No damage in appearance of connector
8	Housing Slip Out Force	Apply axial pull out force on housing at a rate of <b>25.4</b> mm per minute.	<b>90N</b> Minimum Housing slip out force

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9	Physical Shock	Subject mated connector to <b>50 g's</b> half-sine shock pulses of <b>11 msec</b> duration. Three shocks in each direction applied along three mutually perpendicular planes for a total of <b>18</b> shocks. (EIA 364-27 Condition A)	No Physical damage  Delta Change <b>15 mΩ</b> MAXIMUM From Initial Value  No discontinuities of <b>1 μs</b> or longer duration
10	Random Vibration	Subject mated connector to <b>4.90 g's</b> RMS. <b>30</b> minutes in each of the three mutually perpendicular planes. (EIA 364-28 Condition VII Test letter E)	Delta Change <b>15 mΩ</b> MAXIMUM From Initial Value  [after stress]No discontinuities of <b>1 μs</b> or longer duration

## 5.3 ENVIROMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
11	Humidity	Subject the connector to temperature and humidity of <b>40°C</b> with <b>90%</b> to <b>95%</b> RH for <b>96</b> hours. (EIA 364-31 Method II Test Condition A)	No Physical damage  Delta Change <b>15 mΩ</b> MAXIMUM From Initial Value  Meet requirements of additional tests as specified in the test sequence in
12	Solderability	Solder Time: <b>3 ± 0.5</b> seconds Solder Temperature: <b>260 ± 5°C</b>	Dipped portion should have 95% continuous new solder coating coverage
13	Temperature Life	Subject mated connector to temperature life at <b>+85°C</b> for <b>500</b> hours. (EIA 364-17 Test Condition III Method A)	No Physical damage  Delta Change <b>15 mΩ</b> MAXIMUM From Initial Value  Meet requirements of additional tests as specified in the test sequence in Section 7.0

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14	Thermal Shock	Subject connector to <b>10</b> cycles between <b>-55°C</b> and <b>+85°C</b> . (EIA 364-32 Test Condition I)	No Physical damage  Delta Change <b>15 mΩ</b> MAXIMUM From Initial Value  Meet requirements of additional tests as specified in the test sequence in Section 7.0
15	Mixed Flowing Gas	1 half of samples are exposed unmated (receptacle only) for 7 days and then mated for additional 7 days. The other half of samples mated for full 14 days test period. (EIA 364-65, Class 2A)	No Physical damage  Delta Change <b>15 mΩ</b> MAXIMUM From Initial Value  Meet requirements of additional tests as specified in the test sequence in Section 7.

## 6.0 PACKAGING

Refer to Sales Drawing SD-87839-040 for packaging details.

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## 7.0 TEST SEQUENCES

Test Group →	A	B	C	D	E	F	G
Test or Examination ↓							
Examination of the connector(s)	1, 5	1,10	1,9	1,6	1,10	1,8	1
Low Level Contact Resistance (LLCR)	2, 4	2,5,7,9	2,4,6,8		2,5,7,9	2,5,7	
Insulation Resistance							3,6
Dielectric Withstanding Voltage							4,7
Temperature Rise				5			
Insertion Force							
Removal Force							
Durability	3	3 <sup>(a)</sup>	3 <sup>(a)</sup>	2 <sup>(a)</sup>	3 <sup>(a)</sup>	3 <sup>(a)</sup>	
Physical Shock		8					
Vibration		6					
Humidity					6		5
Temperature Life		4 <sup>(b)</sup>	5	3		4 <sup>(b)</sup>	
Reseating (manually unplug/plug three times)			7	4	8		
Thermal Shock					4		
Housing Slip Out Force							
Resistance to Soldering Heat							2
Solderability							
Mixed Flowing Gas						6	
Note – a. Preconditioning, 50 cycles for the 500-durability cycles requirement. The insertion and removal cycle is at a maximum rate of 200 cycles per hour. b. Preconditioning, 105°C for 72 hours							

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## 7.0 TEST SEQUENCES (CONTINUED)

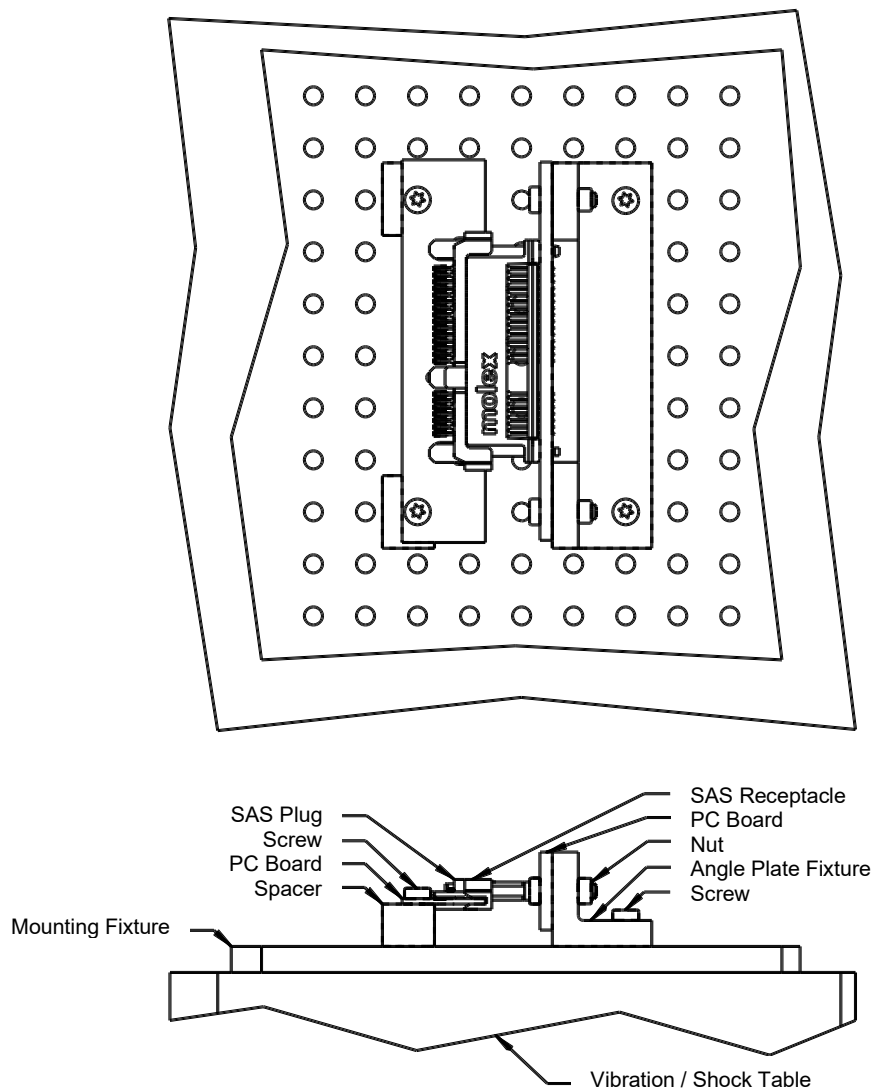
Test Group →	H	I	J
Test or Examination ↓			
Examination of the connector(s)	1,5		1
Low Level Contact Resistance (LLCR)			
Insulation Resistance			
Dielectric Withstanding Voltage			
Temperature Rise			
Insertion Force	2		
Removal Force	4		
Durability	3		
Physical Shock			
Vibration			
Humidity			
Temperature Life			
Reseating (manually unplug/plug three times)			
Thermal Shock			
Housing Slip Out Force			3
Resistance to Soldering Heat			2
Solderability		1	
Mixed Flowing Gas			

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# 8.0 VIBRATION/SHOCK TEST SET-UP

SAS Receptacle mated with SAS Plug (For Reference Only)



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