立威科技股份有限公司 Attend Technology Inc.
新北市汐止區新台五路一段81號10樓之六
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SPECIFICATION AND PERFORMANCE

Series	124B-150AX2	File	124B-150AX2-SPEC_1	Date	2022/10/25

Scope:

This specification covers the requirements for product performance, test methods and quality assurance provisions of below

P/N	DESCRIPTION
124B-150A02	DDR4 Vertical Socket, Type A for 260P DDR SO DIMM
124B-150A12	DDR4 Vertical Socket, Type B for 260P DDR SO DIMM

Performance and Descriptions:

The product is designed to meet the electrical, mechanical and environmental performance requirements specification. Unless otherwise specified, all tests are performed at ambient environmental conditions.

RoHS:

All material in according with the RoHS environment related substances list controlled.

MATERIALS		
NO.	**PART NAME**	**DESCRIPTION**
1	Housing	LCP, UL94-0, Black
2	Contact	Copper alloy, 1u~3u'' gold plating on contact and solder area , under plating nickel
3	Latch	Stainless steel

RATING	
Rated Voltage	25VAC RMS
Rated Current	0.5A per pin
Operating Temperature	-55°C~85°C 85%RH MAX
Durability	50 Cycle

ELECTRICAL		
Item	**Requirement**	**Test Condition**
Contact Resistance(Low Level)	40mΩ Max. (Initial) △R 20mΩ Max. (Final)	Subject mated contacts assembled in housing to closed circuit current of 100mA (Max.) at open circuit voltage of 20mV voltage (Max.). EIA-364-23
Insulation Resistance	250 MΩ Min. (Initial) 100 MΩ Min. (Final)	Measured by applying 500VDC for 2 minutes between adjacent contacts of unmated connector.

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			EIA-364-21
Withstanding Voltage	No Breakdown.		Apply 500 VAC for 1 minute between adjacent contacts of unmated connector. EIA-364-20
Contact Current Rating	Temperature Rise shall not exceed 30°C above ambient.		Contacts of the connector are connected in a series circuit, Supple the rated current (0.5 Amperes) EIA-364 Test Procedure 70 Detail in Annex C
Reference impedance	Long Pin	46~54Ω	Mated connector and module including solder pad and gold finger. EIA-364-108
	Short Pin	46~54Ω	
Insertion Loss	-0.4dB (f<=2.0 GHz) -0.5dB (2 GHz <f<=6 GHz) -0.8dB (6 GHz <f<=8 GHz) -1.2dB (8 GHz <f<=10 GHz)		Signals with 1:1 S/G EIA-364-101
Return Loss	-20dB (f<=2.0 GHz) -18dB (2 GHz <f<=4 GHz) -15dB (4 GHz <f<=6 GHz) -9.0dB (6 GHz <f<=8 GHz) -5.0dB (8 GHz <f<=10 GHz)		Signals with 1:1 S/G EIA-364-108
Near End Cross-Talk	-35.0dB (f<=1.0 GHz) -31.0dB (1 GHz <f<=2 GHz) -29.0dB (2 GHz <f<=3 GHz) -28.0dB (3 GHz <f<=4 GHz) -27.0dB (4 GHz <f<=10 GHz)		1:1 S/G Same Side Both the victim and the aggressor locate at the same side. EIA-364-90
	-16.0dB (f<=1.0 GHz) -11.0dB (1 GHz <f<=2 GHz) -9.0dB (2 GHz <f<=3 GHz) -8.0dB (3 GHz <f<=5 GHz)		2:1 S/G Same Side Both the victim and the aggressor locate at the same side. EIA-364-90
	-47.0dB (f<=1.0 GHz) -45.0dB (1 GHz <f<=2 GHz) -42.0dB (2 GHz <f<=3 GHz) -40.0dB (3 GHz <f<=4 GHz) -38.0dB (4 GHz <f<=6 GHz) -35.0dB (6 GHz <f<=8 GHz) -31.0dB (8 GHz <f<=10 GHz)		1:1 S/G Opposite Side The victim and the aggressor locate at the opposite side. EIA-364-90
Far End Cross-Talk	-40.0dB (f<=1.0 GHz) -37.0dB (1 GHz <f<=2 GHz) -35.0dB (2 GHz <f<=3 GHz) -32.0dB (3 GHz <f<=4 GHz) -30.0dB (4 GHz <f<=5 GHz) -28.0dB (5 GHz <f<=6 GHz) -27.0dB (6 GHz <f<=7 GHz) -26.0dB (7 GHz <f<=9 GHz)		1:1 S/G Same Side Both the victim and the aggressor locate at the same side. EIA-364-90

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	-25.0dB (9 GHz <f<=10 GHz)	
	-30.0dB (f<=1.0 GHz) -23.0dB (1 GHz <f<=2 GHz) -20.0dB (2 GHz <f<=3 GHz) -16.0dB (3 GHz <f<=5 GHz)	2:1 S/G Same Side Both the victim and the aggressor locate at the same side. EIA-364-90
	-50.0dB (f<=2.0 GHz) -45.0dB (2 GHz <f<=4 GHz) -42.0dB (4 GHz <f<=6 GHz) -38.0dB (6 GHz <f<=8 GHz) -35.0dB (8 GHz <f<=10 GHz)	1:1 S/G Opposite Side The victim and the aggressor locate at the opposite side. EIA-364-90

MECHANICAL		
Item	**Requirement**	**Test Condition**
Module Insertion / Withdrawal Force	Insertion force: 59.8 N (6.1kgf) Max. Withdrawal force: 44.6 N (4.55kgf) Max.	Measure the force required to mate connectors (Speed: 25.4mm/minute) EIA-364-13
Durability	Contact Resistance △R 20mΩ Max. (Final)	Connectors shall be subjected to 50 cycles of Insertion and Withdrawal. Automatic Insertion / Withdrawal Speed: 500 cycles/hour Manual Insertion / Withdrawal Speed: 250 cycles/hour EIA-364-09
Reseating	No evidence of physical Damage	Manually unplug/plug the connector or socket. Perform 3 such cycles.
Vibration	Contact Resistance △R 20mΩ Max. (Final) Discontinuity: 1μ Sec Max	Subject mated connectors 15 minutes in each of 3 mutually perpendicular directions. Both mating halves should be rigidly fixed so as not to contribute to the relative motion of one contact against another. The method of fixturing should be detailed in the test report. EIA-364-28 test condition VII, test condition letter D
Physical Shock	Contact Resistance △R 20mΩ Max. (Final) Discontinuity: 1μ Sec Max	The connectors shall be soldered on the P.C. board. Acceleration: 50 G. Time: 11ms. (half sine wave). Cycle: 3 drops each to normal and reversed directions of X, Y and Z axes, totally 18 drops. EIA-364-27 condition A

ENVIRONMENTAL		
Item	**Requirement**	**Test Condition**
Thermal shock	Contact Resistance △R 20 mΩ Max.(Final)	Mated connectors Temperature:-55+0/-3→85+3/-0(°C)

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		Temp. Time: 30→30(minute) Cycle: 10 cycles. EIA-364-32, condition I
Temperature Life	Contact Resistance △R 20 mΩ Max.(Final)	Mated connectors Temperature:105°C±2°C Duration: 120 hours EIA-364-17, condition IV
Temperature Life (preconditioning)	Contact Resistance △R 20 mΩ Max.(Final)	Mated connectors Temperature:105°C±2°C Duration: 72 hours EIA-364-17, condition IV
Thermal Cycling	Contact Resistance △R 20 mΩ Max.(Final)	Mated connectors, Cycle the connector or socket between 15°C ±3°C and 85°C ±3°C, as measured on the part. Ramps should be a minimum of 2°C per minute, and dwell times, should insure that the contacts reach the temperature extremes (a minimum of 5 minutes). Humidity is not controlled. Perform 500 such cycles.
Humidity-Temperature Cycling	Contact Resistance △R 20 mΩ Max.(Final)	Mated connectors Temperature Range 25°C~65°C in temperature and 90~95% RH, Duration 10 cycles. (240hours.) EIA-364-31, Method III, Test condition B
Mixed flowing ags	Contact Resistance △R 20 mΩ Max.(Final)	Exposure unmated connector for 112 hours in MFG chamber, expose mated (to same test module mated during temp life preconditioning) connector for 56 hours in MFG chamber. EIA-364-65, class IIA
Thermal disturbance	Contact Resistance △R 20 mΩ Max.(Final)	Cycle the connector or socket between 15°C±3°C and 85°C±3°C, as measured on the part. Ramps should be a minimum of 2°C per minute, and dwell times should ensure that the contacts reach the temperature extremes (a minimum of 5 minutes). Humidity is not controlled. Perform 10 such cycles.
Salt spray	Contact Resistance △R 20 mΩ Max.(Final)	Salt concentration: 5±1% Temperature: 35°C ±2°C Testing time: 48 hours, after salt is removed by running water and a drop is removed, it is measured. EIA-364-26

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SOLDER ABILITY		
Item	**Requirement**	**Test Condition**
Solderability	95% min. of solder area 10x the magnifying glass of view	Soldering time: 4~5 Second Solder Temperature:245°C±5°C EIA-364-52
Resistance to Reflow Soldering Heat	No physical damage shall occur.	Test connector on PCB Pre-heat: 150°C~200°C, 60~120 Sec Heat: Up 217°C, 60~150 Sec Ramp up rate 3°C/Sec Max. Ramp down rate 6°C/Sec Max. Peak temp: 260°C Max. IPC/JEDEC J-STD-020D.1

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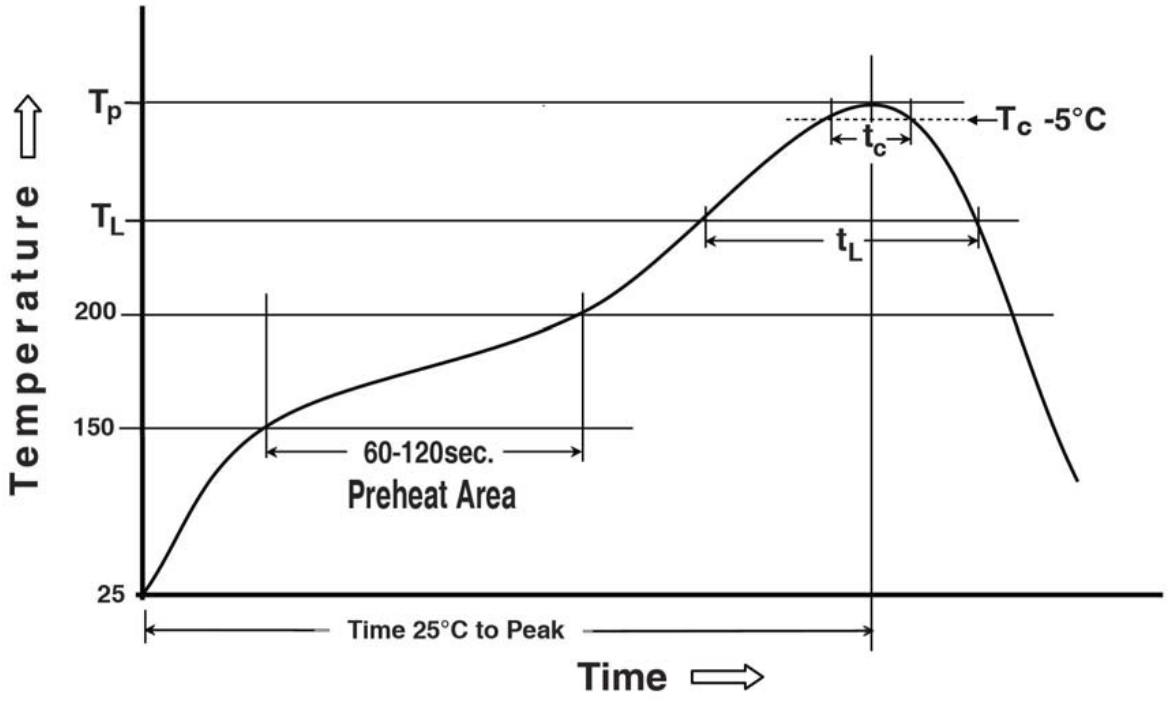
Reflow Profile



Preheating temperature: 150 ~ 200°C, 60~120 seconds
Liquidus temperature (TL): 217°C, 60~150 seconds
Peak temperature: 260°C
Time within 5 °C of peak temperature (Tc): 255°C, 30seconds

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Product Qualifications and Test Sequence

Test of Examination	Test Group										
	A	B	C	D	E	F	G	H	I	J	K
	Test Sequence										
Examination or product	1,9	1,3	1,7	1,8	1,8	1,10	1,10	1,10	1,12	1,5	1,4
Contact resistance	2,6			2,7	2,5,7	2,5,7,9	2,5,7,9	2,5,7,9	2,5,7,9,11	2,4	
Insulation resistance	3,7										
Withstanding Voltage	4,8										
Contact Current Rating		2									
Reference impedance			2								
Insertion Loss			3								
Return Loss			4								
Near End Cross-Talk			5								
Far End Cross-Talk			6								
Module insertion / Withdrawal Force				3,6							
Durability	5			4	3	3	3	3	3		
Reseating				5	6	8	8		10		
Vibration								6			
Physical Shock								8			
Solder ability											3
Thermal Shock							4				
Temperature Life					4						
Temperature Life (preconditioning)						4		4	4		
Thermal Cycling						6					
Humidity-Temperature Cycling							6				
Mixed flowing gas									6		
Thermal disturbance									8		
Salt spray										3	
Resistance to Reflow Soldering Heat											2