

Fuse On-Going Reliability Test Summary Report - 0ALDX Fuse series

Fuse Type and Rating : 0ALDX 40A/50A

Production Lot Number : ENG'samples

Project Number : FPQ-158

Fuse Part Number : 0ALDB9400-PD/0ALDB9500-PD

Reference	Test Description	Testing Condition	Acceptance Criteria	Result
UL248-1	Cold resistance	Ambient Temperature 25+/-5°C, current <10% I _n , measure with specified fixture	Record the real data	12/12 pass
ISO8820-8 JSAE JASO D622	Temperature rise test	Ambient Temperature 25+/-5°C, current 70% of rated current	The temperature rise shall not exceed 50K	2/2 pass
JASO D622 6.3.4.1	Temperature and humidity cycle	Temp.: -40°C ~ +120°C, each cycle 24hrs, total 10 cycles	No appearance damage, R _c change <10%	2/2 pass
ISO8820-8 JASO D622 6.3.6	Thermal shock resistance test	Temp.: -40°C ~ +100°C, each cycle 1hr, total 48 cycles	No appearance damage, R _c change <10%	2/2 pass
User-defined	High temperature storage test	Put samples in 125°C for 100 hours	No appearance damage, R _c change <10%	2/2 pass
UL248-20 IEC 60068-2-64	Vibration durability test	Random vibration condition C: RMS: 30.2m/s ² 3 directions 8hrs per direction	No appearance damage, R _c change <10%	2/2 pass
JASO D622 6.3.2	Transient current intermittent cycle durability test	One cycle contains a current of 2I _n /0.25sec, and follow by current of 0.5I _n /9.75sec, total 50000cycles	No appearance damage, R _c change <10%	2/2 pass
GB/T31465.1-5.4	Wipe with petrol and lubricant	Wipe the marking with petrol and lubricant for 30 seconds	The marking still legible	6/6 pass
JSAE JASO D622 ISO8820-8	Terminal strength test	Tighten and loosed the fuses with 4.5+/-1 Nm torque for 3 times	The fuse shall remain phycally intact	12/12 pass

Reported By: Hongguo Hu

Approved by: Simon Chiu

Test Complete Date: Aug 28 , 2020

Cold resistance

Fuse Type and Rating : 0ALDX 40A/50A

Production Lot Number : ENG'samples

Project Number : FPQ-158

Fuse Part Number : 0ALDB9400-PD/0ALDB9500-PD

Condition : UL248-1

Ambient Temperature 25+/-5°C, current <10% In, measure with specified fixture

Type:	0ALDX 40A					
Start Date:	8/6/2020			End Date:	8/6/2020	
Room Temp.:	24.7	°C		Room Humi.:	63	%
No.\Name	Cold Resistance	Visual Check	No.\Name	Cold Resistance	Visual Check	
Unit:	mΩ		Unit:	mΩ		
Upper Limit:	2.700	No Visual Damage	Upper Limit:	2.700	No Visual Damage	
Lower Limit:	1.720		Lower Limit:	1.720		
1	2.001	pass	7	2.052	pass	
2	2.050	pass	8	2.098	pass	
3	2.142	pass	9	2.087	pass	
4	2.112	pass	10	2.105	pass	
5	2.039	pass	11	2.185	pass	
6	2.146	pass	12	2.150	pass	

Type:	0ALDX 50A					
Start Date:	8/6/2020			End Date:	8/6/2020	
Room Temp.:	24.7	°C		Room Humi.:	63	%
No.\Name	Cold Resistance	Visual Check	No.\Name	Cold Resistance	Visual Check	
Unit:	mΩ		Unit:	mΩ		
Upper Limit:	1.970	No Visual Damage	Upper Limit:	1.970	No Visual Damage	
Lower Limit:	1.250		Lower Limit:	1.250		
1	1.658	pass	7	1.658	pass	
2	1.683	pass	8	1.685	pass	
3	1.657	pass	9	1.678	pass	
4	1.679	pass	10	1.667	pass	
5	1.665	pass	11	1.669	pass	
6	1.676	pass	12	1.678	pass	

Temperature rise test

Fuse Type and Rating : 0ALDX 40A/50A

Production Lot Number : ENG'samples

Project Number : FPQ-158

Fuse Part Number : 0ALDB9400-PD/0ALDB9500-PD

Condition : ISO8820-8JSAE JASO D622

Ambient Temperature 25+/-5°C, current 70% of rated current

Type:	0ALDX 40A					
Start Date:	8/7/2020			End Date:	8/7/2020	
Room Temp.:	24.5	°C		Room Humi.:	51	%
No.\Name	Temperature rise @0.5In	Visual Check	No.\Name	Temperature rise @0.5In	Visual Check	
Unit:	K		Unit:	K		
Upper Limit:	50	No Visual Damage	Upper Limit:	50	No Visual Damage	
Lower Limit:			Lower Limit:			
1	41.9	pass	2	40.2	pass	

Type:	0ALDX 50A					
Start Date:	8/7/2020			End Date:	8/7/2020	
Room Temp.:	24.5	°C		Room Humi.:	51	%
No.\Name	Temperature rise @0.5In	Visual Check	No.\Name	Temperature rise @0.5In	Visual Check	
Unit:	K		Unit:	K		
Upper Limit:	50	No Visual Damage	Upper Limit:	50	No Visual Damage	
Lower Limit:			Lower Limit:			
1	45.3	pass	2	47.4	pass	

Temperature and humidity cycle

Fuse Type and Rating : 0ALDX 40A/50A

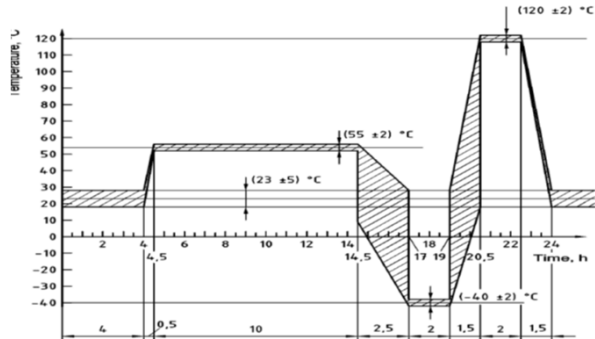
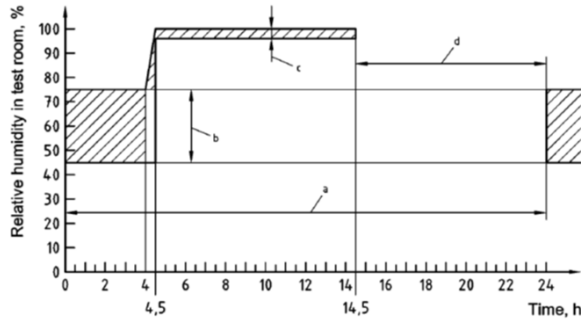
Production Lot Number : ENG'samples

Project Number : FPQ-158

Fuse Part Number : 0ALDB9400-PD/0ALDB9500-PD

Condition : JASO D622 6.3.4.1

Temp.: -40°C ~ +120°C, each cycle 24hrs, total 10 cycles



Type:	0ALDX 40A					
Start Date:	8/6/2020			End Date:	8/19/2020	
Room Temp.:	24.8	°C		Room Humi.:	58	%
No.\Name	Cold Resistance	Visual Check	No.\Name	Cold Resistance	Visual Check	
Unit:	mΩ		Unit:	mΩ		
Upper Limit:	2.356	No Visual Damage	Upper Limit:	2.323	No Visual Damage	
Lower Limit:	1.928		Lower Limit:	1.901		
3	2.170	pass	4	2.120	pass	

Type:	0ALDX 50A					
Start Date:	8/6/2020			End Date:	8/19/2020	
Room Temp.:	24.8	°C		Room Humi.:	58	%
No.\Name	Cold Resistance	Visual Check	No.\Name	Cold Resistance	Visual Check	
Unit:	mΩ		Unit:	mΩ		
Upper Limit:	1.823	No Visual Damage	Upper Limit:	1.847	No Visual Damage	
Lower Limit:	1.491		Lower Limit:	1.511		
3	1.673	pass	4	1.701	pass	



Thermal shock resistance test

Fuse Type and Rating : 0ALDX 40A/50A

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Fuse Part Number : 0ALDB9400-PD/0ALDB9500-PD

Condition : ISO8820-8JASO D622 6.3.6

Temp.: -40°C ~ +100°C, each cycle 1hr, total 48 cycles

Type:	0ALDX 40A					
Start Date:	8/9/2020			End Date:	8/14/2020	
Room Temp.:	25.1	°C		Room Humi.:	59	%
No.\Name	Cold Resistance	Visual Check	No.\Name	Cold Resistance	Visual Check	
Unit:	mΩ		Unit:	mΩ		
Upper Limit:	2.243	No Visual Damage	Upper Limit:	2.361	No Visual Damage	
Lower Limit:	1.835		Lower Limit:	1.931		
5	2.040	pass	6	2.173	pass	

Type:	0ALDX 50A					
Start Date:	8/9/2020			End Date:	8/14/2020	
Room Temp.:	25.1	°C		Room Humi.:	59	%
No.\Name	Cold Resistance	Visual Check	No.\Name	Cold Resistance	Visual Check	
Unit:	mΩ		Unit:	mΩ		
Upper Limit:	1.832	No Visual Damage	Upper Limit:	1.844	No Visual Damage	
Lower Limit:	1.499		Lower Limit:	1.508		
5	1.675	pass	6	1.693	pass	

High temperature storage test

Fuse Type and Rating : 0ALDX 40A/50A

Production Lot Number : ENG'samples

Project Number : FPQ-158

Fuse Part Number : 0ALDB9400-PD/0ALDB9500-PD

Condition : User-defined

Put samples in 125°C for 100 hours

Type:	0ALDX 40A					
Start Date:	8/12/2020			End Date:	8/19/2020	
Room Temp.:	24.6	°C		Room Humi.:	66	%
No.\Name	Cold Resistance	Visual Check	No.\Name	Cold Resistance	Visual Check	
Unit:	mΩ		Unit:	mΩ		
Upper Limit:	2.257	No Visual Damage	Upper Limit:	2.308	No Visual Damage	
Lower Limit:	1.847		Lower Limit:	1.888		
7	2.067	pass	8	2.137	pass	

Type:	0ALDX 50A					
Start Date:	8/12/2020			End Date:	8/19/2020	
Room Temp.:	24.6	°C		Room Humi.:	66	%
No.\Name	Cold Resistance	Visual Check	No.\Name	Cold Resistance	Visual Check	
Unit:	mΩ		Unit:	mΩ		
Upper Limit:	1.824	No Visual Damage	Upper Limit:	1.854	No Visual Damage	
Lower Limit:	1.492		Lower Limit:	1.517		
7	1.672	pass	8	1.698	pass	



Vibration durability test

Fuse Type and Rating : 0ALDX 40A/50A

Production Lot Number : ENG'samples

Project Number : FPQ-158

Fuse Part Number : 0ALDB9400-PD/0ALDB9500-PD

Condition : UL248-20IEC 60068-2-64

Random vibration condition C:
 RMS: 30.2m/s²
 3 directions
 8hrs per direction

Type:	0ALDX 40A					
Start Date:	8/21/2020			End Date:	8/26/2020	
Room Temp.:	24.8	°C		Room Humi.:	57	%
No.\Name	Cold Resistance	Visual Check	No.\Name	Cold Resistance	Visual Check	
Unit:	mΩ		Unit:	mΩ		
Upper Limit:	2.296	No Visual Damage	Upper Limit:	2.316	No Visual Damage	
Lower Limit:	1.878		Lower Limit:	1.895		
9	2.084	pass	10	2.110	pass	

Type:	0ALDX 50A					
Start Date:	8/21/2020			End Date:	8/26/2020	
Room Temp.:	24.8	°C		Room Humi.:	57	%
No.\Name	Cold Resistance	Visual Check	No.\Name	Cold Resistance	Visual Check	
Unit:	mΩ		Unit:	mΩ		
Upper Limit:	1.846	No Visual Damage	Upper Limit:	1.834	No Visual Damage	
Lower Limit:	1.510		Lower Limit:	1.500		
9	1.695	pass	10	1.676	pass	

Transient current intermittent cycle durability test

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Condition : JASO D622 6.3.2

One cycle contains a current of 2In/0.25sec, and follow by current of 0.5In/9.75sec, total 50000cycles

Type:	0ALDX 40A					
Start Date:	8/10/2020			End Date:	8/22/2020	
Room Temp.:	25.3	°C		Room Humi.:	63	%
No.\Name	Cold Resistance	Visual Check	No.\Name	Cold Resistance	Visual Check	
Unit:	mΩ		Unit:	mΩ		
Upper Limit:	2.404	No Visual Damage	Upper Limit:	2.365	No Visual Damage	
Lower Limit:	1.967		Lower Limit:	1.935		
11	2.195	pass	12	2.178	pass	

Type:	0ALDX 50A					
Start Date:	8/10/2020			End Date:	8/22/2020	
Room Temp.:	25.3	°C		Room Humi.:	63	%
No.\Name	Cold Resistance	Visual Check	No.\Name	Cold Resistance	Visual Check	
Unit:	mΩ		Unit:	mΩ		
Upper Limit:	1.836	No Visual Damage	Upper Limit:	1.846	No Visual Damage	
Lower Limit:	1.502		Lower Limit:	1.510		
11	1.688	pass	12	1.690	pass	

Wipe with petrol and lubricant

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Fuse Part Number : 0ALDB9400-PD/0ALDB9500-PD

Condition : GB/T31465.1-5.4

Wipe the marking with petrol and lubricant for 30 seconds

Type:	0ALDX 40A					
Start Date:	8/28/2020			End Date:	8/28/2020	
Room Temp.:	25.2	°C		Room Humi.:	62	%
No.\Name	Marking still legible		No.\Name	Marking still legible		
1	pass		8	pass		
3	pass		11	pass		
6	pass		12	pass		

Terminal strength test

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Project Number : FPQ-158

Fuse Part Number : 0ALDB9400-PD/0ALDB9500-PD

Condition : JSAE JASO D622ISO8820-8

Tighten and loosed the fuses with 4.5+/-1 Nm torque for 3 times

Type:	0ALDX 40A					
Start Date:	8/28/2020			End Date:	8/28/2020	
Room Temp.:	25.2	°C		Room Humi.:	62	%
No.\Name	The frequency of Install and dismantle	Visual Check	No.\Name	The frequency of Install and dismantle	Visual Check	
Unit:			Unit:			
Upper Limit:		No Visual Damage	Upper Limit:		No Visual Damage	
Lower Limit:	3		Lower Limit:	3		
1	>3	pass	7	>3	pass	
2	>3	pass	8	>3	pass	
3	>3	pass	9	>3	pass	
4	>3	pass	10	>3	pass	
5	>3	pass	11	>3	pass	
6	>3	pass	12	>3	pass	