

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

Fuse Type and Rating : 0ALBX 100A/200A/250A

Production Lot Number : ENG'samples

Project Number : FPQ-156

Fuse Part Number : 0ALBBK100-BB/0ALBBK200-BB/0ALBBK250-BB

Reference	Test Description	Testing Condition	Acceptance Criteria	Result
UL248-1	Cold resistance	Ambient temperature:23±5°C,≤10 % testing current, test point: fuse cap	Record the real data	12/12 pass
ISO8820-8 JSAE JASO D622	Temperature rise test	Apply 0.5 In test current at Ambient temperature:23±5°C	The temperature rise shall not exceed 50K	2/2 pass
JASO D622 6.3.4.1	Temperature and humidity cycle	In accordance with the standard, the fuse-links shall undergo constant temperature humidity chamber for 10 times repeatedly,24 hours/cycle	No appearance damage, Rc change <10%	2/2 pass
JASO D622 6.3.6	Thermal shock resistance test	-30°C~100°C, total 48 cycles	No appearance damage, Rc change <10%	2/2 pass
User-defined	High temperature storage test	Put samples in 125°C for 100 hours	No appearance damage, Rc change <10%	2/2 pass
JASO D622 6.3.3	Vibration durability test	Ambient temperature:23±5°C,frequency range:10Hz-55Hz,1.5mm between the peaks, 2 hours in each of 3 mutually perpendicular directions, total of 6 hours	No appearance damage, Rc change <10%	2/2 pass
JASO D622 6.3.2	Transient current intermittent cycle durability test	Ambient temperature:23±5°C, The initial peak transient current shall bel adjusted to 2In/0.25sec, subsequent 0.5In/15sec, Then, apply the current up to 50000 cycles repeatedly.	No appearance damage, Rc 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	12/12 pass
JSAE JASO D622 ISO8820-8	Terminal strength test	Install and dismantle fuse with 4.5+/-1Nm, Install and dismantle fuse three times	The fuse shall remain phycally intact	12/12 pass

Reported By: Hongguo Hu

Approved by: Simon Chiu

Test Complete Date: Sep 27 , 2019

Cold resistance

Fuse Type and Rating : 0ALBX 100A/200A/250A

Production Lot Number : ENG'samples

Project Number : FPQ-156

Fuse Part Number : 0ALBBK100-BB/0ALBBK200-BB/0ALBBK250-BB

Condition : UL248-1

Ambient temperature:23±5°C,<=10 % testing current, test point: fuse cap

Type:	0ALBX 100A					
Start Date:	9/3/2019		End Date:	9/3/2019		
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:	1.449	No Visual Damage	Upper Limit:	1.449	No Visual Damage	
Lower Limit:	0.935		Lower Limit:	0.935		
1	1.126	pass	7	1.136	pass	
2	1.117	pass	8	1.136	pass	
3	1.127	pass	9	1.134	pass	
4	1.133	pass	10	1.131	pass	
5	1.136	pass	11	1.132	pass	
6	1.134	pass	12	1.137	pass	

Type:	0ALBX 200A					
Start Date:	9/3/2019		End Date:	9/3/2019		
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:	0.5980	No Visual Damage	Upper Limit:	0.5980	No Visual Damage	
Lower Limit:	0.3740		Lower Limit:	0.3740		
1	0.4798	pass	7	0.4793	pass	
2	0.4766	pass	8	0.4782	pass	
3	0.4739	pass	9	0.4776	pass	
4	0.4791	pass	10	0.4791	pass	
5	0.4748	pass	11	0.4764	pass	
6	0.4756	pass	12	0.4745	pass	

Type:	0ALBX 250A					
Start Date:	9/3/2019		End Date:	9/3/2019		
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:	0.4250	No Visual Damage	Upper Limit:	0.4250	No Visual Damage	
Lower Limit:	0.2900		Lower Limit:	0.2900		
1	0.3538	pass	7	0.3567	pass	
2	0.3581	pass	8	0.3587	pass	
3	0.3556	pass	9	0.3582	pass	
4	0.3564	pass	10	0.3559	pass	
5	0.3595	pass	11	0.3569	pass	
6	0.3578	pass	12	0.3572	pass	

Temperature rise test

Fuse Type and Rating : 0ALBX 100A/200A/250A

Production Lot Number : ENG'samples

Project Number : FPQ-156

Fuse Part Number : 0ALBBK100-BB/0ALBBK200-BB/0ALBBK250-BB

Condition : ISO8820-8JSAE JASO D622

Apply 0.5 In test current at Ambient temperature:23±5°C

Type:	0ALBX 100A					
Start Date:	9/4/2019			End Date:	9/4/2019	
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	18.6	pass	2	17.7	pass	

Type:	0ALBB 200A					
Start Date:	9/4/2019			End Date:	9/4/2019	
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	21.8	pass	2	20.6	pass	

Type:	0ALBX 250A					
Start Date:	9/4/2019			End Date:	9/4/2019	
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	22.3	pass	2	23.4	pass	

Temperature and humidity cycle

Fuse Type and Rating : 0ALBX 100A/200A/250A

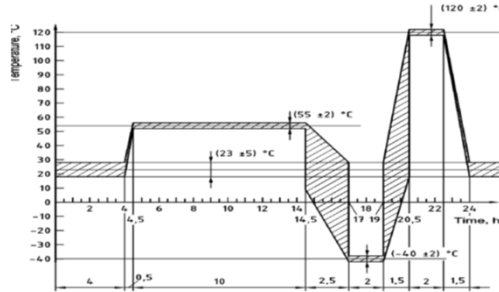
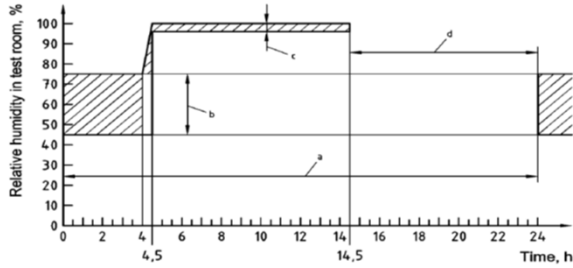
Production Lot Number : ENG'samples

Project Number : FPQ-156

Fuse Part Number : 0ALBBK100-BB/0ALBBK200-BB/0ALBBK250-BB

Condition : JASO D622 6.3.4.1

In accordance with the standard, the fuse-links shall undergo constant temperature humidity chamber for 10 times repeatedly,24 hours/cycle



Type:	0ALBX 100A				
Start Date:	9/3/2019			End Date:	9/16/2019
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:	1.240	No Visual Damage	Upper Limit:	1.246	No Visual Damage
Lower Limit:	1.014		Lower Limit:	1.020	
3	1.132	pass	4	1.143	pass

Type:	0ALBB 200A				
Start Date:	9/3/2019			End Date:	9/16/2019
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:	0.5213	No Visual Damage	Upper Limit:	0.5270	No Visual Damage
Lower Limit:	0.4265		Lower Limit:	0.4312	
3	0.4762	pass	4	0.4821	pass

Type:	0ALBX 250A				
Start Date:	9/3/2019			End Date:	9/16/2019
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:	0.3912	No Visual Damage	Upper Limit:	0.3920	No Visual Damage
Lower Limit:	0.3200		Lower Limit:	0.3208	
3	0.3591	pass	4	0.3585	pass





Thermal shock resistance test

Fuse Type and Rating : 0ALBX 100A/200A/250A

Production Lot Number : ENG'samples

Project Number : FPQ-156

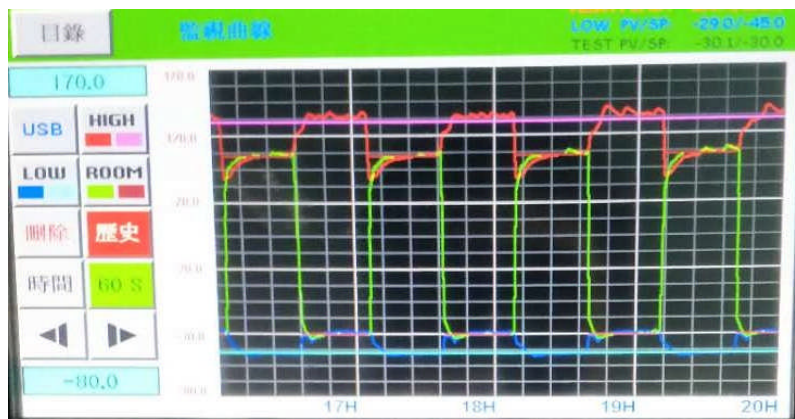
Fuse Part Number : 0ALBBK100-BB/0ALBBK200-BB/0ALBBK250-BB

Condition : JASO D622 6.3.6
 -30°C~100°C, total 48 cycles

Type:	0ALBX 100A					
Start Date:	9/5/2019			End Date:	9/10/2019	
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:	1.250	No Visual Damage	Upper Limit:	1.247	No Visual Damage	
Lower Limit:	1.022		Lower Limit:	1.021		
5	1.144	pass	6	1.140	pass	

Type:	0ALBX 200A					
Start Date:	9/5/2019			End Date:	9/10/2019	
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:	0.5223	No Visual Damage	Upper Limit:	0.5232	No Visual Damage	
Lower Limit:	0.4273		Lower Limit:	0.4280		
5	0.4755	pass	6	0.4772	pass	

Type:	0ALBX 250A					
Start Date:	9/5/2019			End Date:	9/10/2019	
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:	0.3955	No Visual Damage	Upper Limit:	0.3936	No Visual Damage	
Lower Limit:	0.3236		Lower Limit:	0.3220		
5	0.3622	pass	6	0.3605	pass	



High temperature storage test

Fuse Type and Rating : 0ALBX 100A/200A/250A

Production Lot Number : ENG'samples

Project Number : FPQ-156

Fuse Part Number : 0ALBBK100-BB/0ALBBK200-BB/0ALBBK250-BB

Condition : User-defined

Put samples in 125°C for 100 hours

Type:	0ALBX 100A				
Start Date:	9/12/2019		End Date:	9/19/2019	
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:	1.250	No Visual Damage	Upper Limit:	1.250	No Visual Damage
Lower Limit:	1.022		Lower Limit:	1.022	
7	1.143	pass	8	1.141	pass

Type:	0ALBX 200A				
Start Date:	9/12/2019		End Date:	9/19/2019	
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:	0.5272	No Visual Damage	Upper Limit:	0.5260	No Visual Damage
Lower Limit:	0.4314		Lower Limit:	0.4304	
7	0.4808	pass	8	0.4813	pass

Type:	0ALBX 250A				
Start Date:	9/12/2019		End Date:	9/19/2019	
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:	0.3924	No Visual Damage	Upper Limit:	0.3946	No Visual Damage
Lower Limit:	0.3210		Lower Limit:	0.3228	
7	0.3598	pass	8	0.3619	pass

Vibration durability test

Fuse Type and Rating : 0ALBX 100A/200A/250A

Production Lot Number : ENG'samples

Project Number : FPQ-156

Fuse Part Number : 0ALBBK100-BB/0ALBBK200-BB/0ALBBK250-BB

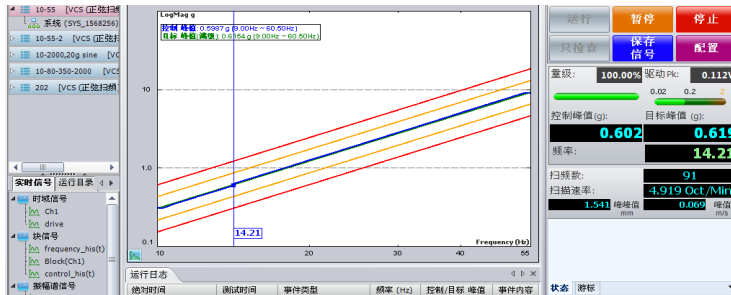
Condition : JASO D622 6.3.3

Ambient temperature:23±5°C,frequency range:10Hz-55Hz,1.5mm between the peaks, 2 hours in each of 3 mutually perpendicular directions, total of 6 hours

Type:	0ALBX 100A				
Start Date:	9/16/2019		End Date:	9/23/2019	
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:	1.247	No Visual Damage	Upper Limit:	1.244	No Visual Damage
Lower Limit:	1.021		Lower Limit:	1.018	
9	1.145	pass	10	1.138	pass

Type:	0ALBX 200A				
Start Date:	9/16/2019		End Date:	9/23/2019	
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:	0.5254	No Visual Damage	Upper Limit:	0.5270	No Visual Damage
Lower Limit:	0.4298		Lower Limit:	0.4312	
9	0.4791	pass	10	0.4823	pass

Type:	0ALBX 250A				
Start Date:	9/16/2019		End Date:	9/23/2019	
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:	0.3940	No Visual Damage	Upper Limit:	0.3915	No Visual Damage
Lower Limit:	0.3224		Lower Limit:	0.3203	
9	0.3610	pass	10	0.3588	pass



Transient current intermittent cycle durability test

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Project Number : FPQ-156

Fuse Part Number : 0ALBBK100-BB/0ALBBK200-BB/0ALBBK250-BB

Condition : JASO D622 6.3.2

Ambient temperature:23±5°C,

The initial peak transient current shall bel adjusted to 2In/0.25sec, subsequent 0.5In/ 15sec, Then, apply the current up to 50000 cycles repeatedly.

Type:	0ALBX 100A					
Start Date:	9/10/2019			End Date:	9/22/2019	
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:	1.245	No Visual Damage	Upper Limit:	1.251	No Visual Damage	
Lower Limit:	1.019		Lower Limit:	1.023		
11	1.137	pass	12	1.146	pass	

Type:	0ALBX 200A					
Start Date:	9/10/2019			End Date:	9/22/2019	
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:	0.5240	No Visual Damage	Upper Limit:	0.5220	No Visual Damage	
Lower Limit:	0.4288		Lower Limit:	0.4271		
11	0.4786	pass	12	0.4768	pass	

Type:	0ALBX 250A					
Start Date:	9/10/2019			End Date:	9/22/2019	
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:	0.3926	No Visual Damage	Upper Limit:	0.3929	No Visual Damage	
Lower Limit:	0.3212		Lower Limit:	0.3215		
11	0.3601	pass	12	0.3595	pass	

Wipe with petrol and lubricant

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Production Lot Number : ENG'samples

Project Number : FPQ-156

Fuse Part Number : 0ALBBK100-BB/0ALBBK200-BB/0ALBBK250-BB

Condition : GB/T31465.1-5.4

Wipe the marking with petrol and lubricant for 30 seconds

Type:	0ALBX 100A				
Start Date:	9/26/2019			End Date:	9/26/2019
Room Temp.:	25.2	°C		Room Humi.:	62 %
No.\Name	Marking still legible		No.\Name	Marking still legible	
1	pass		7	pass	
2	pass		8	pass	
3	pass		9	pass	
4	pass		10	pass	
5	pass		11	pass	
6	pass		12	pass	

Type:	0ALBX 200A				
Start Date:	9/26/2019			End Date:	9/26/2019
Room Temp.:	25.2	°C		Room Humi.:	62 %
No.\Name	Marking still legible		No.\Name	Marking still legible	
1	pass		7	pass	
2	pass		8	pass	
3	pass		9	pass	
4	pass		10	pass	
5	pass		11	pass	
6	pass		12	pass	

Type:	0ALBX 250A				
Start Date:	9/26/2019			End Date:	9/26/2019
Room Temp.:	25.2	°C		Room Humi.:	62 %
No.\Name	Marking still legible		No.\Name	Marking still legible	
1	pass		7	pass	
2	pass		8	pass	
3	pass		9	pass	
4	pass		10	pass	
5	pass		11	pass	
6	pass		12	pass	

Terminal strength test

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Production Lot Number : ENG'samples

Project Number : FPQ-156

Fuse Part Number : 0ALBBK100-BB/0ALBBK200-BB/0ALBBK250-BB

Condition : JSAE JASO D622ISO8820-8

Install and dismantle fuse with 4.5+/-1Nm, Install and dismantle fuse three times

Type:	0ALBX 100A					
Start Date:	9/3/2019			End Date:	9/26/2019	
Room Temp.:	25.7	°C		Room Humi.:	67	%
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	

Type:	0ALBX 200A					
Start Date:	9/3/2019			End Date:	9/26/2019	
Room Temp.:	25.7	°C		Room Humi.:	67	%
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	

Type:	0ALBX 250A					
Start Date:	9/3/2019			End Date:	9/26/2019	
Room Temp.:	25.7	°C		Room Humi.:	67	%
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	