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
10F-6, No.81, Sec.1, Xintai 5th Rd., Xizhi-Dist., New Taipei City 221, Taiwan, R.O.C.
TEL 886 2 2698 7028 FAX 886 2 2698 7078 WEBSITE www.attend.com.tw

SPECIFICATION AND PERFORMANCE

Series	228C	File	228C _SPEC_1	Date	2026/01/12

Scope:

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

Part Name	Description
228C-PS01	SMB PCB Mount Connector, 3u"
228C-PSZ2	FAKRA to SMB Adapter, IP67&IP69K, 3u"

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**
228C-PS01		
1	HOUSING	LCP UL94V-0 Black
2	CONTACT	Copper alloy, 3u" gold on contact area, 80u" matte tin plating on solder tails, under plating 50u" nickel over all
3	SHELL	Copper alloy, 80u" matte tin over 50u" nickel over all
4	CAP	LCP UL94V-0 Black

228C-PSZ2		
1	INSULATOR	PTFE, UL94-V0, White
2	CONTACT	Copper alloy, 3u" gold over 50 nickel
3	SPRING SHELL	Copper alloy, 50u" nickel over all
4	OUTER SHELL	Zinc alloy, 120u" nickel over 600u" Cu

RATING	
Rated Current	3A
Rated Voltage	250V DC
Operating Temperature	-40°~+105°
Storage Temperature	-40°~+105°
Durability	25 cycles

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Signal Integrity		
Item	**Requirement**	**Test Condition**
Impedance	50Ω	USCAR-17
Frequency	DC to 6GHz	
Insertion Loss	≦0.1x$\sqrt{}$f(GHz)dB	
V.S.W.R.	1.3≦ (DC~3GHz); 1.5≦ (3~6GHz)	

ELECTRICAL		
Item	**Requirement**	**Test Condition**
Insulation Resistance	USCAR-17, SAE/USCAR-2	≧1x10^{3}MΩ at 500VDC
Signal Contact Resistance		≦20mΩ initial, 40mΩ after mating
Outer Contact Resistance		≦20mΩ initial, 40mΩ after mating
Test Voltage		≦800Vrms
Working Voltage		≦335Vrms
Power Current		≦3ADC/20V

MECHANICAL (228C-PS01)		
Item	**Requirement**	**Test Condition**
Mating Cycles	ISO 20860-1, ISO20860-2, USCAR-17 Class 2	≧25 Cycles
Connection Insertion Force		≦50N
Disengagement Force		≧2N

MECHANICAL (228C-PSZ2)		
Item	**Requirement**	**Test Condition**
Mating Cycles	ISO 20860-1, ISO20860-2, USCAR-17 Class 2	≧25 Cycles
Connection Insertion Force		≦25N
Disengagement Force		≧2N
Retention Force Latch (Locking Device Strength)		≧110N
Coding Efficiency		≧40N 1. For single contact SMB connection systems, the minimum mis-mating force to achieve center contact. Electrical continuity is 40N. it is known that certain key code combinations may not meet this requirement. Therefore, the combinations listed below should be avoided. a. A & B b. I & G c. C & N d. F & H e. K & L

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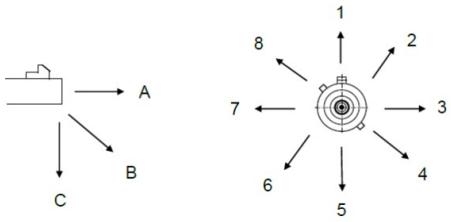
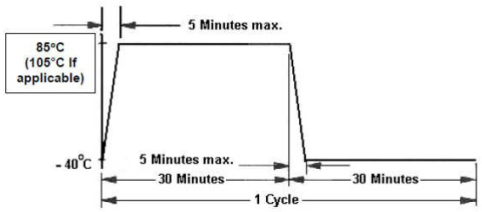
		f. K & M g. L & M 2. The Z or Neutral Key Code may not mate with L, M, or N Key Code and should be used solely for developmental or prototype applications.
Board Mount Mechanical Pull Test	USCAR17-4 Axial loads are less practical when applied to right angle cabled connectors therefore a side load shall be applied to the extreme end of the ferrule (furthest from the centerline). The load of 75N shall be applied for 5 seconds while monitoring continuity. SWR measurements and visual inspection for damage shall be done before and after the side load test.	Again by gripping on the cable side SMA connector, subject the board mount connection system to at least the following directional forces, all at 75N (1C, 3C, 5B, 7B, 8C) 

ENVIRONMENTAL		
Item	**Requirement**	**Test Condition**
Thermal Shock	USCAR-17	Temperature: -40°C~105°C Duration: exposure time at temperature extreme 30 minutes, 100 cycles. 
Temperature Humidity Cycles	USCAR-17, SAE/USCAR-2	a. 0.5 hours @ –40±3°C. b. 4.5 hours @ 80-100 percent relative humidity at +80 to 90 °C. This is the only step where humidity is controlled. Humidity not controlled c. 2 hours @ +85 ± 3 °C (+105°C if applicable). d. 1 hour @ +23±3°C. e. This constitutes one complete temperature/humidity cycle (8 hours). f. Maximum transfer time of samples from one environment to the next during the defined temperature/ humidity cycle is 1 hour.

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<table>
<tr><td></td><td></td><td>g. All time periods listed in the defined cycle have a tolerance of ± 5 minutes
h. 40 cycles (320 hours) of the environmental exposure described above constitutes a complete temperature/humidity cycling test.</td></tr>
<tr><td>High Temperature Exposure</td><td>USCAR-17, SAE/USCAR-2</td><td>Temperature:105°C
Duration: 1008 hours</td></tr>
<tr><td>Random Vibration</td><td>USCAR-17</td><td>A. Vibration Type: Random Vibration
B. Frequency Range: 5~1000Hz
C. Duration: 8 hours in each of X,Y,Z axis
D. PSD:
<table>
<tr><td>Frequency (Hz)</td><td>Power Spectral Density (g²/Hz)</td></tr>
<tr><td>5.0</td><td>0.00200</td></tr>
<tr><td>12.5</td><td>0.24800</td></tr>
<tr><td>77.5</td><td>0.00320</td></tr>
<tr><td>145.0</td><td>0.00200</td></tr>
<tr><td>200.0</td><td>0.01180</td></tr>
<tr><td>230.0</td><td>0.00032</td></tr>
<tr><td>1000.0</td><td>0.00002</td></tr>
<tr><td colspan="2">Grms=1.81</td></tr>
</table></td></tr>
<tr><td>Mechanical Shock</td><td>USCAR17-4</td><td>10 shocks, 35g, 10ms</td></tr>
</table>

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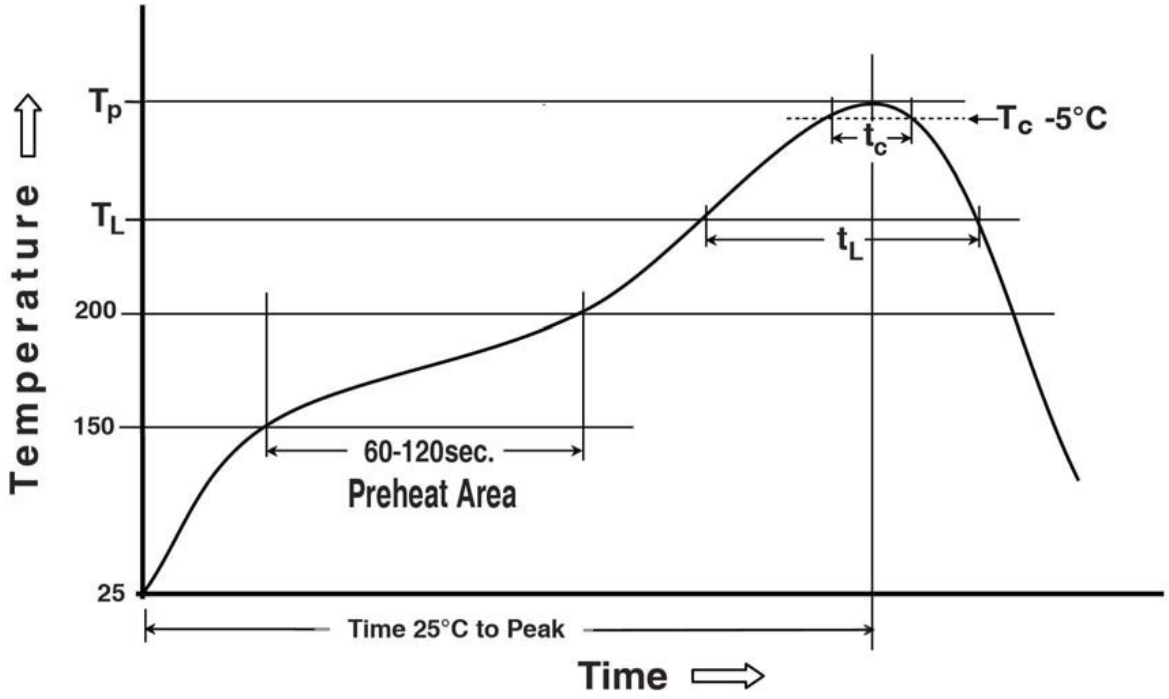
SOLDER ABILITY		
Item	**Requirement**	**Test Condition**
Solder Ability	95%MIN of immersed area Must show no voids.	Temperature: 260°C+5°C Time: 10s MAX EIA-364-52
Resistance to soldering heat	Appearance no damage	Solder time: 10s MAX. Solder temperature: 260°C±5°C

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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