molex

PRODUCT SPECIFICATION

TITLE:	
	SINGLE PORT UP-RIGHT TYPE USB
	CONNECTOR

REVISION DESCRIPTION	REVISED			**SINGLE PORT, UP-RIGHT TYPE, USB CONNECT**			
CHANGE NO.	850805						
REVISED BY	GIRISH4	DATE	2026/03/16	DOC TYPE	DOC TYPE DESCRIPTION	DOC PART	SERIES
REV APPR BY	MRAMAKRISHNA	DATE	2026/03/20	PS	ENGINEERING SPECIFICATION WORD	001	89485
INITIAL RELEASE				CUSTOMER	DOCUMENT NUMBER	REVISION	SHEET
INITIAL DRWN	RFC_PLMIMP	DATE	2022/06/09	GENERAL MARKET	**PS-89485**	**C**	1 OF 8
INITIAL APPR	RFC_PLMIMP	DATE	2022/06/09				

1.0 SCOPE

This specification covers the USB series product.

2.0 APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herewith. In the event of conflict between the requirements of the specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of the specification and the referenced documents, this specification shall take precedence.

MIL-STD-202 Test Methods for Electronic and Electrical Component Parts

MIL-STD-1344 Test Methods for Electrical Connectors

3.0 MATERIAL SPECIFICATIONS

3.1 Design and Construction
Connector shall be of the design, construction and physical dimensions specified on the applicable sales drawing

3.2 Materials
a) Contacts : Refer to Respective Molex Sales & Engineering Drawings

b) Housing : Refer to Respective Molex Sales & Engineering Drawings

c) Metal Shell : Refer to Respective Molex Sales & Engineering Drawings

d) Plating : Refer to Respective Molex Sales & Engineering Drawings

3.3 Performance and Test Description
Connector shall be designed to meet the electrical, mechanical, and environmental performance requirements specified in 3.4

3.4 Test Requirements and Procedures

4.0 RATING OF CONNECTOR

4.1 Operating temperature: -40°C to +85°C

ELECTRICAL		
Item	**Requirement**	**Test methods**
Contact Resistance	**30** mΩ max	Maximum applied Voltage 20mV
(initial value)		at a current of 100mA per Mil-Std-
		1344A Method 3002.1

Dielectric	No Breakdown	Test between adjacent contacts
Withstanding		at 750 V AC (rms) and 60 seconds
Voltage		hold time, per Mil-Std-1344A
		Method 3001.1, Test Condition I.

Insulation	**1000** Mega Ω	Test between adjacent contacts
Resistance	min	at 500 V dc for 2 minutes,
		per Mil-Std-1344A Method 3003.1

Capacitance	**2** picofarad	Test between adjacent contacts
	max	to 1 Megahertz max per Mil-Std-202F
		Method 305

Current Rating	30deg C rise	Apply the rated current to
1 Amp	in temp. max	connector for 96 hours
(Temperature rise)		

MECHANICAL		
Item	**Requirement**	**Test methods**
Durability (Au flash Plating)	Contact Resistance **30** mohm max after **1500** cycles.	Mate this connector with its mating part. Other conditions follow Mil-Std-1344A Method 2016
Terminal Retention	**0.8** Kg min	Apply a pull out force in the axial direction of the contact per Mil-Std-1344A method 2007.1
Vibration	a. Contact Resistance **30** mohm max b. No discontinuity greater than 1 µsec.	Subject mated connector to simple harmonic motion with double amplitude displacement of 0.03 inch or 15 G's and frequency sweep of 10 to 55 and return to 10 Hz in 2 hours in each direction. Total 5 cycles. per Mil-Std-202F Method 201A
Mechanical Shock	a. No Damage b. Contact Resistance **30** mohm max b. No discontinuity greater than 1 µsec.	Subject mated connector to 50 G half sine in 11 msec according to Mil-Std-1344 Method 2004.1, Condition A.
Mating and Unmating Forces	a. Mating = **3.57** Kg max b. Unmating = **1.02** Kg min	Mate the connector with its mating part and measure force per Mil-Std-1344A Method 2013.1

ENVIRONMENTAL		
Item	**Requirement**	**Test methods**
Thermal Shock	Contact Resistance	Subject mated connector to
	30 mΩ max	5 cycles of exposure at
		- 55 deg C and 85 deg C
		Mil-Std-1344A, Method
		1003.1, Condition A

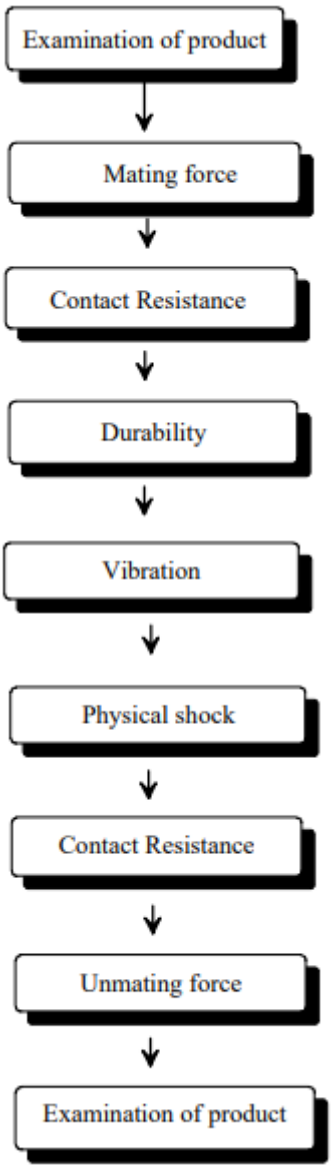
Steady State	Contact Resistance	Expose mated connector to
Humidity	**30** mΩ max	40 deg C and 90-95% RH for
		96 hours according to Mil-
		Std-1344A, Method 1002.2,
		Type I, Condition B.

Temperature	Contact Resistance	Subject mated connector to
Life (Thermal	30 mΩ max	ambient temperature of 125 deg C
aging)		for 250 hours per Mil-Std-1344A
		Method 1005.1 Condition B

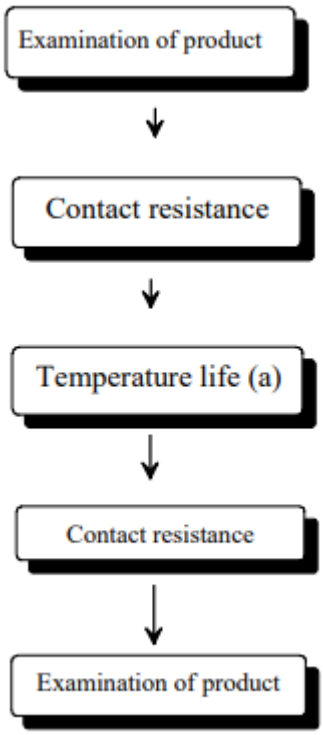
The tests are categorized into 3 major groups. The test sequences are defined as follow.
***The tests for Solderability, Terminal Retention are performed independently.**

Sample selection: All test groups shall consist a minimum of eight connectors. A minimum of 30 contacts shall be selected and identified.

GROUP I



GROUP II



(a): Pre-mating and unmating 10 cycles

GROUP III