Rev.	Count	Description of rev.	BY	CHKD	Date	Rev.	Count	Description of rev.	BY	CHKD	Date
0	–	Preliminary drawing	KYG	LHJ	221220	3	4	EC(RE-2-2376)	OSW	LHJ	230905
1	1	Preliminary drawing(RE-2-2167)	KYG	LHJ	230306						
2	3	Released(RE-2-2337)	KYG	LHJ	230724						

Applicable standard		Universal Serial Bus Type-C Connectors and Cable Assemblies Compliance Document Revision 2.1b
Rating	Voltage	48V AC/DC
	Current	1.25A max. for each power pin (i.e., A1, A4, A9, A12, B1, B4, B5, B9, B12) 0.25A max. for the others.
Operating condition		-40℃~+105℃(Including temp. rise), 95% RH max.(Non-condensing)
Storage condition		-10℃~+60℃(With packing), 15%~70% RH

SPECIFICATIONS

No	TEST ITEM	TEST METHOD	TEST REQUIREMENT	QT	AT
CONSTRUCTION					
1	General examination	EIA 364-18 Visual inspection	No physical damage	O	O
ELECTRICAL CHARACTERISTICS					
2	Low level contact resistance	EIA 364-23 Measure at 20mV max open circuit at 100mA max. (DC or 1000Hz) 4-wire measurement is required and the resistance of PCB termination shall be deducted from the reading.	Initial : 40mΩ max After test : 50mΩ max	O	–
3	Dielectric withstanding voltage	EIA 364-20 Measure per Method B with unmated condition. 100V AC RMS for 1 minute at sea level.	No disruptive discharge.	O	–
4	Insulation resistance	EIA 364-21 500V DC with unmated and mated condition.	100MΩ min.	O	–
5	Temperature rise	IEC60529, EIA-364-70, method B : A current of 5.0 A shall be applied collectively to VBUS pins (i.e., pins A4, A9, B4, and B9) and 1.25 A applied to the Vconn pin (i.e., B5 of the plug connector) with the return path through the corresponding GND pins (i.e., pins A1, A12, B1, and B12). A minimum current of 0.25 A shall also be applied individually to all the other contacts.	Temperature rise shall not exceed 30℃	O	–

No	TEST ITEM	TEST METHOD	TEST REQUIREMENT	QT	AT
MECHANICAL CHARACTERISTICS					
6	Insertion force	EIA 364-13 Measure at 12.5mm/minute min.	Initial & after test : 5N ~ 20N	O	–
7	Extraction force	EIA 364-13 Measure at 12.5mm/minute min.	Initial : 8N ~ 20N After test : 6N ~ 20N (with virgin plug)	O	–
8	Durability	EIA 364-09 Mated 10,000 times Mechanically operated : 500cycles/hr Mating stroke : 2.75mm Insertion, extraction force shall be measured at a maximum speed of 12.5mm/min	No physical damage.	O	–

Remarks	Drawn	Designed	Checked	Approved	Release
	Y.G.KIM 22.12.20	Y.G.KIM 22.12.20	Y.B.PARK 22.12.20	H.J.LEE 22.12.20	ENG 23.09.05 DEPT

[Note] QT : Qualification test, AT : Assurance test, O : Applicable, – : Not applicable

Drawing No.	CL No.	Part No.
ELC4-633753-00	CL ****-****-*-***	CX90BW1-24P*

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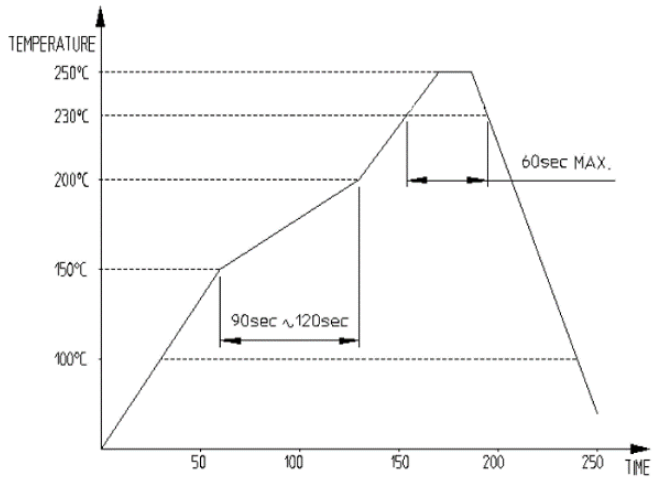
ENVIRONMENTAL CHARACTERISTICS					
9	Random vibration	EIA 364-28 Test Condition VII, Test Letter D Mated specimens to 3.10 G's RMS between 20 to 500Hz 15 minutes in each of 3 mutually perpendicular planes.	No physical damage. No discontinuity of over than 1 μs.	O	–
10	Temperature life	EIA 364-17, Method A 105℃ without applied voltage for 120 hours.	No physical damage.	O	–
11	Cyclic temperature and humidity	EIA 364-31 25±3℃ at 80±3% RH for 1 hour. 65±3℃ at 50±3% RH for 1 hour. Thermal ramp : 0.5 hour Number of cycles : 24 cycles	No physical damage.	O	–
12	Thermal shock	EIA 364-32 10 cycles −55℃ and +105℃	No physical damage.	O	–
13	Solderability	EIA 364-52 Dwell in 245±5℃ of the solder bath for 5 sec.	Solder coverage shall be 95% min. of the immersed surfaces.	O	–
14	Salt spray	EIA 364-26 5% of NaCl in 35℃ for 48 hours. Test with soldered condition on the PCB.	No corrosions that affect to the connector operation.	O	–
15	High temperature and humidity	EIA-364-31 High-temperature 85℃/85% RH for 120 hours.	No physical damage. No change to performance.	O	–
16	Mixed flowing gas	EIA 364-65 Measure Environment 30℃/70%RH CL2 10±3ppb, No2 200±50ppb, H2S 10±5ppb, SO2 100±20ppb Expose half of sample mated for 1/3 days and then unmated for 2/3 days .The others are exposed mated for full 7 days test period.	No corrosions that affect to the connector operation.	O	–
17	② Water resistance	Conduct the IP code test according to the corresponding P/N as shown as Table.1 ① IPX4 IEC60529 No matter which direction the water splashes on the enclosure, it must be waterproof. Duration : 10minutes at least. Water volume : 10L/min Pressure : 50~150KPa ② IPX8 IEC60529 Immersion in the water at the depth of 1.5m for 30min	No water leakage.	O	–

[Note] QT : Qualification test, AT : Assurance test, O : Applicable, – : Not applicable

18	③ Dust resistance	Conduct the IP code test according to the corresponding P/N as shown as Table.1 ① IP5X IEC60529 Duration : 8hours at least. Amount of talcum powder of the test chamber : $2kg/m^3$ Dust type : Talcum Powder (less than 75μm) ② IP6X IEC60529 Duration : 8hours at least. Amount of talcum powder of the test chamber : $2kg/m^3$ Dust type : Talcum Powder (less than 75μm)	① No ingress of dust to cause functional problems ② No ingress of dust	O	–
19	Reflow heat	Reflow profile Fig.1 Peak 250°C max for 10 sec 2 times.	No deformation of mold No shape of blister and popcorn	O	–

REMARKS



[Fig.1] REFLOW TEMPERATURE

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⚠1 Test Sequence Table

No	Test item	Test Group										
		A	B	C	D	E	F	G	H	I	J	K
1	General examination	1, 7	1, 15	1, 7	1, 7	1, 7	1, 3	1, 7	1, 7	1, 7	1, 4	1, 9
2	Low level contact resistance	3, 6	3, 14	3, 6	3, 6	3, 6		3, 6	3, 6	3, 6		3, 8
3	Dielectric withstanding voltage		4, 12									
4	Insulation resistance		5, 11									
5	Temperature rise										3	
6	Insertion force		6, 10									
7	Extraction force		7, 9									
8	Durability		8									4
9	Random vibration	4										
10	Temperature life			4								
11	Cyclic temperature and humidity				4							
12	Thermal shock					4						5
13	Solderability						2					
14	Salt spray							4				
15	High temperature and humidity								4			6
16	Mixed flowing gas									4		
17	⚠3⚠2 Water resistance	5	13	5	5	5		5	5	5		
18	⚠3 Dust resistance											7
19	Reflow heat	2	2	2	2	2		2	2	2	2	2

REMARKS

1) Numbers in the table above indicate the sequence corresponding to each test group.

[Table. 1] CX90BW1-24P* Series P/N List △2

No.	P/N	Code No.	△3 IP Code
1	CX90BW1-24P	CL 6247-0001-3-000	IP54
2	CX90BW1-24P1	CL 6247-0003-9-000	IP68

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