


Rev.	Count	Description of rev.	BY	CHKD	Date	Rev.	Count	Description of rev.	BY	CHKD	Date
①	4	EC(RE-2-1937)	JMS	LHJ	220601	④	4	EC(RE-2-2376)	OSW	LHJ	230905
②	2	EC(RE-2-2167)	KYG	LHJ	230306						
③	3	EC(RE-2-2337)	KYG	LHJ	230724						
Applicable standard		Universal Serial Bus Type-C Cable and Connector Specification Release 2.1 Universal Serial Bus Type-C Connectors and Cable Assemblies Compliance Document Revision 2.1b									
Rating	Voltage	① 48V AC/DC									
	Current	① 1.25A max. for each power pin (i.e., A1, A4, A9, A12, B1, B4, B9, B12) 1.25A max. for Vconn pin (i.e., B5) 0.25A. for the others.									
Operating condition		-40°C~+105°C(Including temp. rise), 95% RH max.(Non-condensing)									
Storage condition		-10°C~+60°C(With packing), 15%~70% RH									
SPECIFICATIONS											
No	TEST ITEM		TEST METHOD			TEST REQUIREMENT			QT	AT	
CONSTRUCTION											
1	Examination of product		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 ① 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°C			O	-	
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.B.PARK 21.08.05	Y.B.PARK 21.08.05	H.J.LEE 21.08.05	H.J.LEE 21.08.05	<div>DEPT. 23.09.05 ENG</div>	
[Note] QT : Qualification test, AT : Assurance test, O : Applicable, - : Not applicable											
Drawing No.			CL No.				Part No.				
ELC4-633131-00			CL ****-****-**-***				CX90BW-16P*				
HRS HIROSE KOERA.CO.,LTD						PRODUCT SPECIFICATION					1/5

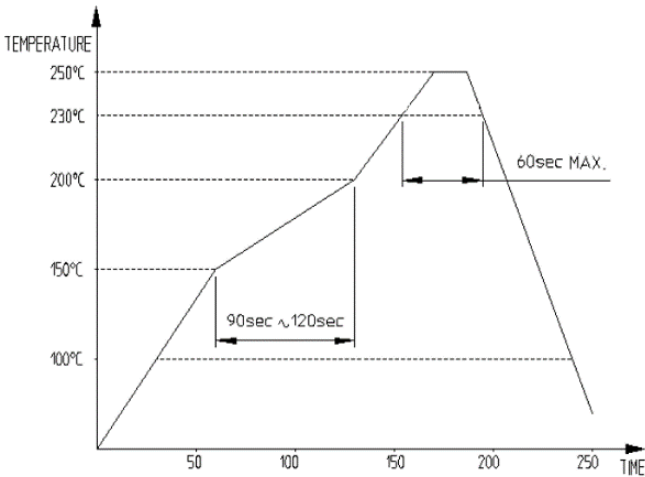
ENVIRONMENTAL CHARACTERISTICS					
9	Random Vibration	EIA 364-28 Test Condition VII, Test Letter D Mated specimens to 3.10 G's RMS between 20 to 500Hz 15 minutes in each of 3 mutually perpendicular planes.	No physical damage. No discontinuity of 1 μ s of longer duration when mated connector during test.	O	-
10	Temperature Life	EIA 364-17, Method A 105°C without applied voltage for 120 hours.	No physical damage.	O	-
11	Cyclic Temperature and Humidity	EIA 364-31 25 \pm 3°C at 80 \pm 3% RH for 1 hour. 65 \pm 3°C at 50 \pm 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°C and +105°C	No physical damage.	O	-
13	Solderability	EIA 364-52 Dwell in 245 \pm 5°C 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°C for 48 hours.	No corrosions that affect to the connector operation.	O	-
15	High Temperature and Humidity	EIA-364-31 High-temperature 85°C/85% RH for 120 hours.	No physical damage. No change to performance.	O	-
16	Mixed Flowing Gas	EIA 364-65 Measure Environment 30°C/70%RH CL2 10 \pm 3ppb, No2 200 \pm 50ppb, H2S 10 \pm 5ppb, SO2 100 \pm 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	 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	-

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18	<div><div>4</div><div>Dust resistance</div></div>	<div>Conduct the IP code test according to the corresponding P/N as shown as Table.1</div> <div>① IP5X IEC60529 Duration : 8hours at least. Amount of talcum powder of the test chamber : $2kg/m^3$ Dust type : Talcum Powder (less than $75\mu m$)</div> <div>② IP6X IEC60529 Duration : 8hours at least. Amount of talcum powder of the test chamber : $2kg/m^3$ Dust type : Talcum Powder (less than $75\mu m$)</div>	<div>① No ingress of dust to cause functional problems</div> <div>② No ingress of dust</div>	O	-
19	Reflow Heat	<div>Reflow profile Fig.1</div> <div>Peak $250^{\circ}C$ max for 10 sec 2 times.</div>	<div>No deformation of mold</div> <div>No shape of blister and popcorn</div>	O	-

REMARKS



2 [Fig.1] REFLOW TEMPERATURE

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⚠ Qualification Test Sequence Table												
No	Test item ⚠	Test Group										
		A	B	C	D	E	F	G	H	I	J	K
1	Examination of product	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	⚠⚠ Water resistance	5	13	5	5	5		5	5	5		
18	⚠ 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.

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		Part No. CX90BW-16P*	
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[Table. 1] CX90BW-16P* Series P/N List 

No.	P/N	Code No.	 IP Code
1	CX90BW-16P	CL 6246-0002-0-000	IP54
2	CX90BW-16P(001)	CL 6246-0002-0-001	IP54
3	CX90BW-16P1	CL 6247-0004-1-000	IP68

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 HIROSE KOERA.CO.,LTD		PRODUCT SPECIFICATION	<div>55</div>