

PRODUCT SPECIFICATION

		No. T-1-2273 (R-1-2273)	Date Issued: September 4, 2009
Customer:	GENERAL	Revised: A	Date Revised: January 12, 2010
Title Subject:		XMA Connector (For Wire-to-Wire/ Hanging Type)	
		Issued by: Osaka Engineering Center	

This product specification contains the results of performance tests for the XMA connector (For wire-to-wire/ Hanging type).

-Index-

1. PART NAME & PART NUMBER
2. CONSTRUCTION, DIMENSIONS, MATERIAL & SURFACE FINISH
3. CHARACTERISTICS
4. SPECIMEN
5. TEST CONDITIONS
6. REQUIREMENTS, TEST METHODS & TEST RESULTS
 - 6.1 Appearance
 - 6.2 Mechanical Performance Test
 - 6.2.1 Insertion Force (I.F.) & Withdrawal Force (W.F.)
 - 6.2.2 Crimp Tensile Strength
 - 6.2.3 Contact Retention Force
 - 6.2.4 Locking Strength
 - 6.3 Electrical Performance Test
 - 6.3.1 Contact Resistance
 - 6.3.2 Current Continuity
 - 6.3.3 Insulation Resistance
 - 6.3.4 Dielectric Withstanding Voltage
 - 6.4 Environmental Test
 - 6.4.1 Durability
 - 6.4.2 Humidity
 - 6.4.3 Heat Aging
 - 6.4.4 Thermal Shock
 - 6.4.5 Hydrogen Sulfide Gas
 - 6.4.6 Salt Spray
 - 6.4.7 Vibration
 - 6.4.8 Ammonia Gas
7. NOTICE

Prepared by: <u>M. Veda</u>	Checked by: <u>K. Ichimi</u>	Reviewed by: <u>K. Wanaka</u>	Approved by: <u>K. Shimizu</u>
------------------------------------	-------------------------------------	--------------------------------------	---------------------------------------

Title Subject: XMA Connector (For Wire-to-Wire/ Hanging Type)	No. T-1-2273 (R-1-2273)	Revised: A
--	----------------------------	------------

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

1. PART NAME & PART NUMBER

Part Name			Part Number
Pin contact			SXM-001T-P0.6
Socket contact			SXA-001T-P0.6L
Receptacle housing	2 to 3-circuit	Polarizing key pattern 1	XMAR-* VF-1-S
		Polarizing key pattern 2	XMAR-* VF-2-R
		Polarizing key pattern 3	XMAR-* VF-3-E
	4 to 5-circuit	Without polarizing key	XMAR-* VF-S
	6-circuit	Without polarizing key	XMAR-06VF-S
Plug housing	2 to 3-circuit	Polarizing key pattern 1	XMAP-* V-1-S
		Polarizing key pattern 2	XMAP-* V-2-R
		Polarizing key pattern 3	XMAP-* V-3-E
	4 to 5-circuit	Without polarizing key	XMAP-* V-S
	6-circuit	Without polarizing key	XMAP-06V-S
Retainer	2 to 5-circuit		XMAS-* V-S
	6-circuit		XMS-06V

Note₁: Number of circuits in one-digit figure is indicated in * .

2. CONSTRUCTION, DIMENSIONS, MATERIAL & SURFACE FINISH

Construction and dimensions shall be in accordance with the referenced drawings.
Material and surface finish shall be as specified below.

Part Name			Material	Surface Finish, etc.	
Pin contact			Phosphor bronze	Tin-plated	
Socket contact			Phosphor bronze	Tin-plated	
Receptacle housing	2 to 3-circuit	Polarizing key pattern 1	PBT (Glass-filled)	Color: Natural	Flammability: UL94V-0
		Polarizing key pattern 2	PBT (Glass-filled)	Color: Red	
		Polarizing key pattern 3	PBT (Glass-filled)	Color: Blue	
	4 to 6-circuit	Without polarizing key	PBT (Glass-filled)	Color: Natural	
Plug housing	2 to 3-circuit	Polarizing key pattern 1	PBT (Glass-filled)	Color: Natural	Flammability: UL94V-0
		Polarizing key pattern 2	PBT (Glass-filled)	Color: Red	
		Polarizing key pattern 3	PBT (Glass-filled)	Color: Blue	
	4 to 6-circuit	Without polarizing key	PBT (Glass-filled)	Color: Natural	
Retainer			PA 66 (Glass-filled)	Color: Natural	Flammability: UL94V-0

Title Subject: XMA Connector (For Wire-to-Wire/ Hanging Type)	No. T-1-2273 (R-1-2273)	Revised: A
--	----------------------------	------------

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

3. CHARACTERISTICS

Item		Rated Value	
Current rating		3A (AC, DC)	(Note ₂)
Voltage rating		250V (AC, DC)	
Temperature range		-25 to +85 °C	(Note ₃)
Applicable wire	Conductor size	AWG #26 to #22	(Note ₄)
	Insulation O.D.	φ1.3 to φ1.9 mm	

Note₂: When AWG#22 applied.

Note₃: Including temperature rise in applying an electrical current.

Note₄: Wire conductor shall be tin-plated annealed copper wire (stranded wire).

4. SPECIMEN

Part Name		Material
Pin contact		SXM-001T-P0.6
Socket contact		SXA-001T-P0.6L
Receptacle housing	2 to 3-circuit	XMAR-* VF-()-[]
	4 to 6-circuit	XMAR-* VF-S
Plug housing	2 to 3-circuit	XMAP-* V-()-[]
	4 to 6-circuit	XMAP-* V-S

Note₅: Number of circuits in one-digit figure is indicated in *.

Note₆: Numbers (1 to 3) showing key pattern is indicated in ().

Note₇: A character of an alphabet in color is indicated in []. (S: natural, R: red, E: blue)

5. TEST CONDITIONS

- 1) When tested in accordance with the test conditions and method specified in each item, each requirement shall be met.
- 2) Unless otherwise specified, tests shall be conducted under the following ambient conditions specified in JIS C 60068-1 (IEC 60068-1) [Basic Environmental Testing Procedures General and Guidance].

Temperature: 15 to 35 °C
Relative humidity: 25 to 75 %

- 3) For environmental tests, as a rule, the specimen that a receptacle and a plug are assembled for actual use and the wire of UL1007 style AWG#22 shall be used.

Title Subject: XMA Connector (For Wire-to-Wire/ Hanging Type)	No. T-1-2273 (R-1-2273)	Revised: A
--	----------------------------	------------

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

6. REQUIREMENTS, TEST METHODS & TEST RESULTS

6.1 Appearance

Requirement: There shall be no crack, deformation or discoloration which may affect the performance specified in this specification.

Test method: Visual inspection.

Test result: Good.

6.2 Mechanical Performance Test

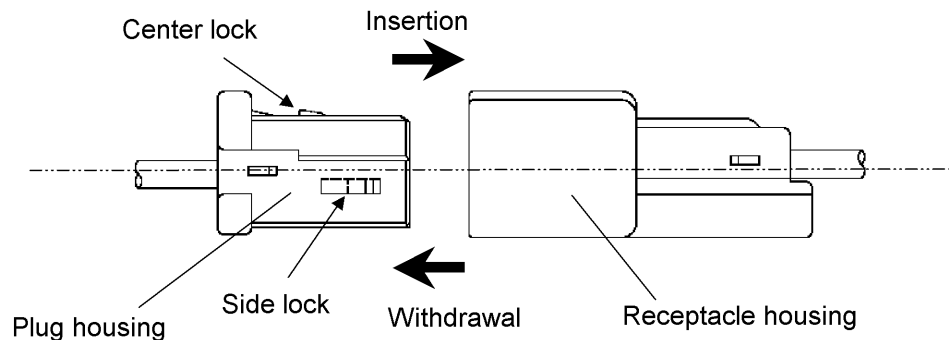
6.2.1 Insertion Force (I.F.) & Withdrawal Force (W.F.)

Requirement:

No. of circuits	At Initial		At 30th
	I.F. (max.)	W.F. (min.)	W.F. (min.)
2	20	0.7	0.4
3	23	1.0	0.4
4	26	1.3	0.7
5	29	1.6	0.7
6	32	1.9	1.0

UNIT: N

Test method: A receptacle housing with crimped contact and a plug housing with crimped contact shall be mated and unmated on the mating axis. Initial insertion and withdrawal forces and also withdrawal force at 30th shall be measured. A center lock and side lock of plug housing shall be removed before the measurement. (Testing speed: 1 to 5mm/sec.)



This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

Title Subject: XMA Connector (For Wire-to-Wire/ Hanging Type)	No. T-1-2273 (R-1-2273)	Revised: A
--	----------------------------	------------

Test result:

UNIT: N

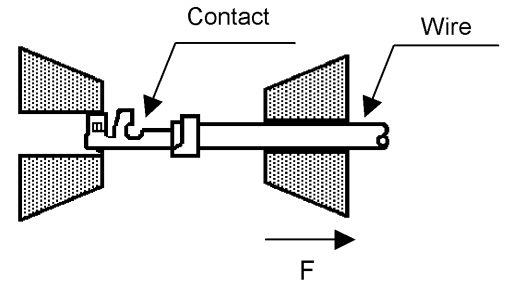
No. of circuits	Item	Ave.	Max.	Min.
2	Initial I.F.	2.6	2.7	2.4
	Initial W.F.	1.5	1.7	1.4
	W.F. at 30th	1.0	1.2	0.9
3	Initial I.F.	4.0	4.4	3.6
	Initial W.F.	2.4	2.7	2.3
	W.F. at 30th	1.5	1.8	1.4
4	Initial I.F.	5.1	5.4	4.5
	Initial W.F.	3.1	3.3	2.8
	W.F. at 30th	2.0	2.3	1.8
5	Initial I.F.	6.8	7.2	5.9
	Initial W.F.	3.9	4.2	3.5
	W.F. at 30th	2.4	2.6	2.1
6	Initial I.F.	8.5	9.0	7.9
	Initial W.F.	5.0	5.3	4.8
	W.F. at 30th	3.4	3.6	3.0

n=10

6.2.2 Crimp Tensile Strength

Requirement:

Wire to be used	Requirements N min.
AWG #26	15
AWG #24	20
AWG #22	35



Test method: Pulling load shall be applied to a correctly crimped contact and a wire. The load to pull the wire out of the contact or break the wire shall be measured. (Testing speed: 25mm/min.)

Test result:

UNIT: N

Item	Wire size	Ave.	Max.	Min.
Pin contact	0.13mm ² (AWG#26)	34.1	37.2	31.4
	0.20mm ² (AWG#24)	60.7	63.7	56.8
	0.30mm ² (AWG#22)	88.9	90.2	80.4
Socket contact	0.13mm ² (AWG#26)	39.0	45.1	33.4
	0.20mm ² (AWG#24)	59.9	63.3	55.0
	0.30mm ² (AWG#22)	89.0	91.3	82.4

n=10

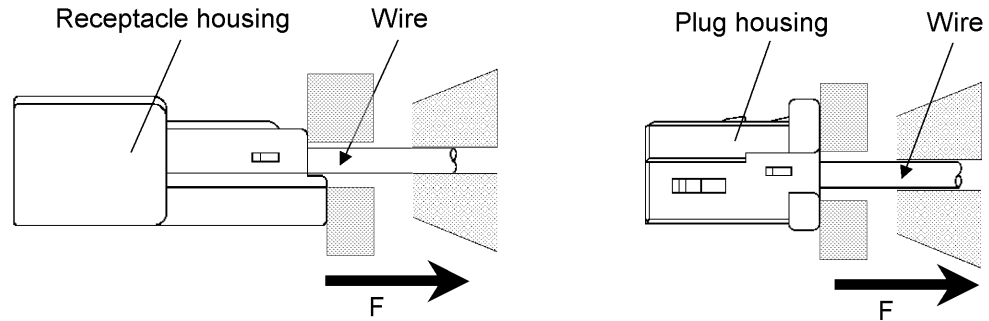
This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

Title Subject: XMA Connector (For Wire-to-Wire/ Hanging Type)	No. T-1-2273 (R-1-2273)	Revised: A
--	----------------------------	------------

6.2.3 Contact Retention Force

Requirement: 15N min.

Test method: A correctly crimped contact shall be mounted in a receptacle housing (plug housing) and pulled along the mating axis. The load to pull the contact out of the receptacle housing (plug housing) shall be measured. (Testing speed: 1 to 5mm/sec.)



Test result:

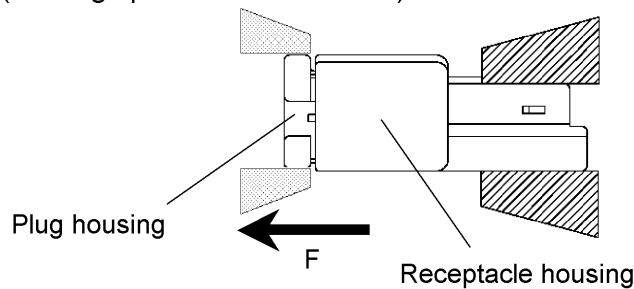
UNIT: N			
Item	Ave.	Max.	Min.
Receptacle housing	29.9	32.6	27.4
Plug housing	27.0	30.2	22.5

n=10

6.2.4 Locking Strength

Requirement: 2-circuit product; 20N min.
3 to 6-circuit product; 30N min.

Test method: A plug housing and a receptacle housing shall be mated. Then, a load shall be applied between them. The load to come them off each other shall be measured. (Testing speed: 1 to 5mm/sec.)



Test result:

UNIT: N			
Item	Ave.	Max.	Min.
2-circuit product	94.2	100	85.3
3 to 6-circuit product	105	113	92.3

n=10

Title Subject: XMA Connector (For Wire-to-Wire/ Hanging Type)	No. T-1-2273 (R-1-2273)	Revised: A
--	----------------------------	------------

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

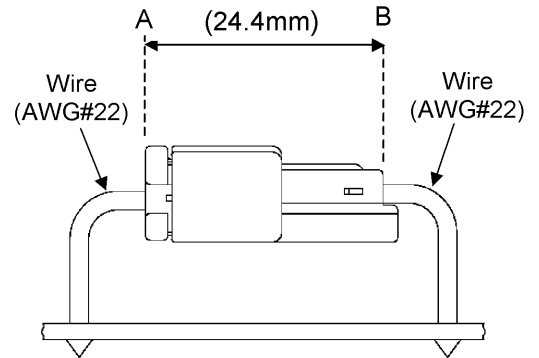
6.3 Electrical Performance Test

6.3.1 Contact Resistance

Requirement: Initial; 10mΩ max.
After tests; 20mΩ max.

Test method: Contact resistance between points A and B of a specimen assembled for actual use as shown in the figure on the right side shall be measured under the following conditions.

Test current: 10mA (DC)
Open voltage: 20mV max.
Wire to be used: AWG #22



Test result: See each environmental test item.

6.3.2 Current Continuity

Requirement: There shall be no current discontinuity longer than 1 microsecond during a vibration test.

Test method: Each circuit of a specimen assembled for actual use shall be connected in series and test current of 10mA(DC) shall be applied. Current discontinuity longer than 1 microsecond during a test shall be detected by continuity meter.

Test result: See vibration test item.

6.3.3 Insulation Resistance

Requirement: Initial: 500MΩ min.
After test: 300MΩ min. (Humidity & thermal shock tests)

Test method: 500V DC shall be applied between the outer surface of a housing and a contact and also between adjacent contacts of a mated specimen to measure insulation resistance.

Test result:

UNIT: MΩ

Items	Measured values	
	Housing-Contact	Contact-Contact
Initial	500 min.	500 min.
After humidity test	300 min.	300 min.
After thermal shock test	300 min.	300 min.

n=10

Title Subject: XMA Connector (For Wire-to-Wire/ Hanging Type)	No. T-1-2273 (R-1-2273)	Revised: A
--	----------------------------	------------

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

6.3.4 Dielectric Withstanding Voltage

Requirement: There shall be no breakdown or flashover.

Test method: Testing voltage specified below shall be applied between the outer surface of a housing and a contact and also between adjacent contacts of a mated specimen for one minute.

Initial: 1,500V AC
 After test: 1,000V AC (Humidity & thermal shock tests)

Test result:

Items	Housing-Contact	Contact-Contact
Initial	Good	Good
After humidity test	Good	Good
After thermal shock test	Good	Good

n=10

6.4 Environmental Test

6.4.1 Durability

Requirement: Contact resistance shall be 20mΩ max. after the test.

Test method: A receptacle housing with crimped contact and a plug housing with crimped contact shall be mated and unmated. After repeated 30 cycles, contact resistance shall be measured.

Test result:

UNIT: mΩ

Test item	Initial			After the test		
	Ave.	Max.	Min.	Ave.	Max.	Min.
Contact resistance	6.45	6.6	6.2	6.75	7.0	6.5

n=10

Title Subject: XMA Connector (For Wire-to-Wire/ Hanging Type)	No. T-1-2273 (R-1-2273)	Revised: A
--	----------------------------	------------

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

6.4.2 Humidity

Requirement: Contact resistance shall be 20mΩ max. after the test.
 Insulation resistance shall be 300MΩ min. after the test.
 There shall be no breakdown or flashover on the dielectric withstanding voltage test.

Test method: A specimen shall be placed in a humidity chamber of the following conditions. After the test, contact resistance, insulation resistance and dielectric withstanding voltage shall be measured.

Temperature: 40 ± 2 °C
 Relative humidity: 90 to 95 %
 Period: 240 hours

Test result:

UNIT: mΩ

Test item	Initial			After the test		
	Ave.	Max.	Min.	Ave.	Max.	Min.
Contact resistance	6.34	6.7	6.0	6.39	6.6	6.1

n=10

6.4.3 Heat Aging

Requirement: Contact resistance shall be 20mΩ max. after the test.

Test method: A specimen shall be placed in a heat oven of the following conditions. After the test, contact resistance shall be measured.

Temperature: 85 ± 2 °C
 Period: 250 hours

Test result:

UNIT: mΩ

Test item	Initial			After the test		
	Ave.	Max.	Min.	Ave.	Max.	Min.
Contact resistance	6.41	6.6	6.3	6.44	6.6	6.3

n=10

Title Subject: XMA Connector (For Wire-to-Wire/ Hanging Type)	No. T-1-2273 (R-1-2273)	Revised: A
--	----------------------------	------------

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

6.4.4 Thermal Shock

Requirement: Contact resistance shall be 20mΩ max. after the test.
 Insulation resistance shall be 300MΩ min. after the test.
 There shall be no breakdown or flashover on the dielectric withstanding voltage test.

Test method: A specimen shall be subjected to a thermal shock test of the following conditions. After the test, contact resistance, insulation resistance and dielectric withstanding voltage shall be measured.

1 cycle consists of:
 - 55 ± 3 °C for 30 minutes
 +85 ± 2 °C for 30 minutes
 Total cycles: 25 cycles

Test result:

UNIT: mΩ

Test item	Initial			After the test		
	Ave.	Max.	Min.	Ave.	Max.	Min.
Contact resistance	6.39	6.6	6.3	6.47	6.7	6.4

n=10

6.4.5 Hydrogen Sulfide Gas

Requirement: Contact resistance shall be 20mΩ max. after the test.

Test method: A specimen shall be subjected to hydrogen sulfide gas of the following conditions. After the test, contact resistance shall be measured.

Concentration: 3 ± 1 ppm
 Temperature: 40 ± 2 °C
 Relative humidity: 80 ± 5 %
 Period: 96 hours

Test result:

UNIT: mΩ

Test item	Initial			After the test		
	Ave.	Max.	Min.	Ave.	Max.	Min.
Contact resistance	6.42	6.5	6.3	6.57	6.7	6.3

n=10

Title Subject: XMA Connector (For Wire-to-Wire/ Hanging Type)	No. T-1-2273 (R-1-2273)	Revised: A
--	----------------------------	------------

This is our exclusive property. It is not to be copied, reprinted or disclosed to a third party, not used for manufacturing, without our written consent, and has to be returned to us.

6.4.6 Salt Spray

Requirement: Contact resistance shall be 20mΩ max. after the test.

Test method: A specimen shall be subjected to a salt spray test of the following conditions. After the test, it shall be washed with running water and dried naturally before the measurement of contact resistance.

Temperature: 35 ± 2 °C
 Concentration: 5 % in weight
 Period: 48 hours

Test result:

UNIT: mΩ

Test item	Initial			After the test		
	Ave.	Max.	Min.	Ave.	Max.	Min.
Contact resistance	6.34	6.6	6.1	6.79	7.2	6.5

n=10

6.4.7 Vibration

Requirement: Contact resistance shall be 20mΩ max after the test.
 There shall be no current discontinuity longer than 1 microsecond during the test.

Test method: A specimen shall be mounted on a printed circuit board (PCB) and subjected to a vibration test of the following conditions. During the test, current continuity shall be checked. After the test, contact resistance shall be measured.

Frequency: 10-55-10Hz/minute
 Amplitude: 1.52mm
 Direction: Each of X,Y,Z-axis directions
 *Each axis shall be at right angles to others.
 Period: 2 hours for each direction

Test result:

UNIT: mΩ

Test item	Initial			After the test		
	Ave.	Max.	Min.	Ave.	Max.	Min.
Contact resistance	6.77	6.9	6.6	6.99	7.1	6.8

Current continuity	There was no current discontinuity longer than 1 microsecond.
--------------------	---

n=10

Title Subject: XMA Connector (For Wire-to-Wire/ Hanging Type)	No. T-1-2273 (R-1-2273)	Revised: A
--	----------------------------	------------

6.4.8 Ammonia Gas

Requirement: There shall be no stress corrosion cracking.

Test method: A specimen shall be subjected to an ammonia gas test of the following conditions. After the test, stress corrosion cracking shall be checked.

Ammonia solution: 3 % in weight
 Solution volume: 25ml per liter of volume
 Period: 7 hours

Test result:

There was no stress corrosion cracking.

n=10

7. NOTICE

- (1) This connector has an inertia lock mechanism to prevent the insufficient mating, but this mechanism cannot eliminate completely an insufficient mating.
After mating, check the secure locking without fail.
- (2) This connector is secure lock type, so the connector must be treated with care after mated. Incorrect handling direction and excessive pulling load to wire harness may cause troubles which affect its performances such as breakage of connector itself (lock devise, etc.). To prevent these troubles and make full use of connector's performances, special care should be taken on the following points when handling wire harness.
 - ① Do not apply an external load to the connector continuously except for tension and pulling load when handling wire harness as usual.
 - ② For wires, make an appropriate looseness to mate and unmate the connector on the mating axis without strain.

1

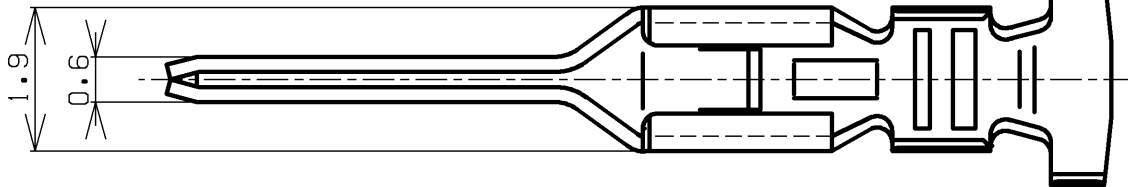
2

3

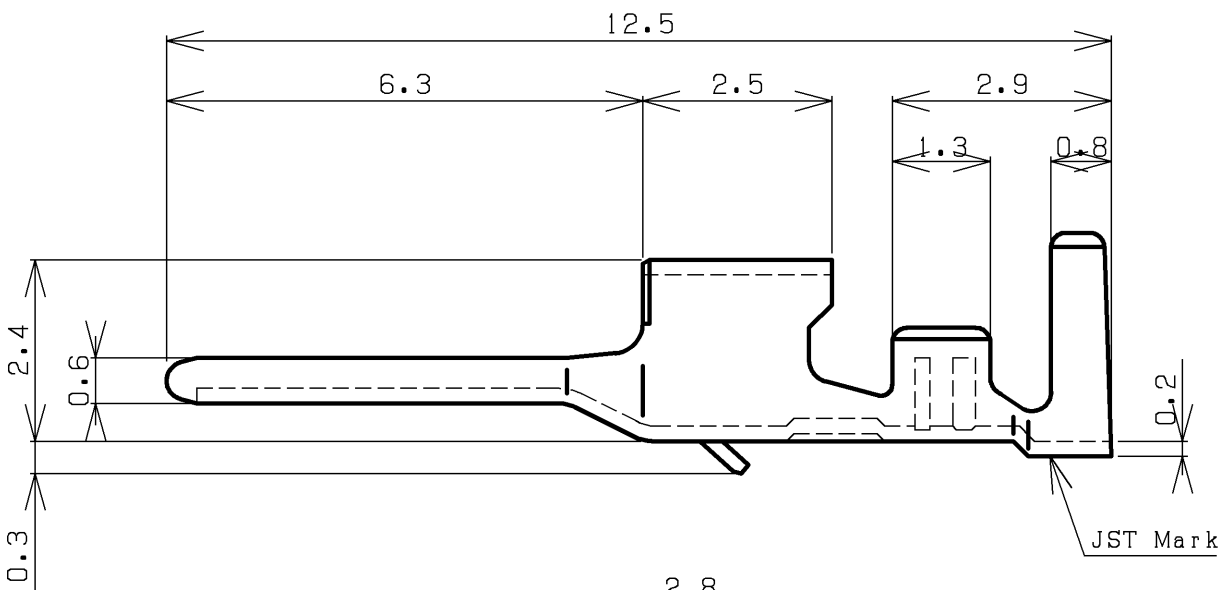
4

REV.	DESCRIPTION	DATE	DESIGNED
△1	Part name is added.	OCT.26.2005	E.N

A

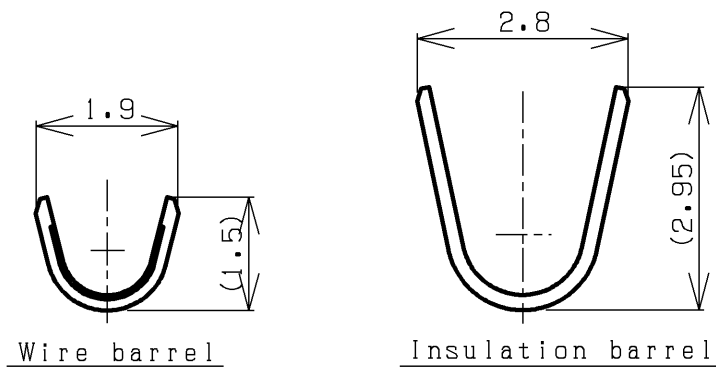


B



C

D



E

NOTE

1. Unless otherwise specified,
tolerances are ± 0.3

F

	PIN CONTACT	PHOSPHOR BRONZE	TIN-PLATED	t=0.2		
No.	PART NAME	MATERIAL	SURFACE FINISH	REMARKS		
SIZE	UNIT	SCALE	PROJECTION	DATE	CUSTOMER	
A4	METRIC	10:1		MAY.2.1997		
APPROVED	CHECKED	DESIGNED	DRAWN	SERIES NAME	XM·XMA CONNECTOR	
S.K	M.N	E.N		PART No.		
J.S.T.MFG.CO., LTD					DRAWING No.	KRD-15763-2
					R1	

1

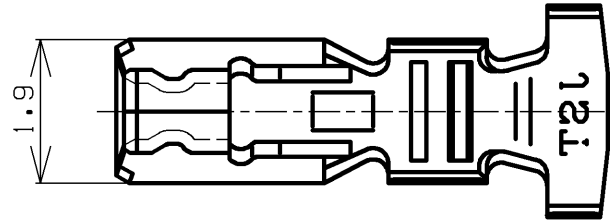
2

3

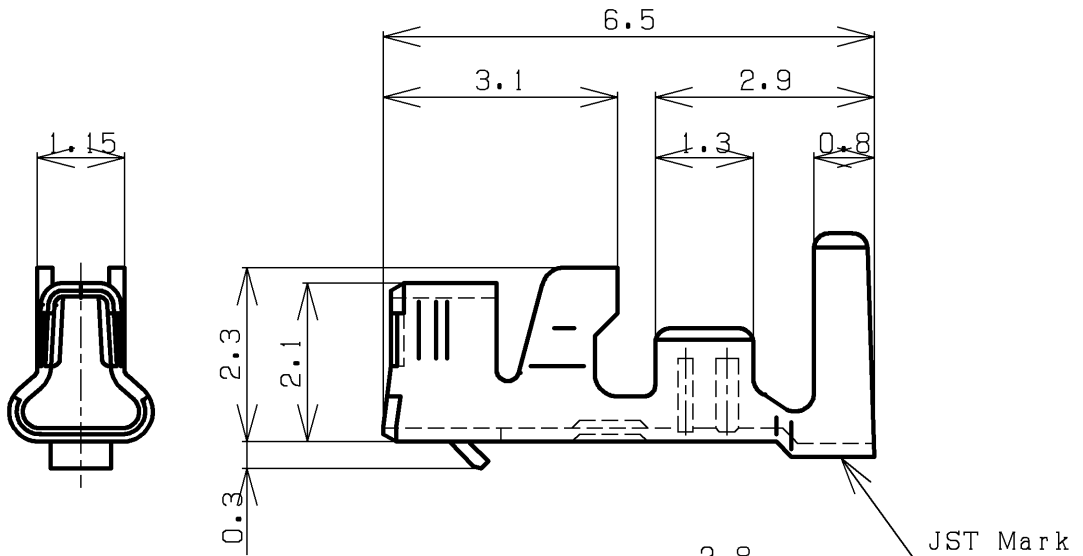
4

REV.	DESCRIPTION	DATE	DESIGNED
△1	Part name is added.	OCT.26.2005	E.N

A

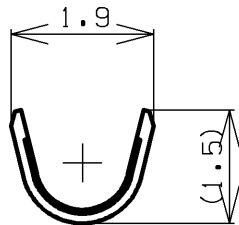


B

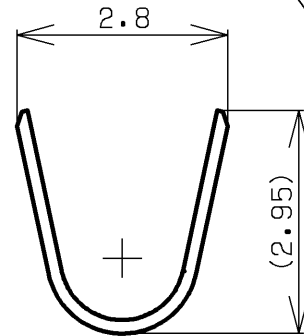


C

D



WIRE BARREL



INSULATION BARREL

NOTE

1. Unless otherwise specified,
tolerances are ± 0.3

E

F

	SOCKET CONTACT	PHOSPHOR BRONZE	TIN-PLATED		t0.18
No.	PART NAME	MATERIAL	SURFACE FINISH	REMARKS	
SIZE	UNIT	SCALE	PROJECTION	DATE	CUSTOMER
A4	METRIC	10:1	⊕	MAR.11.1999	
APPROVED	CHECKED	DESIGNED	DRAWN	SERIES NAME	XA·XMA CONNECTOR △1
S.K	M.N	E.N		PART No.	SXA-001T-P0.6L
J.S.T.MFG.CO., LTD				DRAWING No.	KRD-22964
					R1

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO J.S.T.
AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.

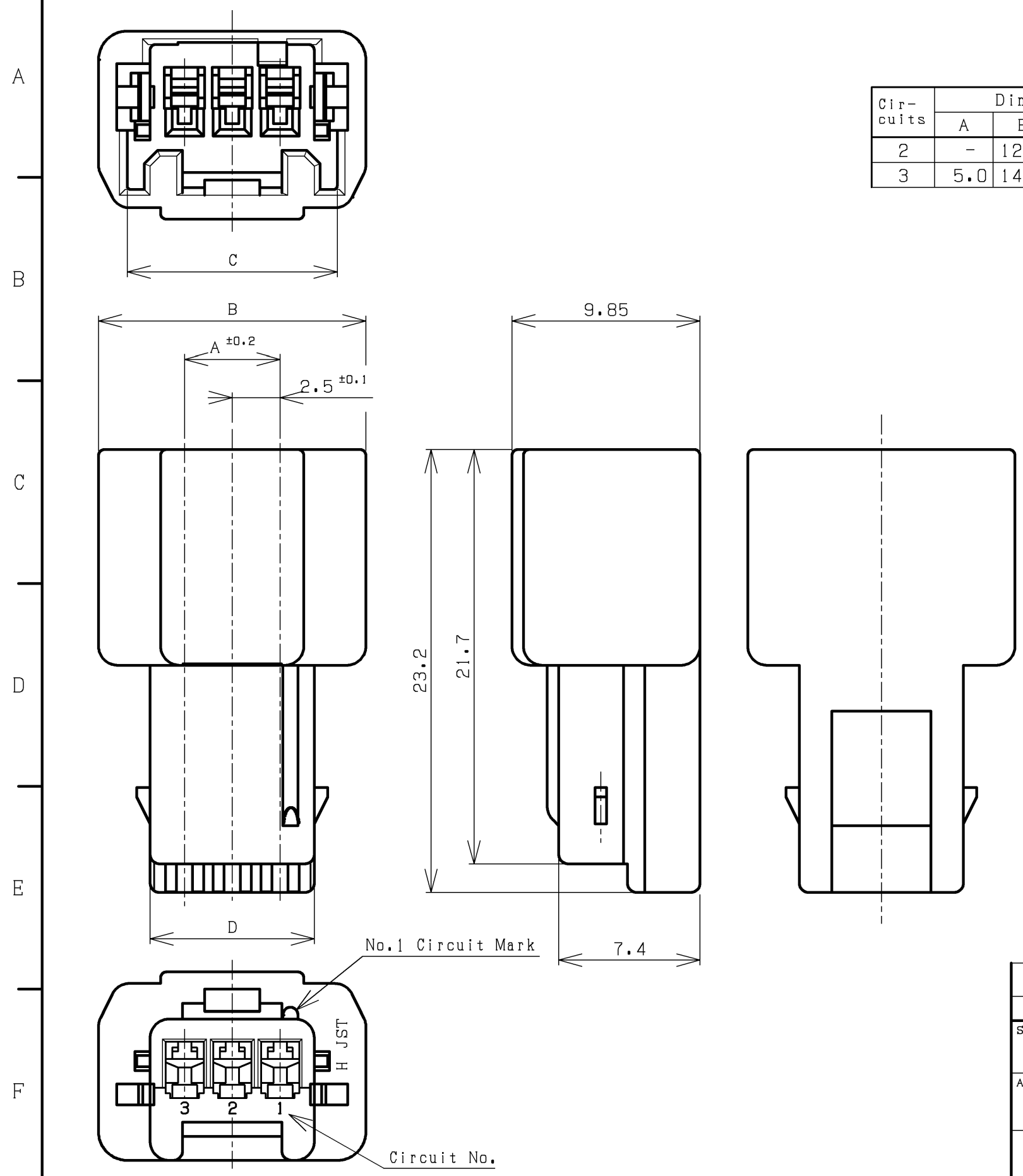
EC4118-1

1 2 3 4 5 6 7 8

REV.	DESCRIPTION	DATE	DESIGNED
△			

Cir- cuits	Dimensions			
	A	B	C	D
2	-	12.5	8.4	7.4
3	5.0	14.0	11.0	8.6

NOTE
 1. Unless otherwise specified,
 tolerances are : $0 < L \leq 5.0$; ± 0.3
 $5.0 < L$; ± 0.4
 2. Part No.: XMAR-() VF-()-()
 Circuit Color code
 Polarizing key Pattern: 1~3

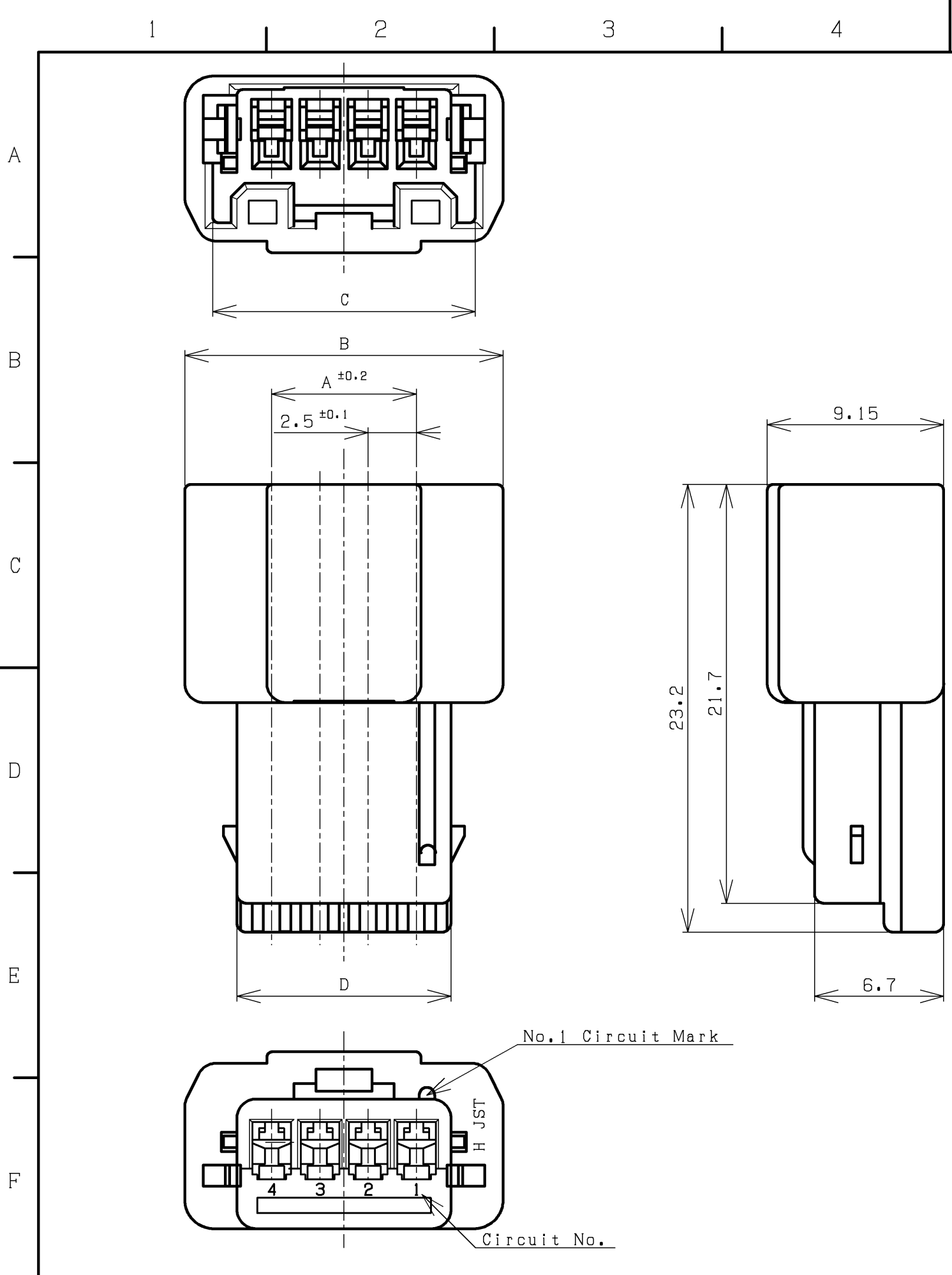


Circuits	Polarizing key Pattern No.1	Polarizing key Pattern No.2	Polarizing key Pattern No.3
Configuration for 2 circuits.			
	Part No.: XMAR-02VF-1-S NATURAL (White)	Part No.: XMAR-02VF-2-R RED	Part No.: XMAR-02VF-3-E BLUE
Configuration for 3 circuits.			
	Part No.: XMAR-03VF-1-S NATURAL (White)	Part No.: XMAR-03VF-2-R RED	Part No.: XMAR-03VF-3-E BLUE

RECEPTACLE HOUSING		PBT (G.F.)		UL94V-0	
No.	PART NAME	MATERIAL	SURFACE FINISH	REMARKS	
SIZE	UNIT	SCALE	PROJECTION	DATE	CUSTOMER
A3	METRIC	5:1		Mar.25.2009	
APPROVED	CHECKED	DESIGNED	DRAWN	SERIES NAME	XMA CONNECTOR
S.K	T.S	E.N		PART No.	XMAR-() VF-()-()
JST J.S.T.MFG.CO.,LTD.				DRAWING No.	KRD-38348-2
					RO

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO J.S.T. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.

EC4109-2



REV.	DESCRIPTION	DATE	DESIGNED
△			

NOTE
 1. Unless otherwise specified,
 tolerances are : $0 < L \leq 5.0$: ± 0.3
 $5.0 < L$: ± 0.4
 2. Part No. : XMAR-() VF-S
 Circuit Color code

Cir- cuits	Dimensions			
	A	B	C	D
4	7.5	16.5	13.5	11.1
5	10.0	19.0	16.0	13.6

RECEPTACLE HOUSING		PBT (G.F)		UL94V-0, NATURAL	
No.	PART NAME	MATERIAL	SURFACE FINISH	REMARKS	
SIZE	UNIT	SCALE	PROJECTION	DATE	CUSTOMER
A3	METRIC	5:1		SEP. 1.2009	
APPROVED	CHECKED	DESIGNED	DRAWN	SERIES NAME	XMA CONNECTOR (4, 5 Circuit)
S.K	T.S	E.N		PART No.	XMAR-() VF-S
JST J.S.T.MFG.CO., LTD.				DRAWING No.	KRD-38349-2
					RO

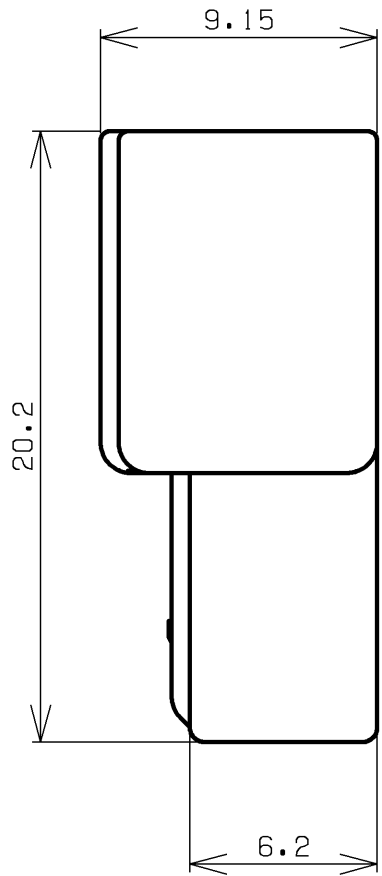
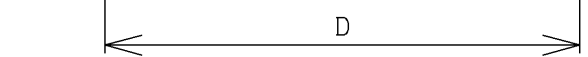
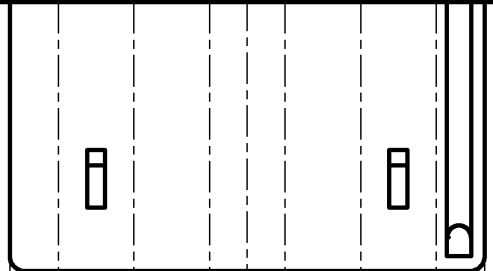
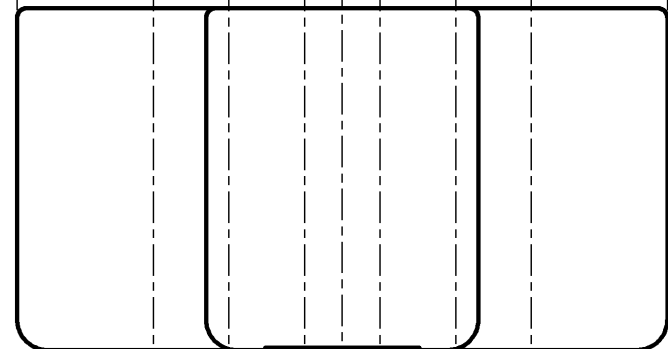
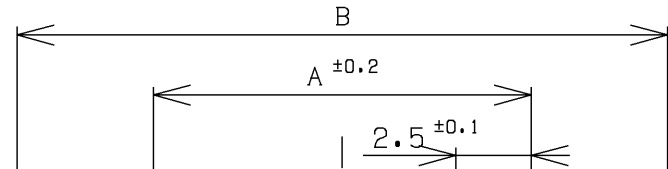
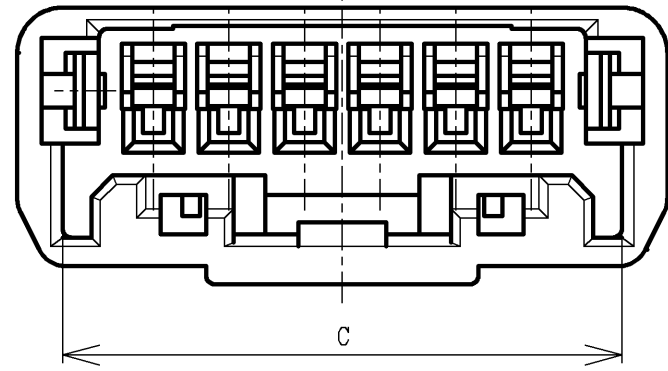
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO J.S.T. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.

EC4109-2

1 2 3 4 5 6 7 8

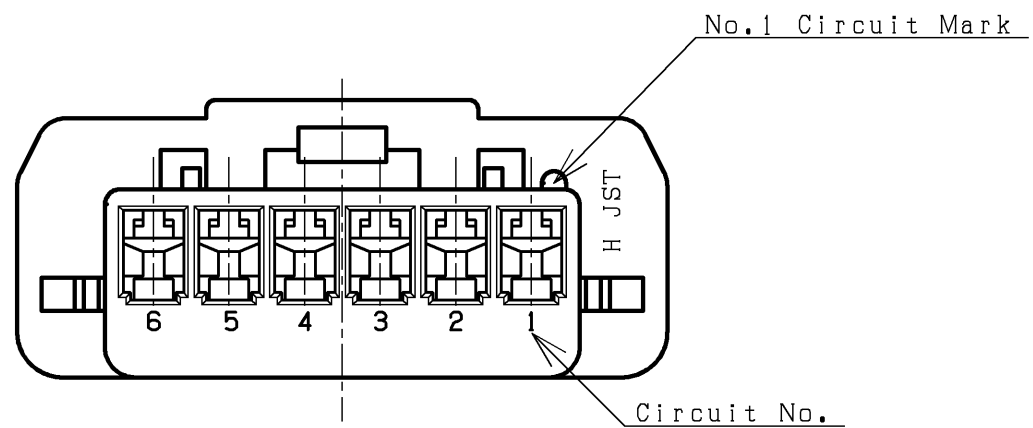
REV.	DESCRIPTION	DATE	DESIGNED
△			

A
B
C
D
E
F



NOTE
 1. Unless otherwise specified,
 tolerances are : $0 < L \leq 5.0$: ± 0.3
 $5.0 < L$: ± 0.4
 2. Part No. : XMAR-() VF-S
 Circuit Color code

Circuits	Dimensions			
	A	B	C	D
6	12.5	21.5	18.5	15.7



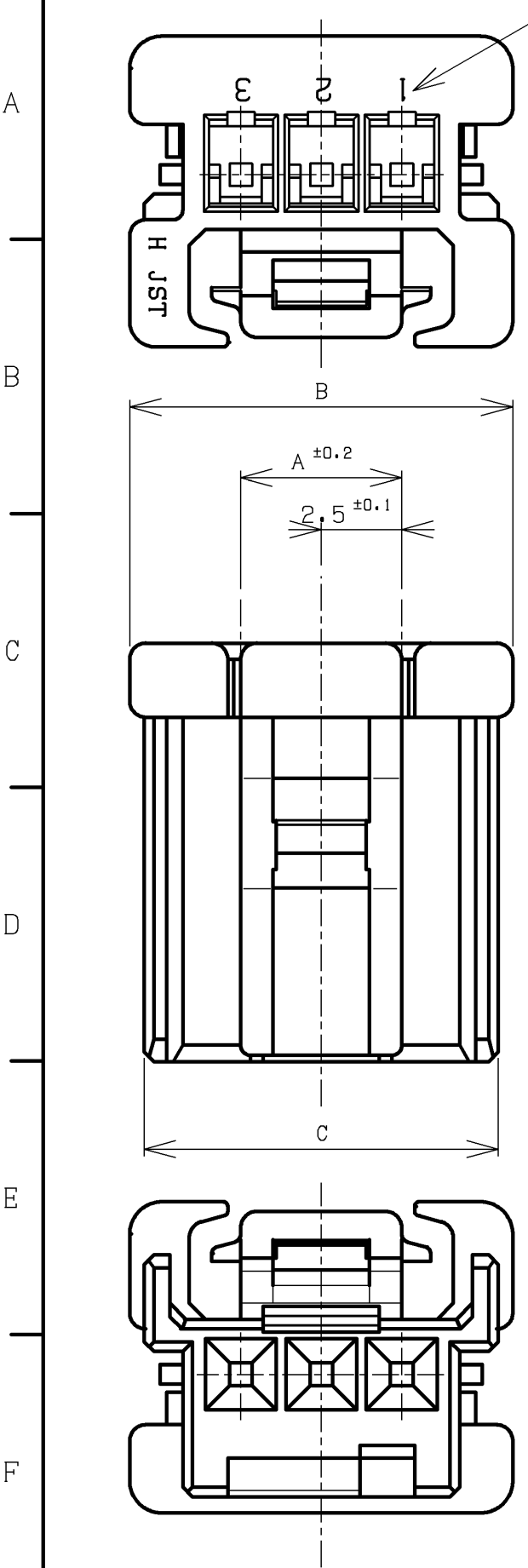
RECEPTACLE HOUSING		PBT (G.F)		UL94V-0, NATURAL	
No.	PART NAME	MATERIAL	SURFACE FINISH	REMARKS	
SIZE	UNIT	SCALE	PROJECTION	DATE	CUSTOMER
A3	METRIC	5:1		SEP. 1.2009	
APPROVED	CHECKED	DESIGNED	DRAWN	SERIES NAME	XMA CONNECTOR (6 Circuit)
S.K	T.S	E.N		PART No.	XMAR-() VF-S
JST J.S.T.MFG.CO., LTD.				DRAWING No.	KRD-38350-2
					RO

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO J.S.T. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.

EC4109-2

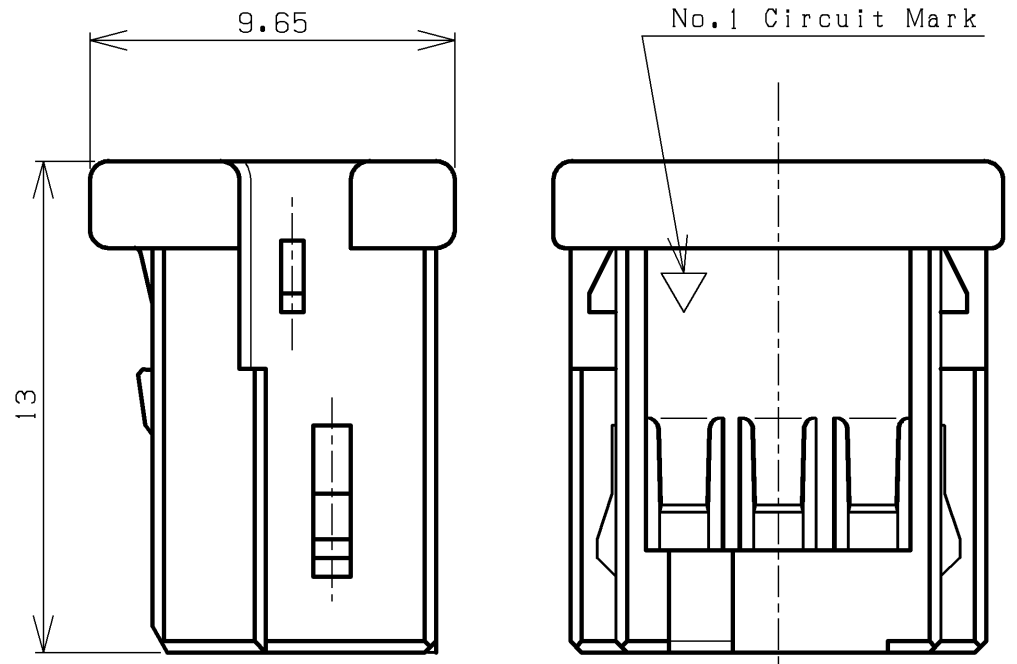
1 2 3 4 5 6 7 8

REV.	DESCRIPTION	DATE	DESIGNED
△			



Cir- cuits	Dimensions		
	A	B	C
2	-	9.4	8.4
3	5.0	11.9	11.0

NOTE
 1. Unless otherwise specified,
 tolerances are : $0 < L \leq 5.0$; ± 0.3
 $5.0 < L$; ± 0.4
 2. Part No.: XMAP-()V-()-()
 Circuit Color code
 Polarizing key Pattern: 1~3



Circuits	Polarizing key Pattern No.1	Polarizing key Pattern No.2	Polarizing key Pattern No.3
Configuration for 2 circuits.			
	Part No. XMAP-02V-1-S NATURAL (White)	Part No. XMAP-02V-2-R RED	Part No. XMAP-02V-3-B BLUE
Configuration for 3 circuits.			
	Part No. XMAP-03V-1-S NATURAL (White)	Part No. XMAP-03V-2-R RED	Part No. XMAP-03V-3-B BLUE

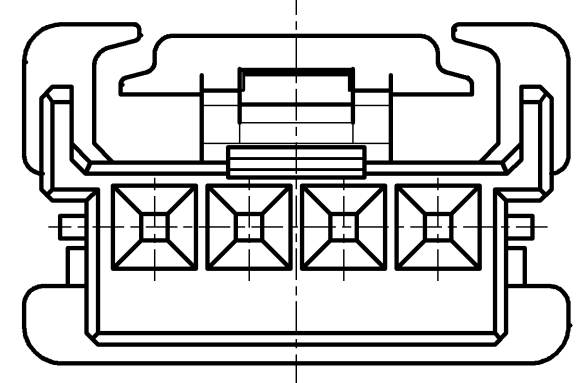
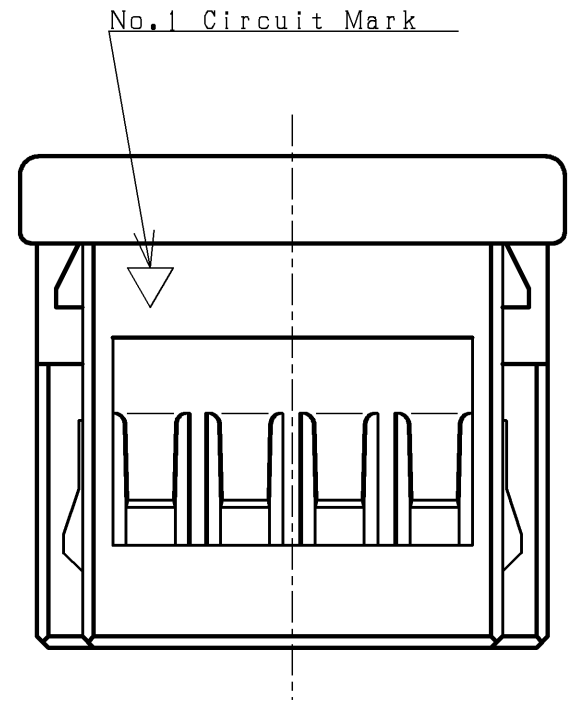
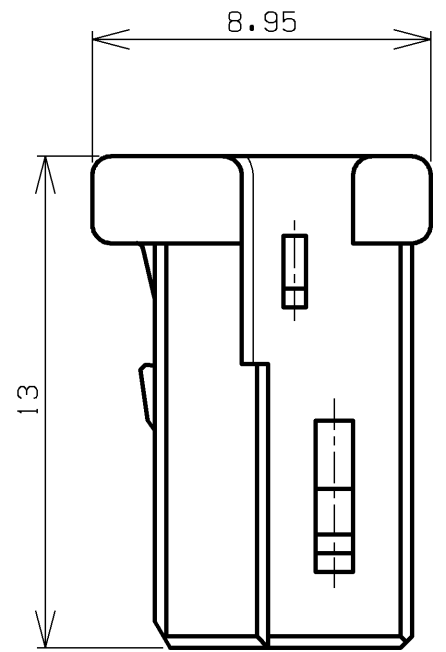
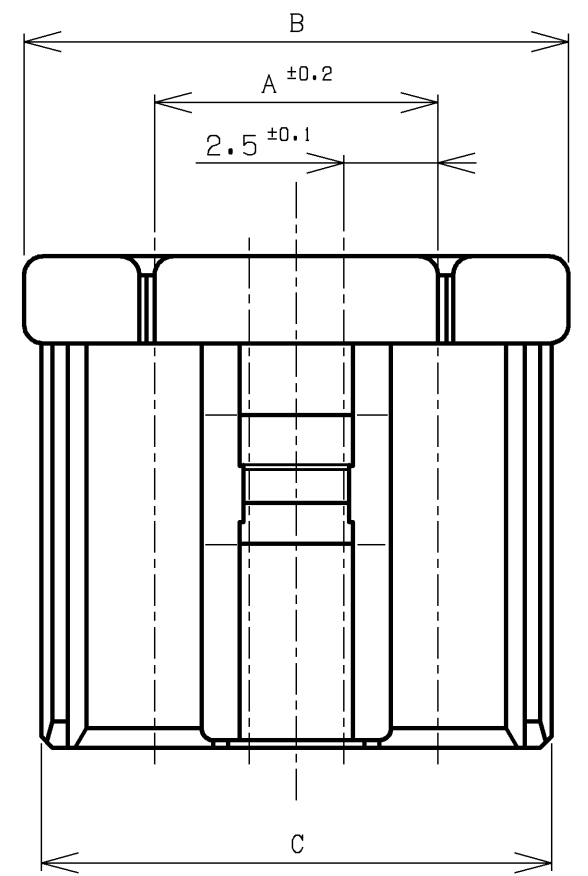
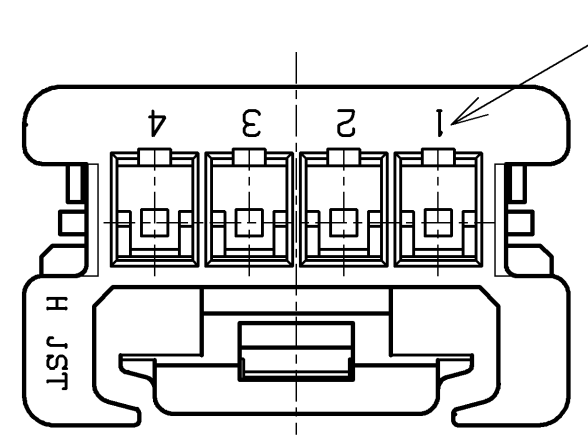
PLUG HOUSING		PBT (G.F.)		UL94V-0	
No.	PART NAME	MATERIAL		SURFACE FINISH	
SIZE	UNIT	SCALE	PROJECTION	DATE	CUSTOMER
A3	METRIC	5:1		Mar. 25. 2009	XMA CONNECTOR
APPROVED	CHECKED	DESIGNED	DRAWN		
S.K	T.S	E.N			PART No.
JST J.S.T.MFG.CO., LTD.					XMAP-()V-()-()
					DRAWING No.
				KRD-38245	RO

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO J.S.T. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.

1 2 3 4 5 6 7 8

REV.	DESCRIPTION	DATE	DESIGNED
△			

A
B
C
D
E
F



NOTE

1. Unless otherwise specified,
 tolerances are : $0 < L \leq 5.0$; ± 0.3
 $5.0 < L$; ± 0.4
 2. Part No.: XMAP-() V-S
 Circuit Color code

Cir- cuits	Dimensions		
	A	B	C
4	7.5	14.4	13.5
5	10.0	16.9	16.0

PLUG HOUSING		PBT (G.F)		UL94V-0, NATURAL	
No.	PART NAME	MATERIAL	SURFACE FINISH	REMARKS	
SIZE	UNIT	SCALE	PROJECTION	DATE	CUSTOMER
A3	METRIC	5:1		SEP. 1.2009	
APPROVED	CHECKED	DESIGNED	DRAWN	SERIES NAME	XMA CONNECTOR (4, 5 Circuit)
S.K	T.S	E.N		PART No.	XMAP-() V-S
JST J.S.T.MFG.CO., LTD.				DRAWING No.	KRD-38346
					RO

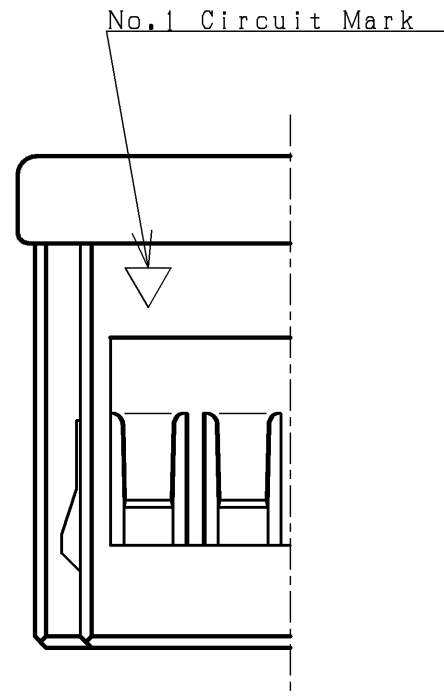
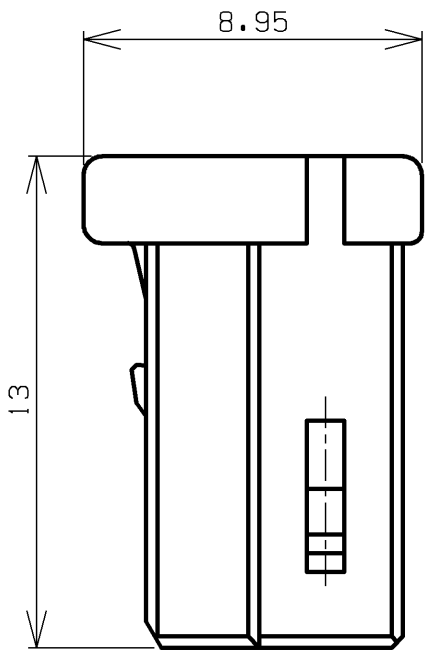
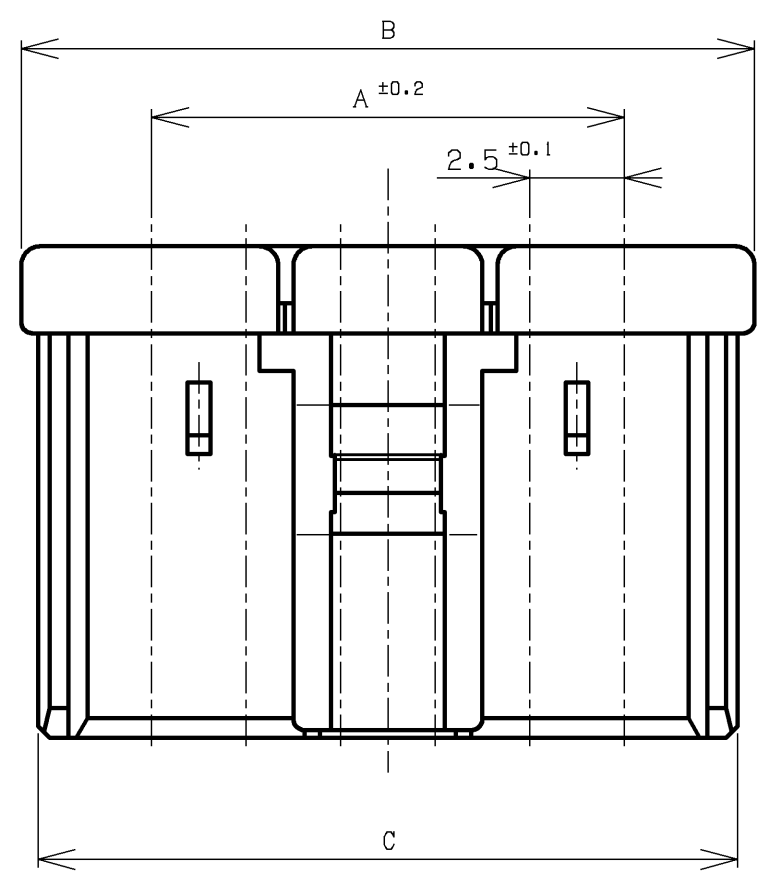
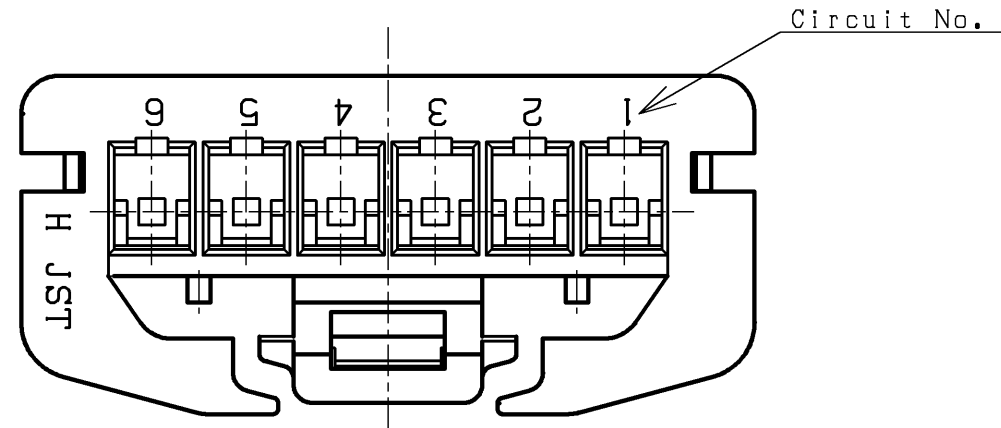
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO J.S.T. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.

EC4109-2

1 2 3 4 5 6 7 8

REV.	DESCRIPTION	DATE	DESIGNED
△			

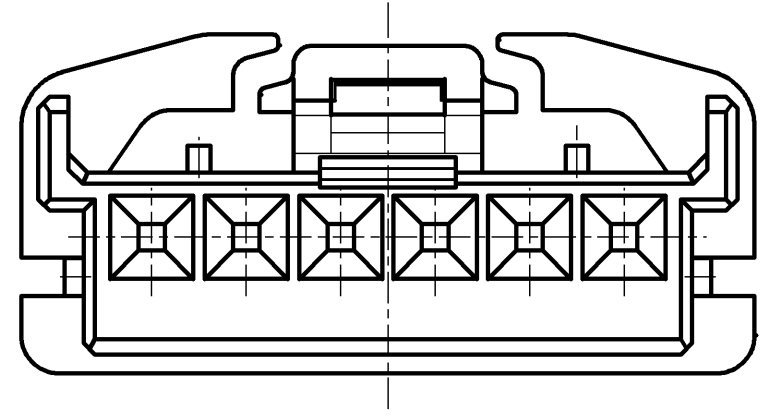
A
B
C
D
E
F



NOTE

1. Unless otherwise specified,
 tolerances are : $0 < L \leq 5.0$; ± 0.3
 $5.0 < L$; ± 0.4
 2. Part No.: XMAP-()V-S
 Circuit Color code

Cir- cuits	Dimensions		
	A	B	C
6	12.5	19.4	18.5



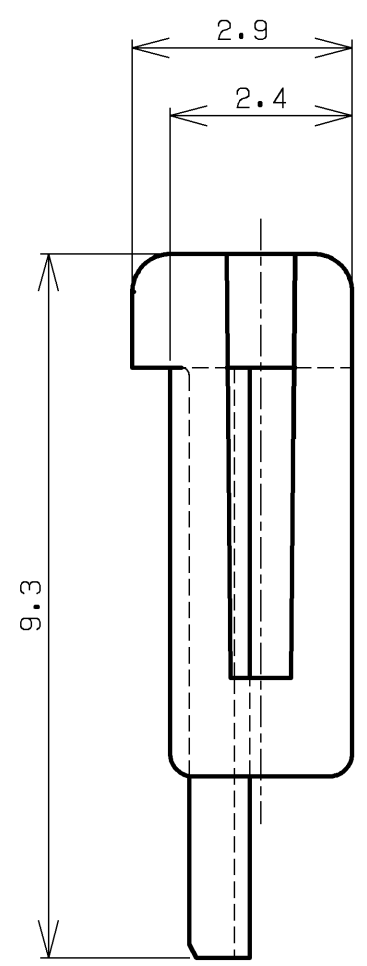
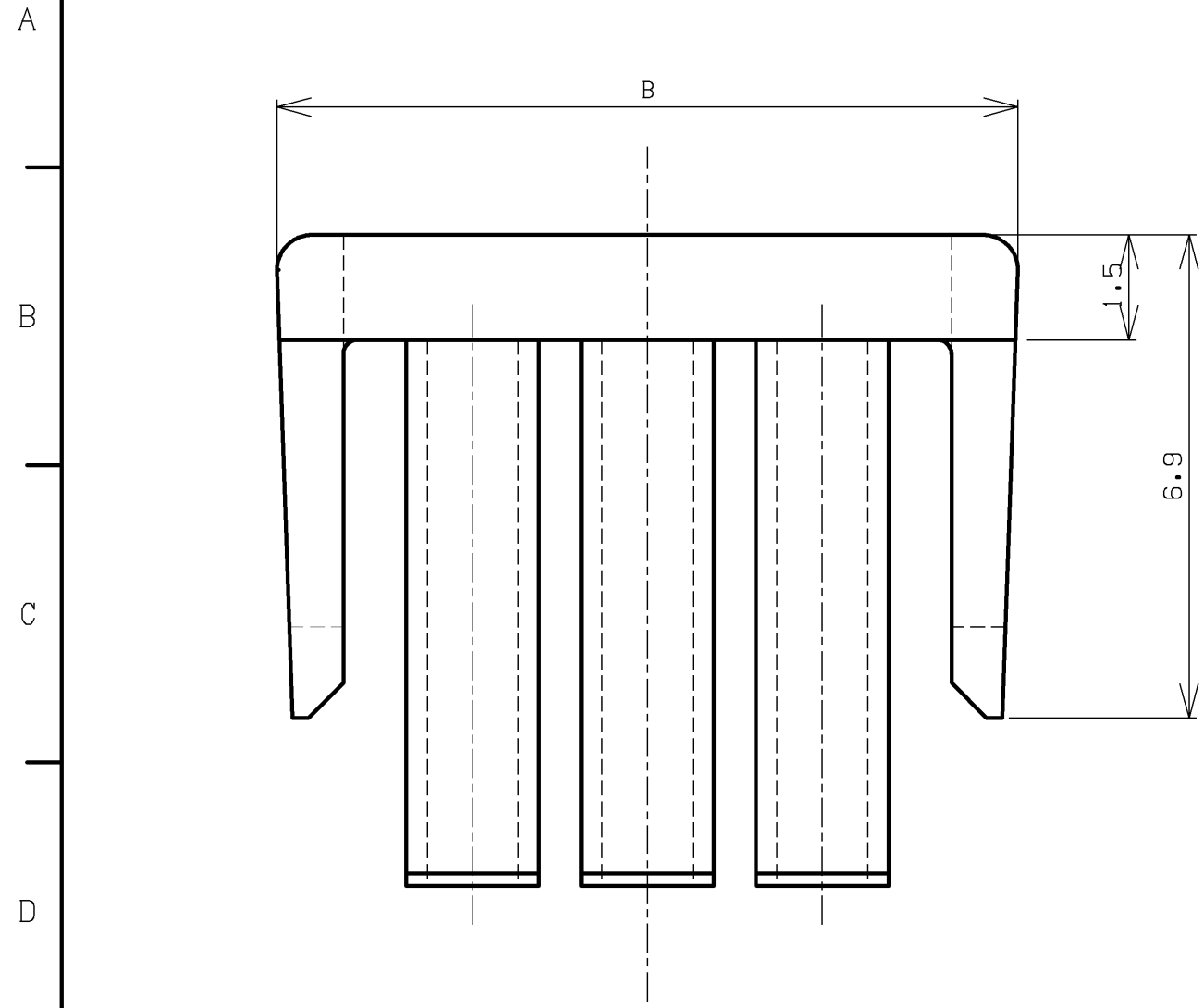
PLUG HOUSING		PBT (G.F)		UL94V-0, NATURAL	
No.	PART NAME	MATERIAL	SURFACE FINISH	REMARKS	
SIZE	UNIT	SCALE	PROJECTION	DATE	CUSTOMER
A3	METRIC	5:1		SEP.24.2009	XMA CONNECTOR (6 Circuit)
APPROVED	CHECKED	DESIGNED	DRAWN	SERIES NAME	XMAP-()V-S
S.K	T.S	E.N		PART No.	
JST J.S.T.MFG.CO., LTD.				DRAWING No.	KRD-38347-1
					RO

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO J.S.T. AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION.

EC4109-2

1 2 3 4 5 6 7 8

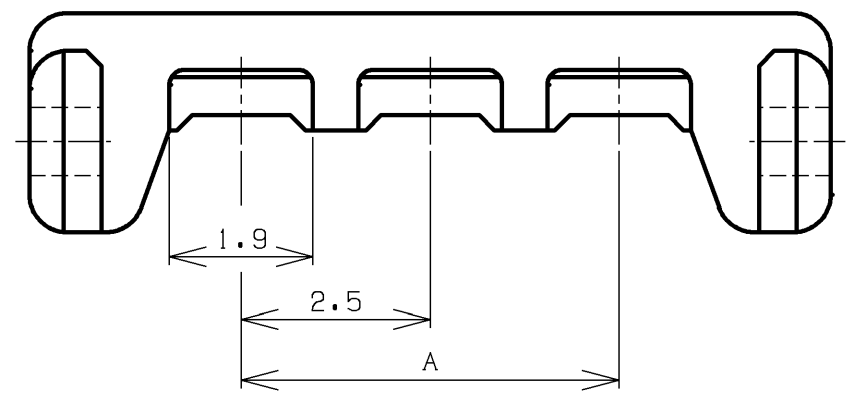
REV.	DESCRIPTION	DATE	DESIGNED
△			



NOTE

1. Unless otherwise specified,
tolerances are : $0 < L \leq 5.0$; ± 0.3

Cir- cuits	A	B
2	-	9.4
3	5.0	10.6
4	7.5	13.1
5	10.0	15.6



No.		PART NAME		MATERIAL		SURFACE FINISH		REMARKS	
A3		METRIC		10:1		NoV. 6.2007		CUSTOMER	
APPROVED		CHECKED		DESIGNED		DRAWN		SERIES NAME	
S.K		T.S		E.N				XMA CONNECTOR(2-5 Circuits)	
								PART No.	
								XMAS-()V-S	
								DRAWING No.	
								KRD-36822-1	
								RO	

JST J.S.T.MFG.CO., LTD.

1

2

3

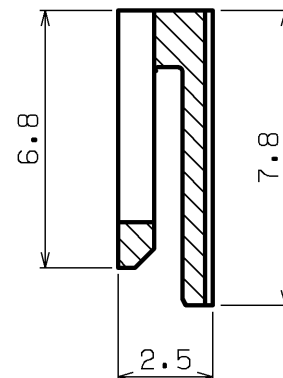
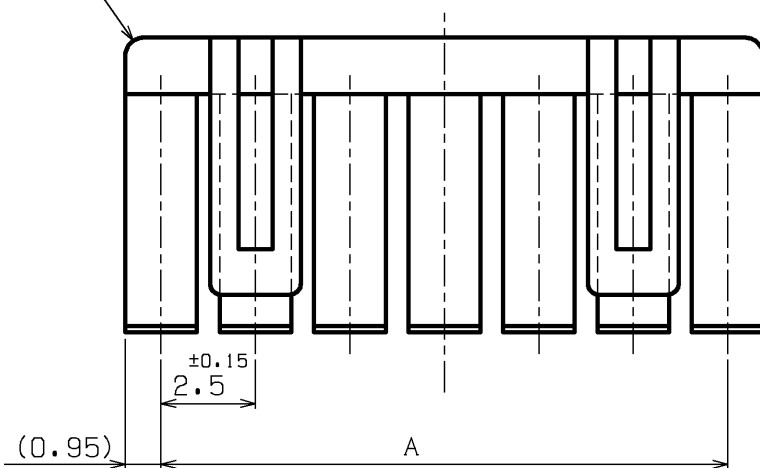
4

REV.	DESCRIPTION	DATE	DESIGNED
△			

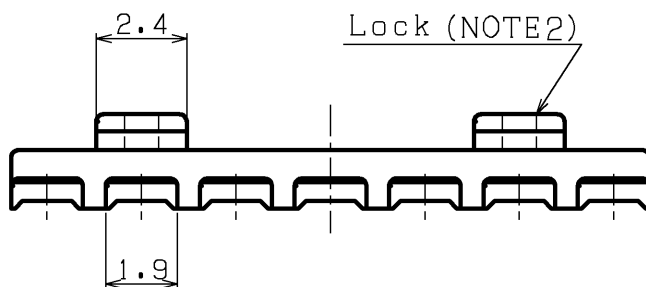
A

R0.5

B



C



Cir- cuits	Dimen- sions	Lock
	A	
6	12.5	2

D

NOTE

1. Unless otherwise specified,
tolerances are : $0 < L \leq 5.0$; ± 0.3

$5.0 < L$: ± 0.4

2. The numbers of lock are shown
in the table.

E

F

	RETAINER	66NYLON (G.F.)		UL94V-0, NATURAL
No.	PART NAME	MATERIAL	SURFACE FINISH	REMARKS
SIZE	UNIT	SCALE	PROJECTION	DATE
A4	METRIC	5:1		FEB.27.2007
APPROVED	CHECKED	DESIGNED	DRAWN	CUSTOMER
S.K		E.N	N.H	XMA CONNECTOR (6 Circuit)
J.S.T.MFG.CO.,LTD				SERIES NAME
				PART No.
				DRAWING No.
				KRD-38351
				RO