

SPECIFICATION

FOR

BRITISH & SINGAPOREAN POWER SUPPLY CORDSET (PB FR)

CORD : H05VV-F 3X1.00mm² PVC LEAD FREE

CUSTOMER : VPE/FARNELL

CUSTOMER'S PART No. : 2460366

VOLEX'S SPEC. REF. No.: 143023/1

ISSUE No. : 002

DATE : 30TH JANUARY 2015

CUSTOMER APPROVED :

APPROVED BY :	
SIGNATURE :	
APPROVED DATE :	
No. OF PAGES :	



Volex (Asia) Pte Ltd

35 Tampines St. 92

Singapore 528880

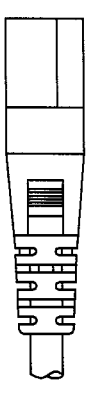
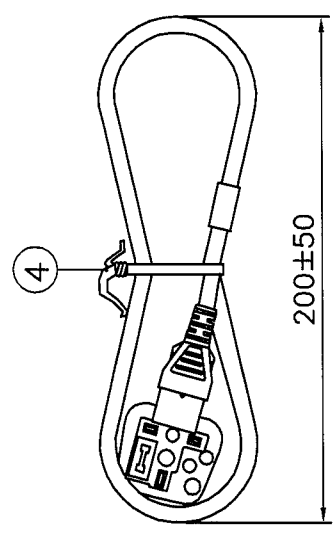
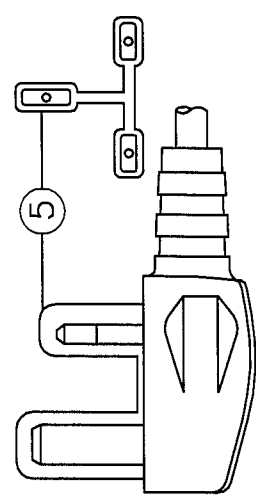
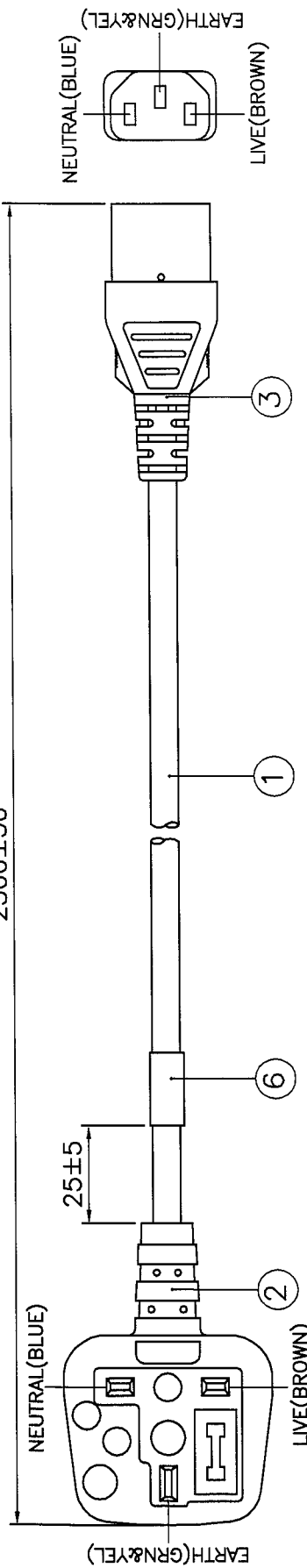
Tel : (65) 6788 7833

Fax : (65) 6788 7822

AMENDMENT RECORD

REF. No.	DESCRIPTION OF CHANGES	DATE
143023/1	(1) FIRST SUBMISSION.	06/11/14
(HG10-048-14)		
ISSUE : 001		
143023/1	(1) CHANGE CUSTOMER P/N FM. '1217724' TO '2460366' ON COVER PAGE	30/01/15
(HG01-240-15)	& ASSEMBLY DWG. PAGE.	
ISSUE : 002		

2500±50



S/N	DESCRIPTION	ITEM NUMBER	QTY
6	PRINTED LABEL	VL-0234	1
5	PIN CAP - UK PLUG	6900058	1
4	6" PE TIE BLK	6310056	1
	IP60G NL7976B BLK	4100115	-
3	MOLDED CONNECTOR V1625 (10A 250V)	V1625	1
	FUSE 3A (CAP WITH NICKEL PLATING)	6210011	OR
	FUSE 3A	6210001	1
	IP60G NL7976B BLK	4100115	-
2	MOLDED PLUG MP5004 (3A 250V)	MP5004-3	1
1	H05W-F 3X1.00 BLK PVC LEAD FREE	1210365	1

TITLE : BRITISH & SINGAPOREAN POWER SUPPLY CORDSET (PB FR) SCALE : N.T.S.
 CUSTOMER : VPE/FARNELL PAGE : 1/1

CUSTOMER PART NUMBER : 2460366
 Reference Number : 143023/1 (HG01-240-15)

SALES :	QA :	ENGRG :	CHECKED BY :	DRAWN BY :	ISSUE
Date :	Date :	Date :	Date :	Date :	002
		<i>homy</i>	<i>Ying</i>	<i>MAYING</i>	
		30/01/15	30/01/15	30/01/15	

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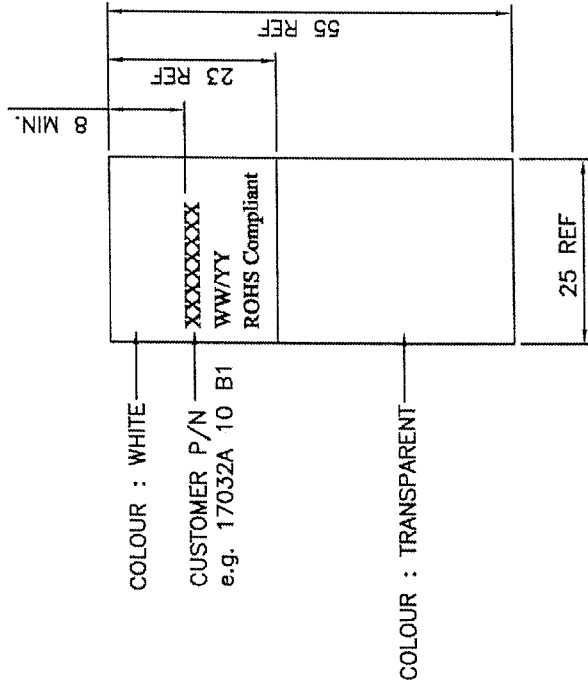
APPROVED SOURCE FOR CABLE

1. BAO HING(SHENZHEN).
2. TONG YUAN(SHENZHEN).
3. TA HING(SHENZHEN).

NOTE :

1. ALL DIMENSIONS IN mm.
2. THE CORD SHALL COMPLY WITH EN 50525-2-11 & IEC 60227.
3. THE MOLDED PLUG SHALL COMPLY WITH BS 1363-1 & SS145-1.
4. THE MOLDED CONNECTOR SHALL COMPLY WITH IEC 60320-1 OR EN 60320-1.
5. THIS PART CAN BE MANUFACTURED AT ANY LOCATION WHICH HAS SAFETY APPROVAL.
6. LABEL DETAILS : REFER TO LABEL DWG. NO. : VL-0234.

DRAWING NUMBER : VL-0234
 REVISION : F



- NOTES :
1. ALL DIMENSION IN MM.
 2. GENERAL TOLERANCE ±2MM, UNLESS OTHERWISE SPECIFIED.
 3. WHITE BACKGROUND WITH BLACK PRINT.
 4. FONT: TIMES NEW ROMAN; HEIGHT: 2.0MM.
 5. PRINTED MARKING SHALL BE DURABLE & LEGIBLE, SURFACE RUBBED WITH THUMB PRESSURE BACK & FORTH 10X, AND INK SHOULD NOT SMEAR.
 6. PRINTER/RIBBON TYPE: TEC B-572 DR TEC B-672/805019 OR 905034.
 7. FOR CUSTOMER SANNIMA-SGI KUNSHAN, PLS PRINT CUSTOMER'S PART NUMBER UNDER FG LIST AS INDICATED IN TABLE. PLS REFER TO TABLE.
 8. THE PROGRAM VL0234E-1 IS USED FOR CUSTOMER'S P/NO LESS THAN 13 CHARACTERS. THE PROGRAM VL0234E-2 IS USED FOR CUSTOMER'S P/NO MORE THAN 12 CHARACTERS.

TABLE

FG LIST	CUSTOMER PART NUMBER
70700044401-DSA	17742 10 B1

SN.	DESCRIPTION	ITEM NO.	REMARKS																																																		
1	TRANSPARENT OPP LABEL 55X25MM	6102464																																																			
<table border="1"> <tr> <td colspan="2">TITLE : WRAPAROUND CORD LABEL 55X25MM</td> <td>SCALE : 1 : 1</td> <td>PAGE : 1/1</td> </tr> <tr> <td>PRINT FILE :</td> <td>VL0234F</td> <td>FILENAME :</td> <td>.. \LABEL \INHOUSE-VL-0234</td> </tr> <tr> <td>PROJ. :</td> <td></td> <td>THIRD ANGLE</td> <td></td> </tr> </table>				TITLE : WRAPAROUND CORD LABEL 55X25MM		SCALE : 1 : 1	PAGE : 1/1	PRINT FILE :	VL0234F	FILENAME :	.. \LABEL \INHOUSE-VL-0234	PROJ. :		THIRD ANGLE																																							
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PROJ. :		THIRD ANGLE																																																			
<table border="1"> <tr> <th>DRAWN :</th> <th>Li Xianjun</th> <th>REV</th> <th>SR/MECR</th> <th>BY</th> <th>DATE</th> <th>REV</th> <th>SR/MECR</th> <th>BY</th> <th>DATE</th> </tr> <tr> <td>RELEASED :</td> <td>22/12/04</td> <td>A</td> <td>ESG12-143-04</td> <td>Li XJ</td> <td>18/01/05</td> <td>E</td> <td>062767</td> <td>ALICE</td> <td>25/12/06</td> </tr> <tr> <td>CHECKED :</td> <td></td> <td>B</td> <td>052161</td> <td>Li XJ</td> <td>19/08/05</td> <td>F</td> <td>120686</td> <td>ALICE</td> <td>03/09/12</td> </tr> <tr> <td>APPROVED :</td> <td></td> <td>C</td> <td>053213</td> <td>PETER</td> <td>19/12/05</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>D</td> <td>062620</td> <td>PETER</td> <td>30/11/06</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				DRAWN :	Li Xianjun	REV	SR/MECR	BY	DATE	REV	SR/MECR	BY	DATE	RELEASED :	22/12/04	A	ESG12-143-04	Li XJ	18/01/05	E	062767	ALICE	25/12/06	CHECKED :		B	052161	Li XJ	19/08/05	F	120686	ALICE	03/09/12	APPROVED :		C	053213	PETER	19/12/05							D	062620	PETER	30/11/06				
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REV.	DESCRIPTION	DATE
I	REMOVE INSULATION COLOR 'BLUE, BROWN, BLACK'	01/09/06
	FM. REV. H PER HD STANDARD.	
J	CHANGE THE COMPLIANCE STANDARD	23/12/13
	PER SAFETY.	
	UPDATE FORMAT AS SHOWN.	

1. PVC FLEXIBLE CORD

1.1 SCOPE

This specification shall be in accordance with EN 50525-2-11. Δ

1.2 CONSTRUCTION

CONDUCTOR	ANNEALED COPPER WIRE
INSULATION	PVC (BLUE, BROWN, GREEN&YELLOW)
JACKET	PVC

ITEM	UNIT	SPEC. VALUE	
TEMPERATURE RATING	°C	70	
RATED VOLTAGE	V	300/500	
NO. OF CORE	NO.	3	
CONDUCTOR NOMINAL AREA	mm ²	1.00	
MIN. AVE. THICKNESS OF INSULATION	mm	0.60	
MIN. THICKNESS AT ANY POINT OF INSULATION	mm	0.44	
MIN. AVE. THICKNESS OF JACKET	mm	0.80	
MIN. THICKNESS AT ANY POINT OF JACKET	mm	0.58	
OVERALL DIAMETER OF JACKET	mm	6.3~8.0	
DIELECTRIC-STRENGTH TEST IMMERSED IN WATER, 20±5°C FOR MINIMUM 1HR	ON COMPLETED CABLE	—	2000 V FOR 15 MINS (MINIMUM)
	ON CORES	—	1500 V FOR 5 MINS (MINIMUM)
VOLTAGE TEST (D.C)	—	—	2000 V _{a.c} FOR 5 MINS (MINIMUM) OR 5000 V _{d.c} FOR 5 MINS (MINIMUM)
INSULATION RESISTANCE TEST (70°C)	MΩ km	>	0.01
CONDUCTOR RESISTANCE TEST (20°C)	Ω /km	≤	19.5

TITLE : CABLE SPECIFICATION
EUROPEAN APPROVED POWER SUPPLY CABLE
H05VV-F 3X1.00mm²

SPEC NO. : CS-048EU	APPROVED BY :	CHECKED BY :	DRAWN BY :	REVISION :	Δ Voilex (Asia) Pte Ltd <small>Confidential property of Voilex. Information contained herein shall not be disclosed to others, reproduced or used for any other purposes except as authorized in writing by an authorized official of voilex asia.</small>
	DATE :	DATE :	DATE :	PAGE :	
	<i>[Signature]</i>	<i>[Signature]</i>	HONGYAN	J	
	20/12/13	27/12/13	23/12/13	1/1	

REV.	DESCRIPTION	DATE
B	UPDATE SPEC. VALUE AS PRODUCT SAFETY.	29/07/02
C	CHANGE ACCORDANCE STD FM. 'IEC227' TO 'IEC 60227'.	17/08/04
	UPDATE SPEC. VALUE AS PRODUCT SAFETY.	

1. PVC FLEXIBLE CORD

1.1 SCOPE

This specification shall be in accordance with IEC 60227. Δ

1.2 CONSTRUCTION

CONDUCTOR	ANNEALED COPPER WIRE
INSULATION	PVC (BLUE, BROWN, GREEN&YELLOW)
JACKET	PVC

ITEM	UNIT	SPEC. VALUE	
TEMPERATURE RATING	°C	70	
RATED VOLTAGE	V	300/500	
NO. OF CORE	NO.	3	
CONDUCTOR NOMINAL AREA	mm ²	1.00	
MIN. AVE. THICKNESS OF INSULATION	mm	0.60	
MIN. THICKNESS AT ANY POINT OF INSULATION	mm	0.44	
MIN. AVE. THICKNESS OF JACKET	mm	0.80	
MIN. THICKNESS AT ANY POINT OF JACKET	mm	0.58	
OVERALL DIAMETER OF JACKET	mm	6.3~8.0	
Δ VOLTAGE TEST – IMMERSED IN WATER 20±5°C FOR MINIMUM 1 HR	ON COMPLETED CABLE	–	2000V for 5 mins. (minimum)
	ON CORES	–	1500V for 5 mins. (minimum)
INSULATION RESISTANCE TEST (70°C)	M Ω /km	>0.01	
CONDUCTOR RESISTANCE (20°C)	Ω /km	\leq 19.5	

TITLE : CABLE SPECIFICATION
INTERNATIONAL APPROVED POWER SUPPLY CABLE
H05VV-F 3X1.00mm²

SPEC NO. :	APPROVED BY :	CHECKED BY :	DRAWN BY :	REVISION :
CS-001IN	<i>[Signature]</i>	<i>[Signature]</i>	LI XF	C
	DATE :	DATE :	DATE :	PAGE :
	18/8/04	18/08/04	17/08/04	1/1

Volex

REV.	DESCRIPTION	DATE
A	INITIAL RELEASE.	12/10/02
B	UPDATE MARKING DETAILS.	19/01/05
	UPDATE THE FORMAT AS SHOWN.	
	ADD IN '(EU/SAA/SAB/IEC)' ON THE TITLE.	

CABLE MARKING

BAO HING (SHENZHEN)

△ H05W-F 3G1.0mm² <VDE> KEMA-KEUR +s+s+s
 <ÖVE> CEPEC IEMMEQU SABS 1574 (S) (N) (D) (FI)
 BAOHING GTSA-3 N14586 CE LF

DRAWN	LI XF	19/01/05	FILENAME :	TITLE :
CHECK	<i>wait</i>	19/1/05	CABLE MARKING/ BH/H05/H05W-F	CABLE MARKING (EU/SAA/SAB/IEC) △
APPR	<i>Changshun</i>	19/01/05	3X1.0 LF- BH	
SCALE	N.T.S.	REV.	B	
REFERENCE :				<i>Volex (Asia) Pte Ltd</i>
H05W-F 3X1.0mm ² LF				<small>Confidential property of Volex. Information contained herein shall not be disclosed to others, reproduced or used for any other purposes except as authorized in writing by an authorized official of volex asia.</small> △

REV.	DESCRIPTION	DATE
	UPDATE FORMAT AS SHOWN.	
C	ADD IN '(EU/SAA/SAB/IEC)' ON THE TITLE.	21/01/05
	ADD IN NEW MARKING PER ECN002-13.	
D	ADD IN NOTE 1.	07/05/13

CABLE MARKING

TONG YUAN (SHENZHEN)

H05W-F 3G1.0mm² <VDE> KEMA-KEUR CEBEC +++++ <ÖVE>

Ⓓ Ⓔ Ⓐ Ⓕ IEMMEQU S/370 SABS 1574 NF-USE TONGYUAN LF

△ *

H05W-F 3G1.0mm² <VDE> KEMA-KEUR CEBEC +++++ <ÖVE>

Ⓓ Ⓔ Ⓐ Ⓕ IEMMEQU SABS 60227-5 NF-USE 1321FC TONGYUAN LF

NOTES:

1) * - PREFERRED CABLE MARKING.

DRAWN	HONGYAN	07/05/13	FILENAME :	TITLE : CABLE MARKING
CHECK	<i>Hongyan</i>	05/05/13	C-MARKING/TONG	(EU/SAA/SAB/IEC)
APPR	<i>Hongyan</i>	11/5/13	YUAN/H05/H05W	
SCALE	N.T.S.	REV.	F 3X1.0 LF-TY-SZ	
REFERENCE :				Volex (Asia) Pte Ltd
H05W-F 3X1.0mm ² LF				<small>Confidential property of Volex. Information contained herein shall not be disclosed to others, reproduced or used for any other purposes except as authorized in writing by an authorized official of Volex Asia.</small>

REV.	DESCRIPTION	DATE
	ADD IN NEW MARKING PER ECN006-10.	
B	ADD IN NOTE 1.	26/07/10
C	REMOVE OLD MARKING PER ECR101239.	26/10/10

CABLE MARKING

△ TA HSING(SHENZHEN)

<VDE> KEMA-KEUR CEBEC IEMMEQU (D) (N) (S) (FI)

<ÖVE> +s+s+s NF-USE-1344 Q050104 H05VV-F 3G1.00mm²

TA HSING INDUSTRIES LTD. LF



DRAWN	WANGHUI	26/10/10	FILENAME :	TITLE : CABLE MARKING (EU/SAA/IEC)
CHECK	<i>hm</i>	<i>26/10/10</i>	CABLE MARKING	
APPR	<i>Wanghui</i>	<i>26/10/10</i>	/TH(SZ)/H05W-F	
SCALE	N.T.S.	REV.	3X1.00 - LF	
REFERENCE :				<i>Volex (Asia) Pte Ltd</i>
H05W-F 3X1.00mm ² LF				
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2. PLUG

REV	DESCRIPTION	DATE
	CHANGE 'TEST RESULT' TO 'ACCEPTANCE CRITERIA'.	
Y	CHANGE FORMAT AS SHOWN.	23/02/13
Z	ADD IN CATALOG NO. MFUK13A2.	26/04/13

2.1. SCOPE

The plug shall be in accordance with BS 1363 Part 1,
(Specification for up to 13A fused plugs, switched and unswitched socket-outlets)

2.2. CONSTRUCTION

The plug construction shall comply with our catalogue No: MP5004, MP5004A, MP5004AW, MP5004H, MP5004SC, UK13A2, UK13CBA2, UK10SC3, MP5004BS, MP5004V, UK13A3, MP5004DBS, MP5004D, VPUK13A3, VPUK13A2, DS13CA2, APUK13A2, APUK13A3, DS13EA2 & MFUK13A2.

2.3. CHARACTERISTICS

NO.	TEST ITEM	DESCRIPTION	ACCEPTANCE CRITERIA
1.	Moisture resistance test	Samples are kept in a humidity cabinet containing air with a relative humidity between 85 to 95% and a temperature of 20°C-30°C for a duration of 48 hours.	No damage
2.	Electric strength test	A voltage of A.C 2000V with a trip current of min. 100mA is applied for 1 min after the moisture resistance test. A voltage of A.C 6000V is also applied between current carrying parts and body for 1 min.	No flashover and breakdown
3.	Insulation resistance test	This test is measured with a D.C 500V for 1 min. after the moisture resistance test.	Min. 5 M Ohm
4.	Flexing test	The sample shall be loaded with a weight of 1kg for 0.75mm ² or less, or 2kg for 1.00mm ² and above and the oscillating member shall be moved backward and forward through an angle of 90°(45° on either side of the vertical) the number of flexing being 10,000. Rated current of the plug is passed.	No damage to the insulation and the breakage of conductor of each core shall not exceed 10%.
5.	Tumbling test	The samples are dropped from a height of 50cm onto a plywood base(10mm thick) for a total of 5000 times.	No damage
6.	Abrasion test	The pin of sample slopes downwards at angle of 10° to the horizontal. The sample is loaded with a force of 4N on the sleeve of the pin. The number of movement is 20,000 and the length of pin subjected to abrasion is approx. 7mm over the insulating sleeve.	No damage

DRAWN:	SANDY YU	26/04/13	TITLE : BRITISH PLUG
CHECK:	<i>[Signature]</i>	27/04/13	
APPR:	<i>[Signature]</i>	27/04/13	
REV:	Z		
REFERENCE:			<i>Volex (Asia) Pte Ltd</i>
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NO.	TEST ITEM	DESCRIPTION	ACCEPTANCE CRITERIA
7.	Heat deformation test	The samples are kept for 1 hour in a heating carbinet at temperature of $70\pm 5^{\circ}\text{C}$.	no damage and withstand electric strength test.
8.	Ageing test	The samples are kept for 7 days in a heating carbinet at temperature of $70\pm 5^{\circ}\text{C}$. It is then put in room temperature for 4 hours.	no damage
9.	Temperature rise test	Rated current of the plug is passed for at least 4 hours. This test is repeated on the same sample after tumbling barrel test.	Rise in temperature for joints shall not exceed 52K while the rest shall not exceed 37K.
10.	Cord-anchorage test	The cord is subjected to a load of 3kg for (1.0mm ² or smaller) or 6kg (the rest) 25 times without jerk. The cord is then subjected to a torque of 0.15Nm (0.5mm ²), 0.2Nm (0.75mm ²), 0.25Nm (1.0mm ²), 0.3Nm (1.25mm ²), 0.35Nm (1.5mm ²) for 1 min.	Shall withstand a voltage of $3750\pm 75\text{V}$ for 1 min., between each conductor and cord shall not been displaced by more than 2mm.
11.	Pressure test	A force of 20N is applied on the sample for 1 hour at a temperature of $70\pm 5^{\circ}\text{C}$.	No damage and shall withstand electric strength and insulation resistance test. The sample must also fit into fig. 5 jig of BS1363.
12.	Ball pressure test	A steel ball of 5mm in diameter is applied with 20N force on the sample at a temperature of $75\pm 5^{\circ}\text{C}$ for 1 hour. The sample is then cooled by cold water.	The diameter of the impression shall not exceed 2mm.
13	Glow wire test	The tip of the glow wire heated electrically to $750\pm 10^{\circ}\text{C}$ shall be applied at the portion between the current-carrying pins for a period of 30s.	Any flame and glowing shall extinguish within 30s after the removal of the glow-wire. There shall be no ignition of the tissue papernor sorching of the board.

DRAWN:	SANDY YU	26/04/13	TITLE : BRITISH PLUG
CHECK:	<i>[Signature]</i>	27/06/13	
APPR:	<i>[Signature]</i>	27/06/13	
REV:	Z		
REFERENCE:			<i>Volex (Asia) Pte Ltd</i>
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	REV	DESCRIPTION	DATE
2. PLUG		ADD IN CATALOG NO. 'APUK13A2'.	26/03/13
		CHANGE 'TEST RESULT' TO 'ACCEPTANCE CRITERIA'.	
	S	CHANGE FORMAT AS SHOWN.	
	T	ADD IN CATALOG NO. 'MFUK13A2'.	26/04/13

2.1. SCOPE

The plug shall be in accordance with SS145 Part 1.

(Specification for up to 13A fused plugs, switched and unswitched socket-outlets)

2.2. CONSTRUCTION

The plug construction shall comply with our catalogue No: MP5004, MP5004A, MP5004AW, MP5004BS, MP5004V, UK13A2, UK13A3, MP5004D, MP5004SC, VPUK13A3, VPUK13A2, DS13CA2, DS13EA2, APUK13A3, APUK13A2 & MFUK13A2.

2.3. CHARACTERISTICS

NO.	TEST ITEM	DESCRIPTION	ACCEPTANCE CRITERIA
1.	Moisture resistance test	Samples are kept in the humidity cabinet containing air with a relative humidity between 85% to 95% and a temperature of 20°C-30°C for a duration of 48+1, -0 hours.	No damage
2.	High voltage test	A test voltage of 6000±100V shall be alternating (50 to 60 Hz), applied between all current carrying parts connected together and body for a period between 3s and 5s.	No breakdown or flashover
3.	Insulation resistance test	This test is measured using a D.C. voltage of 500+250, -0 V the measurement being made approximately 1 min after application of the voltage.	Min. 5 M Ohm
4.	Flexing test	The flexible cord shall be loaded with a weight of 1kg (0.50mm ² & 0.75mm ² cables) or 2kg (1.00mm ² and above). The oscillating member is moved backwards and forwards through an angle of 45°±3° on either side of the vertical. The number of flexings being 10,000 at a rate of 60+0, -10 flexings being per minutes. A rated current is passed, the voltage is 250V±10 V.a.c.	No damage. Breakage of no more than 10% of the total number of conductor strands in any core is ignored provided they have not pierced the insulation.
5.	Tumbling test	The samples is dropped from a height of 50cm onto a plywood base for a total of 5000 times.	No damage
6.	Resistance to Heat test	The samples are kept for 1 hour in a heating cabinet at the temperature of 70°C±5°C.	No damage and withstand electric strength test.
7.	Resistance to Ageing	The samples are kept in a heating cabinet at a temperature of 70°C±5°C for a minimum of 7 days. It is the put in room temperature for 4 hours.	No damage. No crack visible, nor shall the material become sticky or greasy.

DRAWN:	SANDY YU	26/04/13	TITLE : SINGAPOREAN PLUG
CHECK:	<i>[Signature]</i>	27/06/13	
APPR:	<i>[Signature]</i>	27/06/13	
REV:	T		
REFERENCE:			Voletx (Asia) Pte Ltd
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NO.	TEST ITEM	DESCRIPTION	ACCEPTANCE CRITERIA
8	Temperature rise test	Rated current is passed for at least 4 hours. The test is repeated on the same samples after tumbling barrel test.	Rise in temperature for joints shall not exceed 52K, while the rest shall not exceed 37K.
9	Cord-anchorage test	The cord is subjected to a load of 3+2%,-0% kg (0.50mm ² , 0.75mm ² & 1.0mm ² cables) and 6+2%, 2%, -0% kg (1.25mm ² & 1.5mm ² cables), 25 times.	Shall withstand a voltage of 3750±75V for 60+5, -0s between each conductor and cord shall not have been displaced by more than 2mm.
10	Abrasions test	The pin of samples slopes downwards at angle of 5-10° to the horizontal. The sample is loaded with the force of 4+0,-1N on the sleeve of the pin. The number of movement is 20,000 and the length of pin subjected to the abrasion is approx. 7mm over the insulating sleeve.	No damage.
11	Ball pressure test	A steel ball of 5mm in diameter is applied with 20+0,-1N force on the sample at a temperature of 75°C±5°C for 60+1, -0 min. The sample is cooled by cold water.	The diameter of the impression shall not exceed 2mm.
12	Pressure test	A force of 20+0, -1N is applied on the sample for 60+5, -0 min. at temperature of 70±5°C.	No damage and shall withstand electric strength and insulation resistance test. The sample must also fig. 5 jig of SS145:1997.
13	Glow wire test	The tip of the glow wire heated electrically to 750±10°C shall be applied at the portion between the current-carrying pins for a period of 30s.	Any flame and glowing shall extinguish within 30s after the removal of the glow-wire. There shall be no ignition of the tissue paper or scorching of the board.

DRAWN:	SANDY YU	26/04/13	TITLE : SINGAPOREAN PLUG
CHECK:	<i>[Signature]</i>	27/04/13	
APPR:	<i>[Signature]</i>	27/04/13	
REV:	T		
REFERENCE:			<i>Volex (Asia) Pte Ltd</i>
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3. CONNECTOR

REV	DESCRIPTION	DATE
AP	CHANGE 'TEST RESULT' TO 'ACCEPTANCE CRITERIA'	11/03/14
AP	CHANGE FORMAT AS SHOWN.	
AQ	ADD IN CATALOGUE NO. VAC17KS.	24/02/14

3.1. SCOPE

The connector shall be in accordance with IEC 60320-1 or EN 60320-1, Test specification - appliance couplers.

3.2. CONSTRUCTION

The connector construction shall comply with our catalogue No: VAC5S, APC5A, APC5S, APC5M, VAC5AR, APC5SM, DLC5A3, V1625, V1625A, VAC19, VAC17S, VSCC13, AVL13, APC13, APC13S, VSC19, V1625LA, VAC19A, VSCC15, APC5SP, APC13F, V1625BS, APC13G, VAC13A, VAC13S, PIC17S, VIC13A, DLC5U3, VAC13KS, SOC5S, V1625H, VAC19KS, DLC5E3, HPC13A, V1625AT, VAC17A, APC5SF, VCC13, VCC5S, APC13H, VCC17S, VAC19H, APC13FH, APC13HC & VAC17KS "All connectors complying to Standard Sheet C5, C13, C15, C15A, C17 and C19"

3.3. CHARACTERISTICS

NO.	TEST ITEM	DESCRIPTION	ACCEPTANCE CRITERIA
1.	Moisture resistance test	Samples are kept in a humidity cabinet containing air with a relative humidity between 91 to 95% and a temperature of 20°C-30°C for a duration of 48 hours.	No damage
2.	Electric strength test	Voltages of 3000V±60V and 1500V±60V, with min. trip current of 100mA is applied for 60s±5s between current-carrying contacts and body and between each contacts respectively after the moisture resistance tests.	No flashover and breakdown
3.	Insulation resistance test	This test is measured with a D.C 500V after the moisture resistance test. Readings are taken after 60s ± 5s of application of voltage.	Min. 5 M Ohm
4.	Withdrawal force test	<p>i) Min. 1.5N (2N for 16A) - A single pin made to the minimum dimension is inserted into the connector. The pin, together with the weight should exert a force of 1.5N (2N for 16A connector). Each individual pole of the connector is tested separately.</p> <p>ii) Max. 50N (60N for 16A) - Insert and withdraw the connector from a socket having pin dimension to the maximum and shroud dimension to the minimum for 10 times. The connector is then inserted again into the socket hang with a total weight of 50N(60N for 16A). The weight consist of a principal weight which is 90% of the total weight and a supplementary weight of 10%.</p> <p>The test is repeated for hot connector with temperature of 120°C±2°C on the pins.</p>	<p>i) The pin with the weight should not be withdrawn from the connector for more than 3 seconds.</p> <p>ii) The connector shall be withdrawn from the socket. If not the supplementary weight is lifted from a height of 5cm and drop. The connector must be withdrawn.</p> <p>The test is repeated after temperature rise test.</p>

DRAWN:	MOLLY	24/02/14	TITLE: EUROPEAN & BRITISH APPLIANCE COUPLERS
CHECK:	<i>[Signature]</i>	24/02/14	
APPR:	<i>[Signature]</i>	24/2/14	
REV:	AQ		
REFERENCE:			Volex (Asia) Pte Ltd
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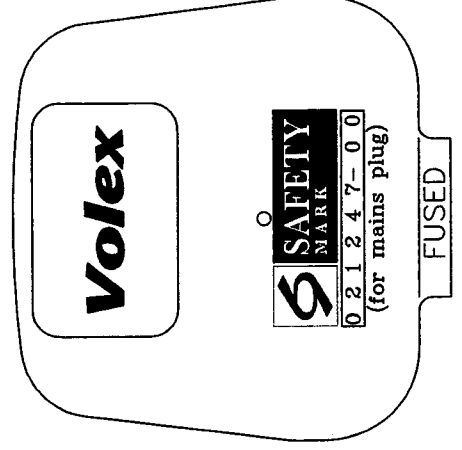
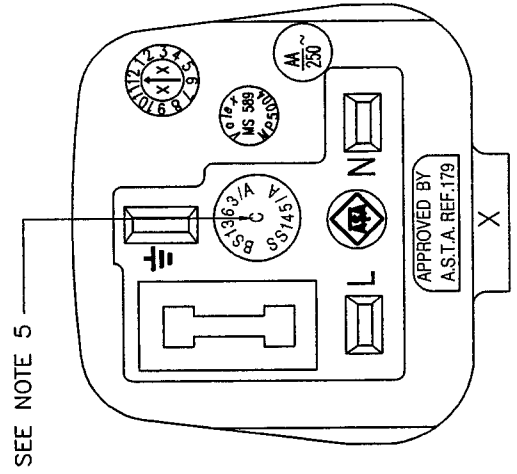
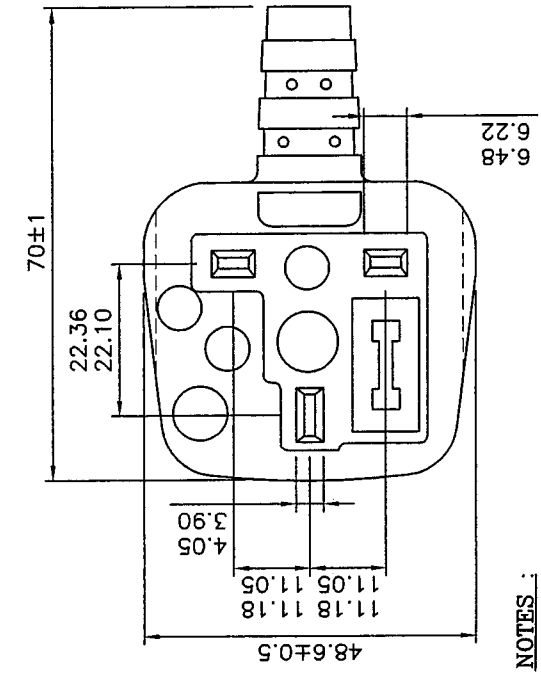
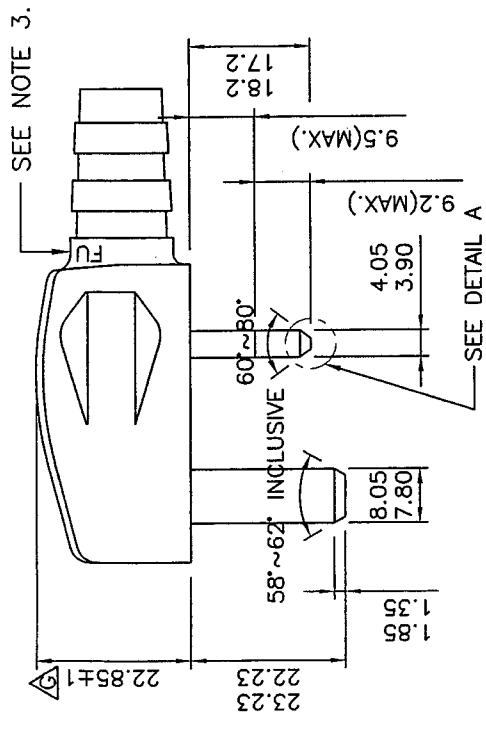
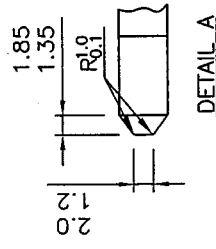
NO.	TEST ITEM	DESCRIPTION	ACCEPTANCE CRITERIA
5.	Glow wire test	Glow wire is applied for 30s with temperature of 750°C on inserts and housings retaining contacts and 650°C on elsewhere.	Flame (if any) shall be self-extinguished within 30s. upon the removal of the glow wire and molten droplets shall not ignite paper.
6.	Bending test	The sample shall be loaded with a weight of 10N for 0.75mm ² or 20N for 1.00mm ² or bigger and the oscillating member shall be moved backward and forward through an angle of 90°(45° on either side of the vertical) the number of flexing being 20,000.A rated current is applied. For round cord, the sample is turned 90 degree around the axis of cable after 10,000 cycles. The flexing is further completed in this axis. Flat cable is flexed only along the bigger axis of the cable.	There shall be no complete breakage of any of the conductor. Broken conductor shall not have pierced the insulation.
7.	Tumbling test	The sample is dropped from a height of 50cm onto a steel plate(3mm thick) for a total of 500 times.	No damage to impair further use of connector.
8.	Breaking capacity test	The connector is connected and disconnected 50 times (100 strokes) with the inlet at a rate of 30 strokes per minute with 275V and 1.25 times of rated current.	No flashover or sustained arcing during the test and no damage to impair further use of connector.
9.	Normal operation test	Test is similar to breaking capacity except that the test voltage is 250V with the connector connected and disconnected with the inlet for 1000 times (2000 strokes) with rated current and 3000 times (6000 strokes) without current.	Withstand electric strength at 1500V for 1 min, and show no damage.
10.	Temperature rise test	An alternating current at 1.25 times rated current is passed through the current carrying contacts for 1 hour.This is repeated for connector with earth contact passing current between earth and each of the current carrying contacts.	The temperature rise shall not exceed 45K.
11.	Cord-anchorage test	The cord is subjected to pulls of 50N(2.5A) or 60N(others) for 100 times each time for 1 sec. without jerk. Thereafter the cord is subjected for 1 min. to a torque of 0.15Nm(0.75mm ²) or 0.25Nm(others).	The cord shall not be damaged and shall not be displaced by more than 2mm.
12.	Heat deformation test	Samples are kept for 1 hour in a heating cabinet at temperature of 100±2°C.	No damage to impair further use of connector.
13.	Heat pressure test	A pressure of 20N is applied at a temperature of 100°C ± 2°C for 1 hour.	No damage to impair further use of connector.

DRAWN:	MOLLY	24/02/14	TITLE: EUROPEAN & BRITISH APPLIANCE COUPLERS
CHECK:	<i>hong</i>	24/02/14	
APPR:	<i>WJ</i>	24/2/14	
REV:	AQ		
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NO.	TEST ITEM	DESCRIPTION	ACCEPTANCE CRITERIA
14.	Aging test	The samples are kept for 168 hours in a heating cabinet at a temperature of 80±2°C.	No damage & marking shall be legible.
15.	Ball pressure test	A ball of 5mm in diameter is applied on the connector with the following temperature with 20N force for 1 hour. i) 125°C for hot connectors. ii) 125°C for parts retaining current carrying parts and earth circuit. iii) 75°C for other parts for cold connector. The connector is then cooled down to room temperature with cold water.	The diameter of the impression shall not exceed 2mm.

DRAWN:	MOLLY	24/02/14	TITLE: EUROPEAN & BRITISH APPLIANCE COUPLERS <i>Volex (Asia) Pte Ltd</i>
CHECK:	<i>honnoff</i>	24/02/14	
APPR:	<i>HJ</i>	24/2/14	
REV:	AQ		
REFERENCE:			
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REV.	DESCRIPTION	DATE
F	REMOVE THE CLOSED FACTORY FROM MANU. LOCATION MARK	16/07/09
G	CHANGE DIM. FM. '22.85±0.3' TO '22.85±1' PER ECR100291. 29/03/10	



MARKING DETAILS :

TABLE :

FUSE RATING (AA)	3	5	10	13
		✓		

NOTES :

- ALL DIMENSIONS IN mm.
- X - CAVITY NO. (OPTIONAL)
- THE WORD IS ' FUSED '
- AA - RATING (REFER TO TABLE)
- MARKING 'C' FOR CABLE 1.25mm & ABOVE. WITHOUT 'C' FOR CABLE 1.00mm & BELOW.
- DATE CODE :
YEAR XX
2004 04
2005 05



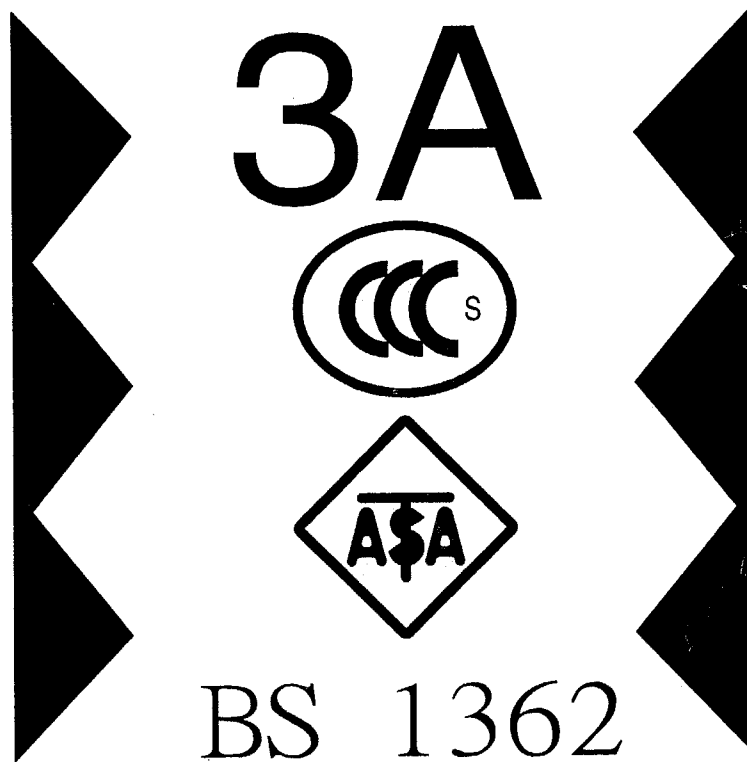
HG	HENG GANG (CHINA)	X	DRAWN	HONGYAN	29/03/10	FILE NAME :
SM1	ZHONGSHAN (CHINA)	X	CHECK	<i>hongy</i>	<i>20/03/10</i>	A-PLUG/UK&CPS/ SPECIM/MP5004-ISA
VH	HANOI (VIETNAM)	X	APPR	<i>Wito</i>	<i>30/3/10</i>	HOPS-DNE CODE
B	BATAM (INDONESIA)	X	REV.	G		N.T.S.
VC	CHENNAI (INDIA)	X	REFERENCE :	BRITISH & SINGAPOREAN APPROVAL		
MANUFACTURE LOCATION MARK ('X' IS APPLICABLE ONLY)			Volex (Asia) Pte Ltd			

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REV.	DESCRIPTION	DATE
	ADD IN 'TYPE REFERENCE TDC 180	
F	-3A' IN REFERENCE COLUMN.	14/07/08
G	AMEND NOTE FOR ADD IN ITEM b.	29/08/08

*PRINT BLOCK TOPS WITH MACHINE NUMBERS

Bussmann

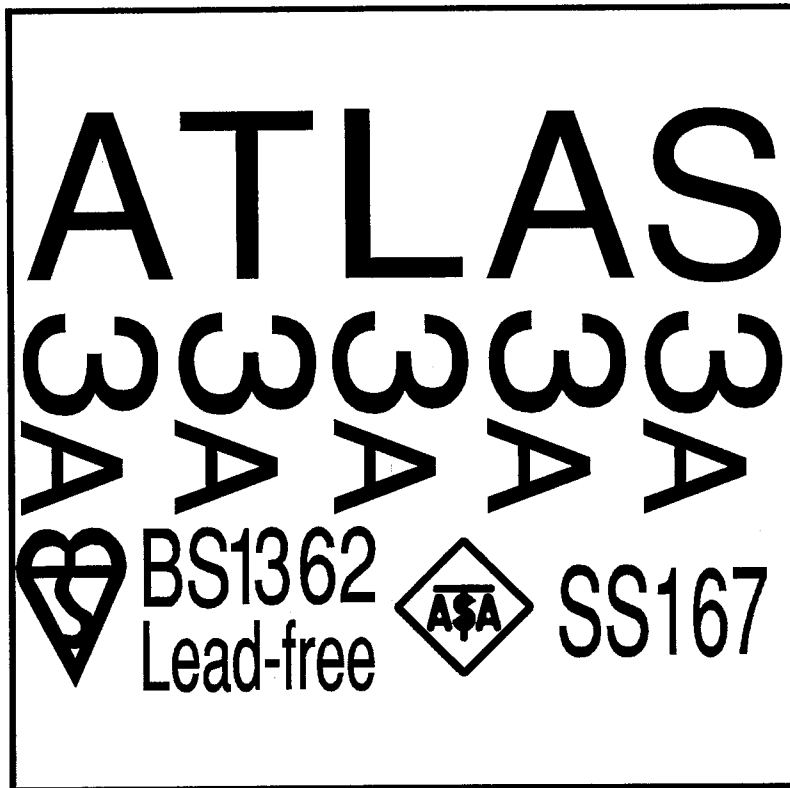


NOTE:

- (1) *PRINT BLOCK TOP (DOT LINE) = BUSSMANN INTERNAL IDENTIFICATION ON MACHINERY.
 a: DIFFERENT LOCATION/NUMBER OF DOT LINE INDICATE DIFFERENT MACHINE NUMBER USED.
 ⚠ b: THE FUSE PRODUCE ON THE MACHINE #20 IS WITHOUT THE PRINT BLOCK TOP (DOT LINE).

DRAWN	QIAN SM	29/08/08	REVISION:	TITLE : LEAD FREE FUSE (3A)
CHECK	<i>WAS</i>	29/08/08		
APPR	<i>Qian SM</i>	29/08/08	G	
SCALE	N.T.S.			
REFERENCE :				Volex
6210011 (TYPE REFERENCE TDC 180-3A)				

REV.	DESCRIPTION	DATE
C	IN REFERENCE COLUMN.	31/07/08
D	CHANGE MARKING AS SHOWN.	13/11/12



DRAWN	HONGYAN	13/11/12	REVISION:	TITLE : LEAD FREE FUSE (3A)
CHECK	<i>hongyan</i>	13/11/12		
APPR	<i>WZS</i>	13/11/12	D	
SCALE	N.T.S.			
REFERENCE :				
6210001 (REFERENCE E07.003-B)			Volex	

REV.	DESCRIPTION	DATE
A	INITIAL RELEASE.	29/06/12

AsiaFuse

AF63B-3A

3A

BS1362

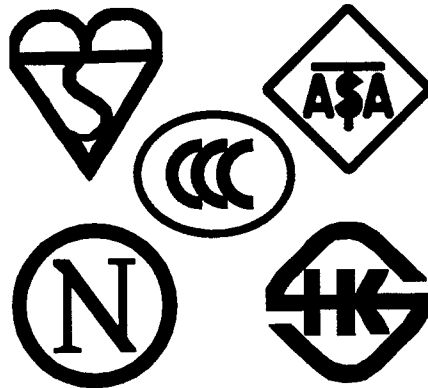
SS167



DRAWN	HONGYAN	29/06/12	REVISION:	TITLE : LEAD FREE FUSE (3A)
CHECK	<i>hongyan</i>	06/07/12	A	
APPR	<i>Wesley</i>	24/7/12		
SCALE	N.T.S.			
REFERENCE :				Volex

REV.	DESCRIPTION	DATE
A	INITIAL RELEASE.	29/06/12

SEM®



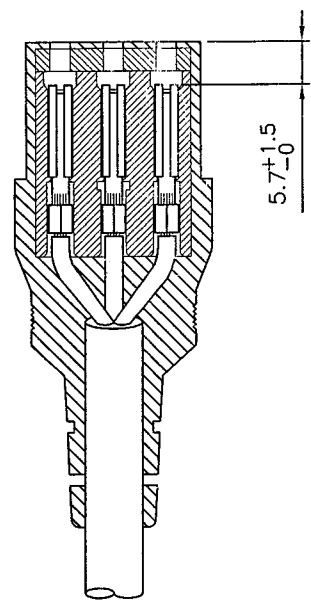
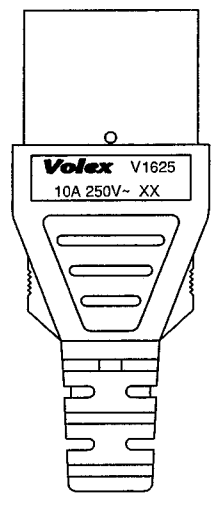
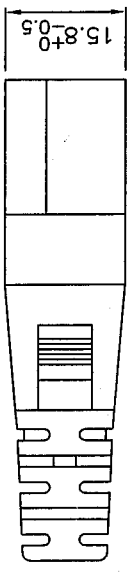
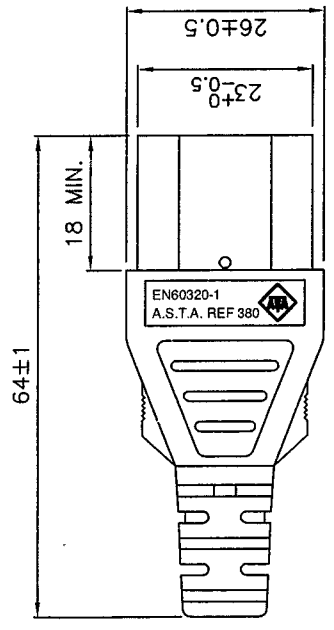
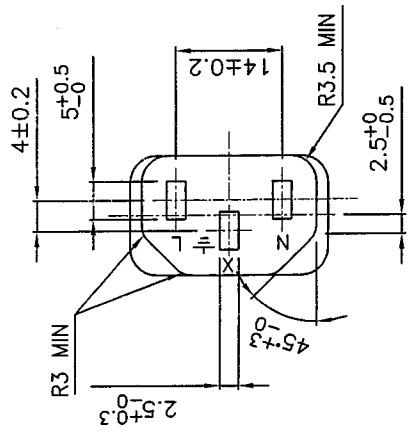
3 A

BS1362

LEAD FREE

DRAWN	HONGYAN	29/06/12	REVISION:	TITLE : LEAD FREE
CHECK	<i>[Signature]</i>	04/07/12		
APPR	<i>[Signature]</i>	04/07/12	A	FUSE (3A)
SCALE	N.T.S.			
REFERENCE :				Volex

REV.	DESCRIPTION	DATE
	UPDATE FORMAT AS SHOWN.	
	REMOVE THE CLOSED FACTORY FM. MANU.	
L	LOCATION MARK.	06/11/06
	REMOVE THE CLOSED FACTORY FROM MANU.	
M	LOCATION MARK.	20/07/09



EN60320-1
A.S.T.A. REF 380



Volex V1625
10A 250V~ XX

MARKING DETAILS

HG	HENG GANG (CHINA)	X	DRAWN	CONGFANG	20/07/09	FILE NAME :	TITLE :	
SM1	ZHONGSHAN (CHINA)	X	CHECK	Amalif	23/07/09	A-CONNECTOR/ UK/GENERAL/ V1625-ASTA	MOLDED CONNECTOR V1625	
VH	HANOI (VIETNAM)	X	APPR	Wata	31/7/9			
B	BATAM (INDONESIA)	X	REV.	M	SCALE	N.T.S.		
VC	CHENNAI (INDIA)	X	REFERENCE :	BRITISH APPROVAL				
MANUFACTURE LOCATION MARK (* X ' IS APPLICABLE ONLY)								Volex (Asia) Pte Ltd

NOTE :

- 1.) ALL DIMENSIONS IN mm.
- 2.) X - CAVITY NO. (OPTIONAL)
- 3.) XX - MANUFACTURING LOCATION.

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