

TEST REPORT

APPLICANT: GlobTek, Inc. REPORT NUMBER: 190703123SHA-001
ADDRESS: 186 Veterans Drive, Northvale, NJ 07647, United States of America DATE: 2019-08-02

SAMPLE DESCRIPTION: Integral plug for power supply
MODEL NO.: GT (M or -) 41060 (- or CC) WWVV-X.X series,
GT*41061-*** series,
GT-41131-WWVV-X.X series,
(See appendix for detail)
TESTING LABORATORY: Intertek Testing Services Shanghai Limited.
ADDRESS: Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China
TRADEMARK: 
DATE RECEIVED: 2019-07-30
DATE TEST CONDUCTED: 2019-07-30 to 2019-08-02
TEST REQUESTED: Appendix J of AS/NZS 3112:2017
TEST METHOD: Appendix J of AS/NZS 3112:2017
Result: P
Remark: All Models have same enclosure, the heaviest model GT41061-1830 was selected as typical model for test.

Remark:
P – Pass F - Fail
N/A - Not Applicable

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Annex J of AS/NZS 3112:2017			
Clause	Requirement – Test	Remark	Verdict
2.2	PLUG PINS		P
2.2.1	Material for pins		P
	Current carrying parts of plug pins -copper, or copper alloy containing at least 58% copper for parts made from cold rolled sheet or at least 50% copper for other parts; or stainless steel containing at least 13% chromium and not more than 0.09% carbon.	58% copper	P
2.2.2	Assembly of pins		P
2.2.3	The exposed ends and the contact portion of plug pins shall be smooth and free from openings or indentations;		P
2.2.4	Live parts of insulated pin plugs shall not be exposed when the plug is partially or fully engaged with the associated socket.		P
	Plugs with insulated pin do not need to comply with the R20.0 +/-1 mm of Figure 2.1(e).		P
2.8	RATINGS AND DIMENSIONS OF LOW VOLTAGE PLUGS		P
2.8.1	Low voltage flat-pin plugs shall conform to the appropriate dimensions shown in Figure 2.1.		P
	the distance between a live pin of any plug and the edge of the moulding of the plug, shall be not less than 9 mm.	11.57 mm min.	P
	No point on the front face of the plug is more than 0.5 mm.	No protrusion	P
2.8.4	Compliance with dimensional requirements of Figure 2.1		P
	Low voltage flat-pin or combination of flat and round pin, plugs having ratings up to 15A of Figure 2.1(a1), Figure 2.1(c), Figure 2.1(d), Figure 2.1(f) or Figure 2.1(g) type shall comply with the dimensional requirements of Figure 2.1(e).		P
	Plugs with insulated pins, complying with this Standard, need not comply with dimension R20+/-1.0 mm of Figure 2.1(e)	With insulated pins	P
2.9	INTERNAL CONNECTIONS		N/A
	A loose terminal screw or conductive material cannot bridge any live parts or earthing parts;		N/A
2.10	ARRANGEMENT OF EARTHING CONNECTIONS	No earthing pin	N/A
2.12	MARKING (No marking is applicable for the integral plug portion. See markings for transformer)		N/A

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Clause	Requirement – Test	Remark	Verdict
2.12.6	Configuration of plugs, viewed as from the pins, shall be earth, neutral and active in a clockwise direction. Where there is no earthing pin, the live pins shall conform to this configuration.		P
2.13	TESTS ON PLUGS		P
2.13.3	High voltage test		P
2.13.7	Mechanical strength of pin tests		P
2.13.7.1	Tumbling barrel test (modified as follows)		P
	a) 500 times if the mass of the specimen does not exceed 250g.		N/A
	The pins being straightened after 100 drops and at the completion of the test to pass through the appropriate gauge of figure A1, B1 or F1; and following each test the samples shall comply with item a-e of standard		N/A
	b) 250 times if the mass of the specimen exceeds 250g.		P
	The pins being straightened after 25 drops and at the completion of the test to pass through the appropriate gauge of figure A1, B1 or F1; and following each test the samples shall comply with item a-e of standard		P
2.13.7.2	Pin bending test		P
	The point of application of the force shall be 14± 0.5 mm from the face of the plug.		P
	The direction of the force shall be along a line parallel to the face of the plug.		P
	Active and neutral pins shall be forced towards the centroid of the plug and then back to the starting point. Earth pin shall be forced but in one direction only then back to the starting point.		P
	The distance moved from the point of application shall be 7.5 ± 0.3 mm. Any “spring-back” is ignored.		P
	The travel from the starting point to the end point and back to the starting point is one cycle.		P
	The interval between successive cycles shall be a minimum of 10 s.		P
	The duration of one cycle shall be a maximum of 60 s.		P
	The pins shall be tested for 20 complete cycles.		P
	After to tests the pins shall be inspected with normal or corrected to normal vision.		P

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Clause	Requirement – Test	Remark	Verdict
	The pin shall not be broken off.		P
2.13.8	Temperature rise test (modified as follows)		P
	With 1.1 times rated current prescribed by transformer. The temperature rise of the terminals shall not exceed 45 K.	15K max.	P
2.13.9	Securement of pins		P
2.13.9.1	Movement of pins		P
	Clamped 5 ± 0.5 mm and applying 18 ± 1 N to the pin at 14 ± 0.5 mm		P
	The maximum deflection shall not exceed 2.0 mm.	0.3mm	P
2.13.9.2	Fixing of pins		P
	Maintained $50 \pm 2^\circ\text{C}$ for 1 h. 60 ± 0.6 N for 10 min.		P
	The attachment of pins shall be not more than 2.4 mm or if any pin fails to return to within 0.8 mm of its nominal length specified in Figure 2.1 within 5 min of the removal of the test force.		P
2.13.13	Tests on the insulation material of insulated pin plugs, if any		P
2.13.13.2	Pressure test at high temperature		P
	Maintained for 2 h at $160 \pm 5^\circ\text{C}$. Force applied through the blade: 2,5 N		P
	Thickness within the area of impression ≥ 50 %. no cracks		P
2.13.13.3	Static damp heat test		P
	Two damp heat cycles (12+12h), 95% relative humidity, Lower temperature $25+3^\circ\text{C}$ and upper temperature 40°C		P
	(a) the insulation resistance test in accordance with Clause 2.13.2(e); (b) high voltage test in accordance with Clause 2.13.3 and; (c) abrasion test in accordance with Clause 2.13.13.6.		P
2.13.13.4	Low temperature test		P
	Maintained at $-15+2^\circ\text{C}$ for 24h and returned to room temperature		P
	(a) the insulation resistance test in accordance with Clause 2.13.2(e); (b) high voltage test in accordance with Clause 2.13.3 and; (c) abrasion test in accordance with Clause 2.13.13.6.		P
2.13.13.5	Impact test at low temperature		P
	Maintained at $-15 \pm 2^\circ\text{C}$ for at least 24 h. a height of 100 mm. Four impacts. No cracks.		P

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Clause	Requirement – Test	Remark	Verdict
2.13.13.6	Abrasion test		P
	Plug pins provided with insulating sleeves: 20000 movements, 4 N (apparatus shown in fig. 23). No damage, the insulating sleeve shall not have punctured or rucked up.		P
APPENDI X J	EQUIPMENT WITH INTEGRAL PINS FOR INSERTION INTO SOCKET-OUTLETS		P
J1	SCOPE		P
J2	DEFINITIONS		P
J2.1	Detachable plug portion		N/A
J2.2	Integral plug portion		P
J2.3	Plug portion		P
J3	REQUIREMENTS FOR THE PLUG PORTION		P
J3.1	General		--
J3.2	Plug pins of plug portions	See clause 2.2	P
J3.3	Ratings and dimensions for low voltage plug portions	See clause 2.8	P
J3.4	Internal connection for plug portions	See clause 2.9	P
J3.5	Arrangement of earthing connection for plug portions		N/A
J3.6	Configuration of plug portions	See clause 2.12.6	P
J4	TESTS		P
J4.1	General		--
J4.2	High voltage test	See clause 2.13.3	P
J4.3	Mechanical strength of pin tests	See clause 2.13.7	P
J4.3.1	Tumbling barrel test	See clause 2.13.7.1 except the modification	P
J4.3.2	Pin bending test	See clause 2.13.7.2	P
J4.4	Temperature rise test	See clause 2.13.8	P
J4.5	Securement of pins of the plug portion	See clause 2.13.9	P
J4.6	Tests on the insulation material of insulated pin plug portions	See clause 2.13.13	P
J4.7	Equipment with integral pins intended to be supported by the contacts of a socket-outlet		P
	The additional torque, which has to be applied to socket-outlet to maintain the engagement face in the vertical plane, shall not exceed 0.25N.m.	Normal position: 0.115max.; Reverse position: 0.110max.	P

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Annex J of AS/NZS 3112:2017			
Clause	Requirement – Test	Remark	Verdict
J4.8	Additional requirements for detachable plug portions		P
J4.8.1	Access to live parts		P
	The design and construction of the detachable plug portion shall be such that it is not possible to contact live parts with the small test finger of Figure 13 of IEC 61032		P
	It shall not be possible to incorrectly assemble the plug portion to the equipment allowing access to live parts		P
	Conformance is checked by inspection and applying small test finger of Figure 13 of IEC 61032:1997 to the plug portion. If an opening does not allow entry of the test finger, a force on the test finger in the straight position is increased to 20 N		P
J4.8.2	Construction of detachable contacts where the input current of the equipment exceeds 0.2 A		P
	Contacts of the equipment shall be such that they make the maintain, under normal service conditions, satisfactory electrical and mechanical contact with the corresponding contact of the detachable plug portion		P
	For connections intended to accommodate flat pins, contact shall be made with both sides of each pin, except that it shall be permissible to use spring-assisted single-sided contacts. These contacts shall not rely exclusively on the resilience of the contact material and shall have an opposite face of material other than thermoplastic or resilient insulating material. The alignment and contact making properties of contacts shall be independent of terminal screws. The effectiveness of the contacts shall be independent of pressure from any thermoplastic or resilient moulding		P
	Conformance with the effectiveness of the contacts is checked by inspection and by the plug portion detachment requirements of Paragraph J4.8.3		P
	A visual inspection is conducted to determine the existence of interference between the metal contacts and the thermoplastic or resilient moulding to provide supplementary contact pressure to the metal contacts		P
J4.8.3	Plug portion detachment requirements		P
	For all Type B or C devices and for Type A devices where the outlet of the detachable plug portion is parallel to the plug supply pins, disengagement of the detachable plug portion from the equipment shall require at least two simultaneous independent actions or the use of a tool		P
	Conformance is verified by inspection and the following test		P

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Clause	Requirement – Test	Remark	Verdict
	The plug portion and the equipment/adaptor shall be connected and disconnected 50 times (100 strokes)		P
	The plug portion shall be securely held in position. A force which, over a period of 10 s, shall be increased steadily to 60±0.6 N and held at this value for a further 10 s, shall be applied evenly at the connecting equipment in a direction parallel to the pins. This procedure shall be conducted three times on the same plug portion, at intervals of 5 min, without disturbing the plug portions between test		P
	During the test period, the plug portion shall not separate from the equipment		P
	The test of AS/NZS 3112 'temperature rise test' for plugs shall be conducted immediately after the above test without disturbing the sample		P
J4.8.4	Resistance of insulating material to heat and fire		P
J4.8.4.1	Resistance to heat		P
	For Type B detachable plug portions parts of non-metallic material, parts of insulating material supporting live parts including connections, and parts of thermoplastic material providing supplementary insulation or reinforced insulation, shall be sufficiently resistant to heat if their deterioration could cause the appliance to fail to comply with this Standard		P
	This requirement does not apply to the insulation or sheath of flexible cords or internal wiring		P
	Conformance is checked by subjecting the relevant part to the ball pressure test of IEC 60695-10-2		P
	The test is carried out at a temperature of 40±2°C plus the maximum temperature rise determined during the temperature test of Paragraph J4.4, but it shall be at least--		P
	(a) 75±2°C, for external parts;		P
	(b) 125±2°C, for parts supporting live parts		P
J4.8.4.2	Resistance to fire		P
	Plug portions shall comply with the requirements for resistance to fire in accordance with AS/NZS 3100. The glow-wire test temperature 'T' shall be 750°C		P

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Dimension Checking for Two-pin plug (Up to 10 A rating) According to AS/NZS 3112: 2017

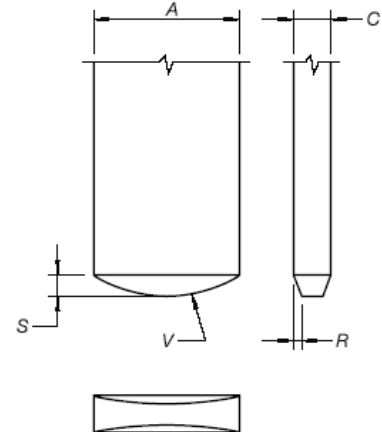
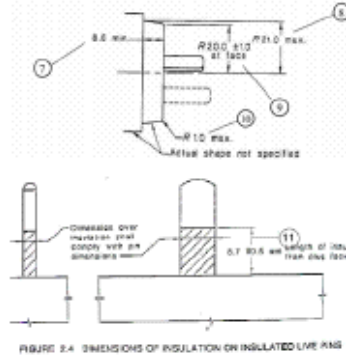
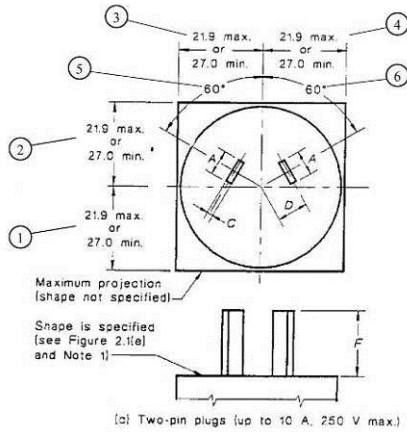
CHECKING OF DIMENSIONS

Dimensions checked by gauge and measurement

Standard sheet Figure 2.1 (c)

Standard sheet Figure 2.1 (e)

Standard sheet Figure 2.1 (h)



Position	Required (mm)	By Measurement (mm)	By the gauge shown in Figure A1
A	6.35±0.15	6.36	-
B	-	-	-
C	1.63 ^{+0.15} _{-0.05}	1.62	-
D	7.92	-	OK
E	-	-	-
F	17.06±0.4	17.21	-
G	-	-	-
R	0.35±0.05	0.32	-
S	0.90±0.10	0.85	-
T	≥0.60	-	-
V	6	-	OK
1	21.9 max. or 27.0 min.	74.58	-
2	21.9 max. or 27.0 min.	20.57	-
3	21.9 max. or 27.0 min.	27.81	-
4	21.9 max. or 27.0 min.	27.81	-
5	60°	-	OK
6	60°	-	OK
7	8.6 min.	13.32	-
8	21.0 max.	20.57	-
9	20.0±1.0	19.84	-
10	1.0 max	0.52	-
11	8.7±0.5	8.77	-
Live pin to the edge of the mouldings	9 min.	11.57	OK

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Photos:



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Appendix: Model list

Model List		
NO.	Model	Model description
1	GT (M or -) 41060 (- or CC) WWVV-X.X series	M or – for marked identification and not related to safety 41060: Series code (- or CC): “-“ = Constant Voltage Model, CC = Constant Current Model WW: is the rated output wattage designation, with a maximum value of "25" VV: is the standard rated output voltage designation, with a maximum value of "30" - X.X: Denotes the optional deviation, subtracted or added from standard output voltage in 0,1 volt increments or blank to indicate the no voltage different.
2	GT*41061-*** series	The 1st “*” part can be ‘M’ or ‘-’ or ‘H’ for market identification and not related to safety. The 2nd “*” part denotes the rated output wattage designation, which can be “01” to “18”, with interval of 1. The 3rd “*” part denotes the standard rated output voltage designation, which can be “12”, “18”, “24” or “30”. The 4th “*” part is optional, which can be “-0.1” to “-7.0” with interval of 0.1 to denote voltage deviation or blank to indicate no voltage different. The result by subtracting the deviation value from the standard rated output voltage denotes the rated output voltage, with a range of 5 - 30 volts.
3	GT-41131-WWVV-X.X series	WW is the rated output wattage designation, with a maximum value of "30". VV is the standard rated output voltage designation, with a range of "12-15/24-48V". -X.X is optional or blank and denotes the output voltage differentiator, subtracting or adding X.X volts from standard output voltage VV in 0.1V increments.

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E

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