CE LVD

TEST REPORT

For

LED BULB

Model No.:	**VT-2059**
Applicant :	**V-TAC EXPORTS LIMITED** **ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG**
Manufacturer :	**V-TAC EXPORTS LIMITED** **ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG**
Issued By :	**Global-Standard Testing Service Co., Ltd.** **Room 1911-1914, Noble Plaza, Qian Jin 1st Road, Bao An District, Shenzhen, Guangdong, China.**
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Report Number :	**J00.06.0013S**
Issued Date :	**January 17, 2017**
Date of Report :	**January 17, 2017**

Note:

1. The test data and result is based on the tested sample only.
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TEST REPORT EN 62560: 2012+ A1:2015 Self-ballasted LED-lamps for general lighting services by voltage > 50 V – Safety specifications	
Report reference No. ……..……:	J00.06.0013S
Testing laboratory ……..……:	Global-Standard Testing Service Co., Ltd.
Location……..:	Room 1911-1914, Noble Plaza, Qian Jin 1st Road, Bao An District, Shenzhen, Guangdong, China.
Applicant……..……:	V-TAC EXPORTS LIMITED
Address……..:	ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG
Manufacturer……..:	V-TAC EXPORTS LIMITED
Address……..:	ROOM NO.301, KAM ON BUILDING 176A QUEENS ROAD CENTRAL, CENTRAL, HONGKONG
Standards……..:	EN 62560: 2012+ A1:2015 EN 60061-1:1993+A53:2015 EN 61347-1: 2015 EN 61347-2-13: 2014 EN 62031: 2008+A2:2015 EN 62471: 2008 EN 62493: 2015
Procedure deviation……..……:	N/A
Non-standard test method……..……..:	N/A
Type of test equipment ……..:	LED BULB
Trade mark……..……:	V-TAC
Model/Type designation……..……..:	VT-2059
Rating……..……..……:	DC24V, 9W.
Copyright blank test report……..:	Global-Standard Testing Service Co., Ltd.
Test item particulars……..:	--
Operating Condition.....:	Continuous
Class of equipment.....:	Class III equipment
Protection against ingress of water….:	IP20

General remarks:	
"(see remark #)" refers to a remark appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a comma is used as the decimal separator. The test results presented in this report relate only to the object tested. This report shall not be reproduced except in full without the written approval of the testing laboratory. Until otherwise specified, all tests are done under normal ambient condition 25℃±10℃, Max RH: 75% and air pressure of 860 mbar to 1060 mbar.	Attached with:
Brief description of the test sample: 1. The European standard EN 62471 for LED laser product requirement has considered; 2. Clauses 8,10, 11, 12, 14, 16, 17, 18, 19 and 20 of the European standard test EN61347-2-13 used in conjunction with EN 61347-1 for lamp control gear inside VT-2059 have been consideration; 3. The Safety specifications of LED modules for general lighting was evaluated with reference to EN 62031; 4. The European standard EN 62493 for requirement has considered.	

Possible test case verdicts :	
test case does not apply to the test object	N(/A.)
test object does meet the requirement	P(ass)
test object does not meet the requirement	F(ail)

Name and address of the testing laboratory :

Global-Standard Testing Service Co., Ltd.
Room 1911-1914, Noble Plaza, Qian Jin 1st Road, Bao An District, Shenzhen, Guangdong, China.

Tested by: Sean Xiao — January 12, 2017
Signature — Date

Sean Xiao/ Engineer
Name/title

Witnessed by : Jerry Hu — January 17, 2017
Signature — Date

Jerry Hu / Project Engineer
Name/title

Approved by : — January 17, 2017
Signature — Date

Global-Standard Testing Service Co., Ltd. APPROVED

Tim Sun / Manager
Name/title

Copy of marking plate

LED BULB
Model: VT-2059
Rating: DC24V, 9W

V-TAC EXPORTS LIMITED

Note: Due to similarity of the labels, only above label was listed.

- The above copy of marking plate as an example, All the other models will have the same marking plate except the model name and input rating only and other parameter

-The above markings are the minimum requirements required by the safety standard. For the final productions samples, the additional markings which do not give rise to misunderstanding may be added.

- the height of WEEE directive mark is at least 7mm height.

EN 62560			
Clause	Requirement	Result - Remark	Verd.
4	**GENERAL REQUIREMENTS**		P
4.1	The lamp shall be so designed and constructed that in normal use cause no danger to the user.		P
4.2	Self-ballasted LED-Lamp are non-repairable.		P
5.	**MARKING**		P
5.1	Mandatory marking	See label	P
	- mark of origin		P
	- rated supply voltage (V).....	See label	P
	- rated wattage (W)	See label	P
	- rated frequency (Hz).....		N
5.2	Addition marking	See label	P
	- burning position		N
	- rated current (A).....		N
	- weight significantly higher	Warning:increased weight of lamp may reduce the mechanical stability of certain luminaires and lampholders and may impair contact making and lanp retention (inthe instruction manual)	P
	- special conditions or restrictions		N
	Not suiltable for dimming;symbol used 		N
	- eye protection	The products are classified as exempt group according to IEC 62471:2006.	P
5.3	Marking durable and legible		P
	rubbing 15 s water, 15 s petroleum; marking legible		P
Addition:	Position of the marking	On the body	P
	Language of instructions	English	P
	Suitability for use indoors		P
	Wireways smooth and free from sharp edges		P

EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict
6	**INTERCHANGEABILITY**		P
6.1	Cap interchangeability in accordance with IEC 60061-1		P
	Gauge in accordance with IEC 60061-3		P
6.2	Bending moment,axial pull ande mass		P
	Bending moment imparted by the lamp at the lampholder		P
	Lamp construction withstands axial pull (N)	40N	P
	Mass not exceeding value tabel 2 (kg) ..... :		P
7.	**PROTECTION AGAINST ACCIDENTAL CONTACT WITH LIVE PARTS**		P
	Internal, basic insulated or live metal parts not accessible		P
	Tested with a test finger with a force of 10 N		P
	Compliance checked with appropriate gauges		P
Addition:	Live parts not accessible		P
	Protection in any position		P
	Insulation lacquer not reliable		P
	Class II luminaire:		P
	- insulation-encased, reinforced insulation		P
	- glass protective shields not used as supplementary insulation		N
	Covers have adequate strength		P
	Covers reliably secured		P
	Portable plug connected luminaire with capacitor		N
8.	**INSULATION RESISTANCE AND ELECTRIC STRENGTH AFTER HUMIDITY TREATMENT**		P
8.1	Insulation resistance and electric strength shall be adequate between live parts of the lamp and accessible parts of the lamp.		P
8.2	After storage 48 h at 91-95% relative humidity and 20-30 °C measuring of insulation resistance with d.c. 500 V (MΩ):		P
	≥ 4 MΩ for double or reinforced insulation :	>100MΩ.	P
8.3	Immediately after clause 8.2 electric strength test for 1 min		P
	Double or reinforced insulation, 4U + 2000 V		N

EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict
	No flashover or breakdown		N
9.	**MECHANICAL STRENGTH**		P
	Torsion resistance of unused lamps		
9.1	Torque test		P
	B 15 d Cap ..... 1,15 Nm		N
	B 22 d Cap ..... 3,0 Nm		N
	E 11 Cap ..... 0,8 Nm		N
	E 12 Cap ..... 0,8 Nm		N
	GU10 Cap 1.15Nn		N
	E 14 Cap ..... 1,15 Nm		N
	E 27 Cap ..... 1,5 Nm		P
	Cap ..... 3,0 Nm		N
	GX 53 Cap ..... 3,0 Nm		N
9.2	Torsion resistance of lamps after a defined time of usage		N
	Torsion resistance of used lamp		N
9.3	Repetition of clause 8		P
	Clause 8 shall comply after the mechanical strength test.		P
Addition:	Lampholders		N
	Mounting brackets for Edison screw or bayonet-capped lampholders are subjected to testing for 1min, to the following bending moments:		N
	Locked connections:		N
	- fixed arms; torque (Nm).....:		N
	- lampholder; torque (Nm).....:		N
	- push-button switches; torque (Nm).....:		N
	No sharp point or edges		N
	Impact tests:		N
	- fragile parts; energy (Nm).....:		N
	- other parts; energy (Nm) .....:		N
	1) live parts		N
	2) linings		N

EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict
	3) protection		N
	4) covers		N
	Straight test finger		N
10	**CAP TEMPERATURE RISE**		P
	The cap temperature rise Δt_s of the lamp shall not exceed 120 K.		P
	- B22d .....125K :		N
	- B15d .....120K :		N
	- E27 .....120K :	ANNEX 1	P
	- Cap .....125 K :		N
	- E14 .....125 K :		N
	-GU10.....100 K		N
11	**RESISTANCE TO HEAT**		**P**
	External parts of insulating material providing protection against electric shock, and parts of insulating material retaining live parts in position, ball pressure test:		P
	Part tested; temperature (°C); diameter of impression (≤ 2 mm):	See appended table	P
	Part tested; temperature (°C); diameter of impression (≤ 2 mm):		N
	Part tested; temperature (°C); diameter of impression (≤ 2 mm):		N
12.	**RESISTANCE TO FLAME AND IGNITION**		**P**
	Parts of insulating material retaining live parts in position and external parts of insulating material providing protection against electric shock, glow-wire test 650 °C		P
	- no flaming drops igniting tissue paper		P
	- flame extinguished within 30 s		P
	Part tested; temperature (°C).....:	See table 11	P
	No visible flame and no sustained glowing		P

EN 62560			
Clause	Requirement – Test	Result - Remark	Verdict
13	**FAULT CONDITIONS**		**P**
13.2	Extreme electrical conditions (dimmable lamps)		P
	Lamp withstands overpower condition >15 min.		N
	Lamp fails safe after 15 min overpower condition		P
	Lamp with automatic protective device or power limiter, test performed 15 min. At limit.		P
13.3	Extreme electrical conditions (non-dimmable lamps)		P
	Tested according 13.2 (as far as possible)		P
13.4	Short-circuit across capacitors	(see appended table)	P
13.5	Fault conditions: where diagram indicates fault condition impairs safety, electronic components have been short-circuited or disconnected	(see appended table)	P
13.6	When operated under fault conditions the lamp		P
	- does not emit flames or molten material		P
	- does not produce flammable gases or smoke		P
	- live parts not accessible		P
	After the tests the insulation resistance with d.c. 1000 V complies with requirements of Cl. 8.1		P

14 (16)	**CREEPAGE DISTANCES AND CLEARANCES**		**P**
	Creep age distances and clearances according to Table 3 and 4 of IEC 61347-1, as appropriate		P
	Printed boards see clause 14 of IEC 61347-1		P
	Insulating lining of metallic enclosures		N

TABLE	List of critical components and materials			
Component	manufacturers / trademark	Type / model	Value / rating	Approval/ Reference
LED PCB	Shikibo Electronics Co Ltd	E4	V-0, 130℃	UL
Diffuser	Celanese International Corp	T140	Min.thickness 0.75mm, HWI 3, HAI 3, RTI 3, V-0, 130℃	UL
Lamp base	Zhongshan guzhen China thousand lamp factory	E27	Medium (E26) base, made of aluminium alloy. Min.tnickness 0.24mm.	Appliance of test
PCB of LED driver	Hunan Foundersoonest Electronic Technology Co., Ltd.	FZD02	Min.thickness 0.2mm, HWI 4, HAI 3, RTI 3V-0, 130℃	UL
Enclosure	Celanese International Corp	T140	Min.thickness 0.75mm, HWI 3, HAI 3, RTI 3, V-0, 130℃	UL
Internal wire	Dongguan Wenchang Electronic Co., Ltd.	1007	VW-1, Min. 24AWG, Min. 105℃.	UL

Test Data table

13	TABLE: tests of fault conditions		P
Part	Simulated fault	Result	Hazard
D1	Short circuit	Unit shut down, recoverable	NO
Output + and _	Short circuit	Unit shut down, recoverable	NO

11	TABLE: ball pressure test of thermoplastics		P
Part	Test temperature (℃)	Impression diameter (mm)	Required impression diameter (mm)
PCB	125	0.45	≤2.0
Diffuser	125	1.32	≤2.0

14(16)	TABLE: Clearance And Creep age Distance Measurements					N
clearance cl and creep age distance decry at/of:	**Up (V)**	**U rams. (V)**	**Required Cl (mm)**	**Cl (mm)**	**required Cr (mm)**	**Cr (mm)**
L and N on PCB						
Live parts on driver PCB and accessible part						
Primary circuit and secondary circuit of LED driver PCB						
Supplementary information:						

ANNEX 1	TABLE: temperature measurements, thermal tests of Section 12		P
	Lamp used ..... :	VT-2059	—
	Ballast used ..... :	Independed LED Driver	—
	Mounting position of luminaire..... :	As in normal use	—
	Supply wattage (W) ..... :	9.7W	—
	Supply current (A)..... :	0.39A	—
	Table: measured temperatures corrected for Ta = 25°C:		P
	- abnormal operating mode ..... :	—	—
	- test 1: rated voltage..... :	—	—
	- test 2: 1,06 times rated voltage or 1,05 times rated wattage..... :	1.06 *24	—
	- test 3: Load on wiring to socket-outlet, 1,06 times voltage or 1,05 times wattage... :	—	—
	- test 4: 1,1 times rated voltage or 1,05 times rated wattage..... :	—	—
temperature (°C) of part	clause 12.4 - normal		clause 12.5 - abnormal

	test 1	test 2	test 3	limits	test 4	limit
LED	---	113.0	---	Ref.	---	---
LED PCB	---	66.2	---	130	---	---
Input wire of LED	---	65.6	---	105	---	---
Diffuser	---	32.1	---	130	---	---
Lamp enclosure	---	42.4	---	90	---	---
Lamp base screws	---	51.8	---	Ref.	---	---
Ambient	---	25.0	---	---	---	---

Attachment –A
Photo Documentation

Photo 1 View: [√] Front [ ] Rear [ ] Right side [ ] Left side [ ] Top [ ] Bottom [ ] Internal	

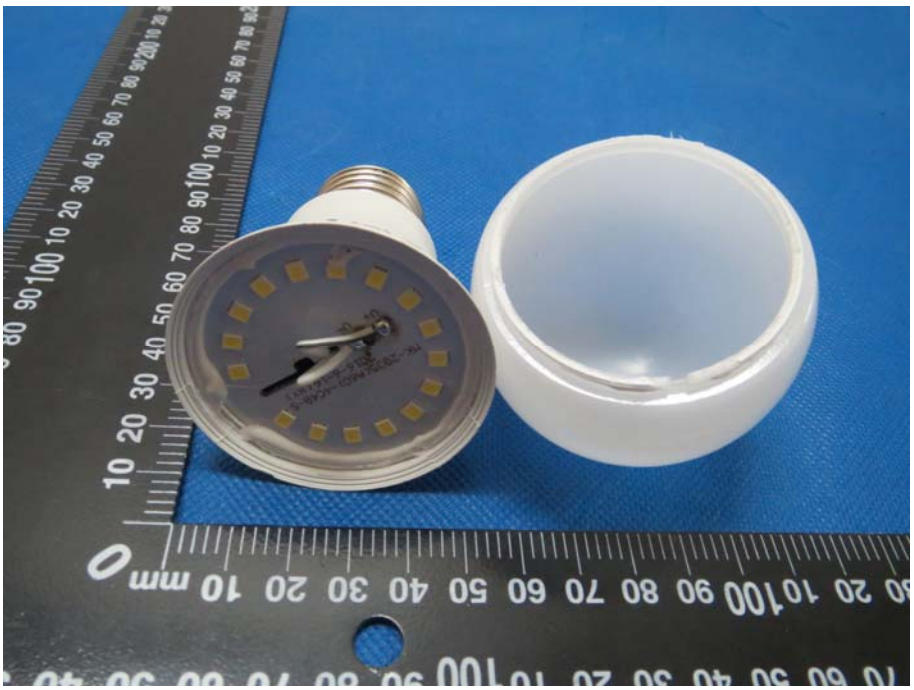
Photo 2 View: [√] Front [ ] Rear [ ] Right side [ ] Left side [ ] Top [ ] Bottom [ ] Internal	

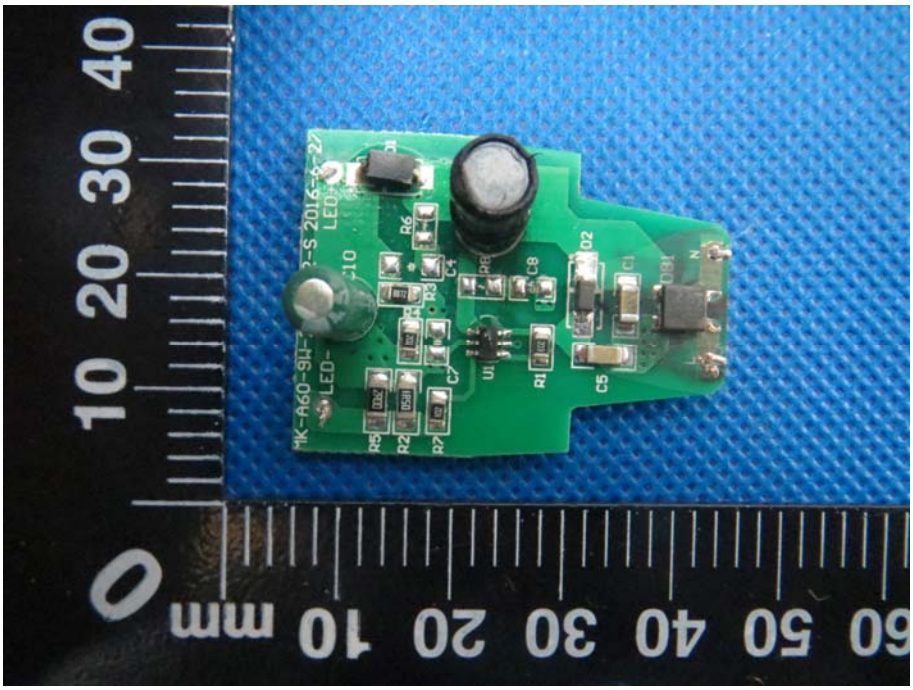
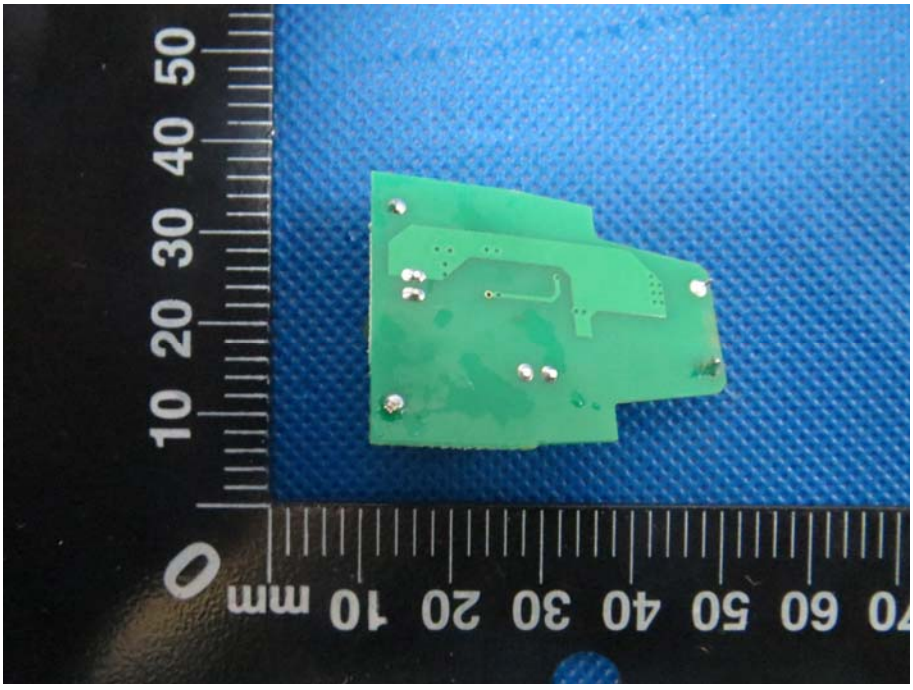
Photo 3 View: [ ] Front [ ] Rear [ ] Right side [ ] Left side [ ] Top [ ] Bottom [√] Internal	

Photo 4 View: [ ] Front [ ] Rear [ ] Right side [ ] Left side [ ] Top [ ] Bottom [√] Internal	

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