

SPECIFICATION FOR APPROVAL

CUSTOMER: _____

CUSTOMER P. N. : _____

MODEL NO. : _____ >5MS!P-Z1A40IC36V0-050D

MODEL OF CERTIFICATE: _____

PRODUCT NO. : _____ YWZ0021-N0

SAMPLE DATE: _____ 2012-04-11

| CUSTOMER AUTHORIZED SIGNATURE | | |
|-------------------------------|--|--|
| | | |

Please return to us one copy of "SPECIFICATION FOR APPROVAL" with you approved signature.

ADD: >5FC 7CADCB9BHG =B7" ž**\$\$ DUF_ cZ 7caaYf W 6`j X ž6cW FUnCbž : @ ' ' (, +
..... D.) *% & (% *+\$\$
..... : U.) *% & (% ' ' &
..... <hhd. ##kkk" ^UfcWadcbYbhg" Wwa ..

E. C. LIST/

| Rev. | Description of Change | | Changed Date | ECN No. |
|------|-----------------------|-------|--------------|---------|
| | Before | After | | |
| A | Original Release | --- | 2012.04.11 | --- |
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1. SCOPE

The document detail the electrical, mechanical and environmental specifications of a [50W constant current](#) LED driver. The LED driver shall meet the RoHS requirement.

Description

- LED driver (With AL Case)/ LED driver (With Plastic Case)
 Open Frame/ Others

2. Input Characteristics

2.1. Input Voltage & Frequency

The range of input voltage is from 90 to 305Vac single phase.

| | Minimum | Nominal | Maximum |
|-----------------|---------|------------|---------|
| Input Voltage | 90Vac | 100-277Vac | 305Vac |
| Input Frequency | 47Hz | 60Hz/50Hz | 63Hz |

2.2. Input AC Current

0.8Amax. @ input 100-277Vac & Full load.

2.3. Inrush Current (cold start)

30Amax. @ input 277Vac.

2.4. Power Factor

0.92 min@ Nominal input 110V& 100%of Full load

0.90 min@ Nominal input 220V& 100%of Full load

2.5. Efficiency (Normal)

83%min@(type85.6%) input 115Vac& Full load

85%min@(type88.4%) input 220Vac& Full load

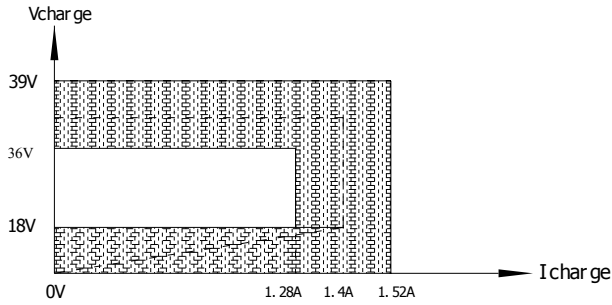
3. Output Characteristics

3.1. Static Output Characteristics <Vo & R+N>

| Output Rate | Load | | Output Range | R+N | Remark |
|-------------|-----------|-------|--------------|-----------|---------|
| | Min. Load | Load | | | |
| +36V | 0.0A | 1.28A | <39V | 3000mVp-p | CC Mode |

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1uF ceramic capacitor and a 10uF electrolysis capacitor.
(test under the condition of rated input and rated output)

3.2. Voltage/Current Curve



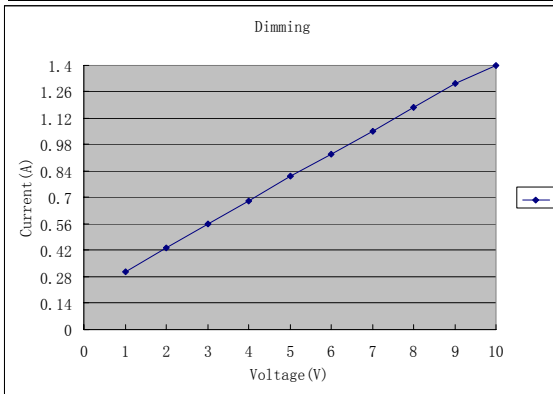
Remark:

| Constant Current Output Characteristics | Minimum | Typical | Maximum |
|---|---------|---------|---------|
| Output Current Range | 1.28A | 1.4A | 1.52A |
| Output Voltage Range | 18V | / | 36V |

3.3. Dimming Voltage/Current Proportion Curve

The product can meet the dimming dimmer from 20% to 100% with different requests of luminance.

| Dimming voltage (V) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---------------------|-------|-------|-------|-------|-------|------|-------|-------|-------|-----|
| Output Current (A) | 0.306 | 0.433 | 0.561 | 0.684 | 0.813 | 0.93 | 1.053 | 1.178 | 1.303 | 1.4 |



3.4. Turn - on Delay Time

3.0S max. @ input 100 - 277 Vac & Full load

3.5. Hold-up Time

6mS min. @ Full load & 115Vac/60Hz input turn off at worst case

8.3mS min. @ Full load & 230Vac/50Hz input turn off at worst case

3.6. Rise Time

50mS max. @ Rated load

3.7. Fall Time

50mS max. @ Full load

3.8. Output voltage Overshoot / Undershoot

10% max. When the power on or off

3.9. Output Load Transient Response

output voltage within 36V-39V for load step from 25% to 75%, R/S: 1A/uS, frequency: 100Hz

4. Protection Requirements

4.1. Short Circuit Protection

The input power shall decrease when the output rail short, the power supply shall no damage, and shall be self-recovery when the fault condition is removed

4.2. Over Voltage Protection

When the output voltage is over 52.5V the product is protected such as hiccup or when it is at the highest point of output voltage the product would not be hurted when the fault is excluded or is start working again the power supply is working normally.

5. Environment Requirements

5.1. Operating Temperature and Relative Humidity

-25°C to +50°C

5%RH to 95%RH

5.2. Storage Temperature and Relative Humidity

-35°C to +70°C

5% to 95%RH non-condensing @ Sea level shall be low 10,000 feet

5.3. Vibration

10 to 300Hz sweep at a constant acceleration of 1.0G (Breadth: 3.5mm) for 1Hour for each of the perpendicular axes X, Y, Z.

6. Reliability Requirements

6.1. Burn-in

The power supply shall under go a minimum of 4 Hours burn-in test at 40°C ± 5°C under full load condition

6.2. LIFE Time Qualification

The Life Time shall be at least 30,000hours at 40°C, Full load and nominal input condition

7. EMI/EMS Standards

7.1. EMI Standards

| |
|----------------------------------|
| EN 55015:2006+A1:20007 +A2:2009, |
| EN 61547:2009 |
| EN 61000-3-2 :2006+A2: 2009 |
| EN61000-3-3:2008 |

7.2. EMS Standards

| | |
|---------------|---|
| EN 61000-3-2 | Harmonic current emissions ,class c. |
| EN 61000-3-3 | Voltage fluctuations & flicker |
| EN 61000-4-2 | Electrostatic Discharge(ESD): 8kV air discharge, 4kV contact discharge |
| EN 61000-4-3 | Radio-Frequency Electromagnetic Field Susceptibility Test-RS |
| EN 61000-4-5 | Surge Immunity Test: AC Power Line: line to line 1kV, line to earth 2kV |
| EN 61000-4-8 | Power Frequency Magnetic Field Test |
| EN 61000-4-11 | Voltage Dips |
| EN 61000-6-1 | Electromagnetic compatibility (EMC)—Part 6-1:Generic standards-Immunity for residential, commercial and light-industrial environments |
| EN 61000-6-3 | Electromagnetic compatibility (EMC)—Part 6-3:Generic standards-Emission |

8. Safety Standards

8.1 Dielectric Strength(Hi-pot)

Primary to Secondary: 3750Vac 10mA_{Max} / 60second(3second for production)/Finished goods

8.2 Leakage Current

0.5mA_{max}. at input 277Vac/50Hz.

8.3 Insulation Resistance

50M Ω min. at primary to secondary add 500Vdc test voltage.

8.4 Regulatory Standards

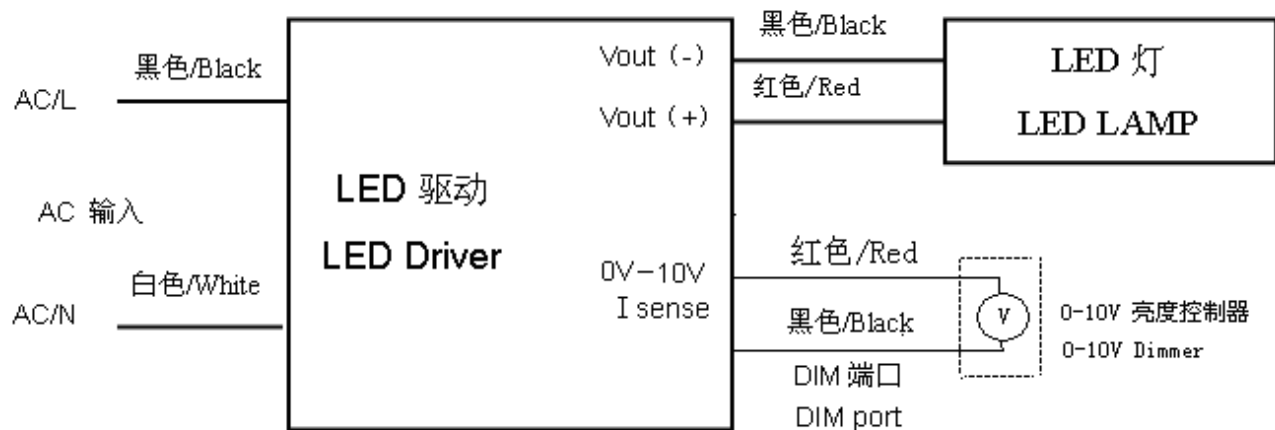
| Type | Country | Standard | State | |
|------|---------|-----------------------------|----------|----|
| CE | Europe | EN 61347-1 EN 61347-2-13 | 符合(meet) | CE |

9. Dimming

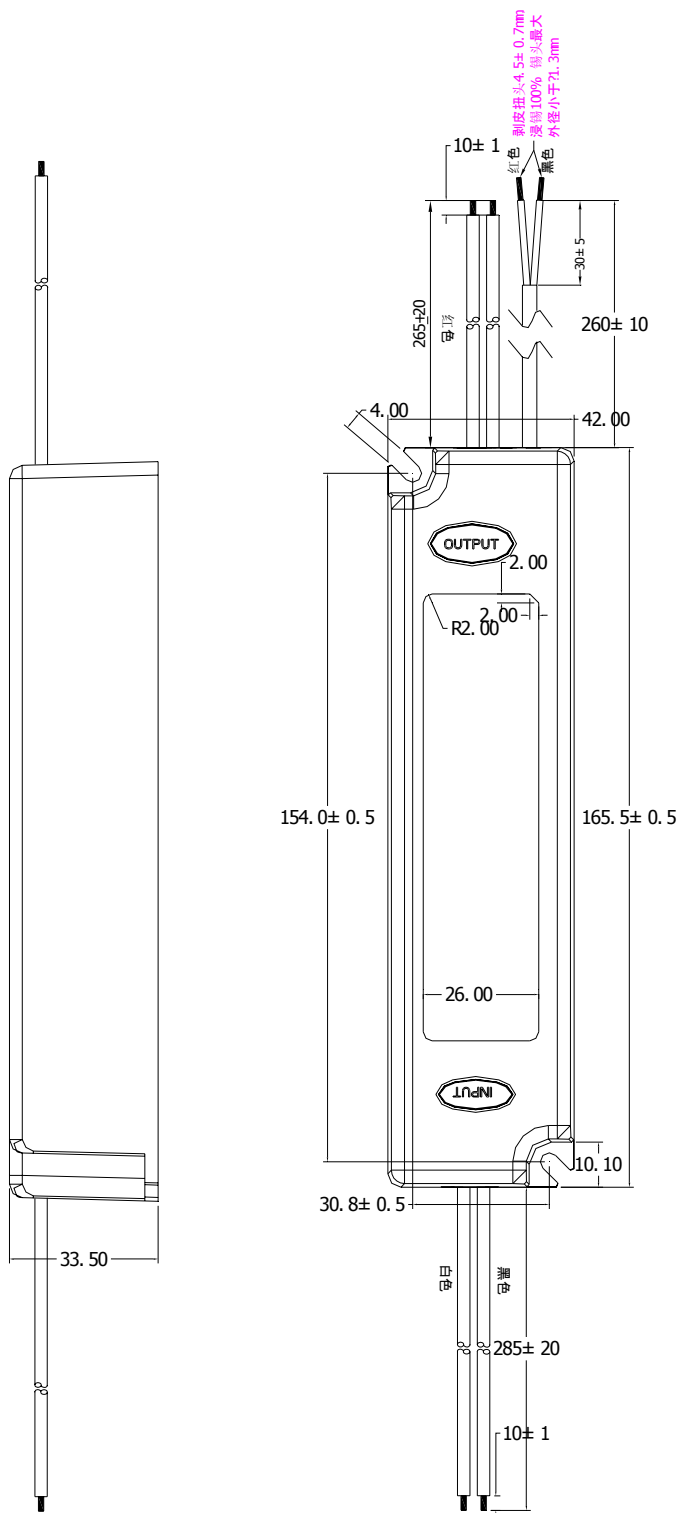
A 0-10V dimmer connected to DIM Port for achieving 20-100% brightness dimming by changing the voltage(0-10V) of Isense .

One LED driver, one brightness controller control one LED lamp only.

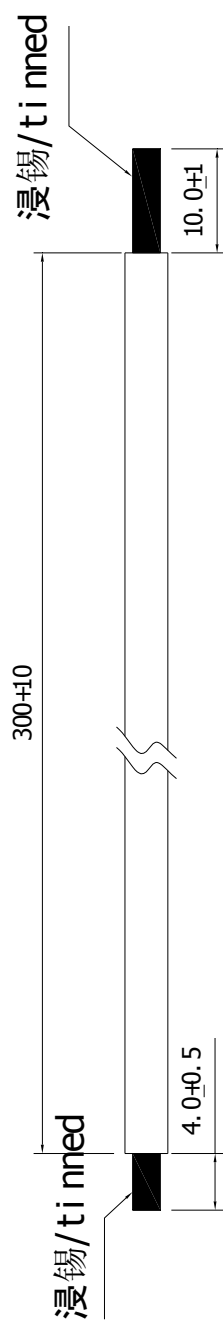
Dimming sketch map shown as following:



10. Mach. Outline Drawing

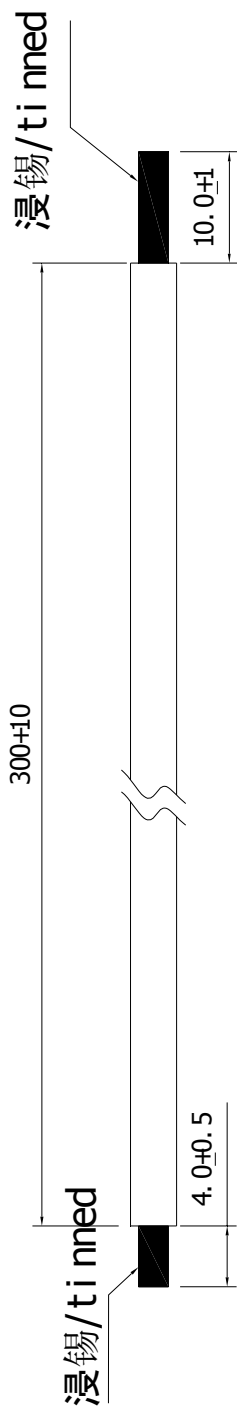


11. DC Cord



技术要求/technical requirements:

1. 线材规格: UL1015 18AWG PVC外皮 $OD=2.7 \pm 0.1$
Cable spec: UL 1015 18AWG PVC material $OD=2.7 \pm 0.1$
2. 线材颜色: 黑色
Color: black
3. 线材料号: 472-180015-180
P. N: 472-180015-180



技术要求/technical requirements:

1. 线材规格: UL1015 18AWG PVC外皮 OD=2.7±0.1

Cable spec: UL 1015 18AWG PVC material OD=2.7±0.1

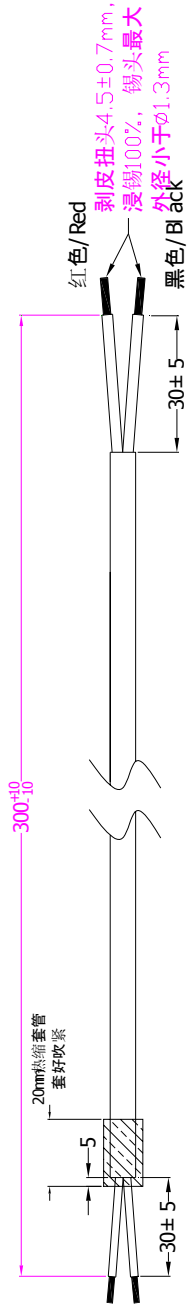
2. 线材颜色: 红色

Color: red

3. 线材料号: 472-182015-170

P.N: 472-182015-170

Dimming Cord



技术要求/technical requirements:

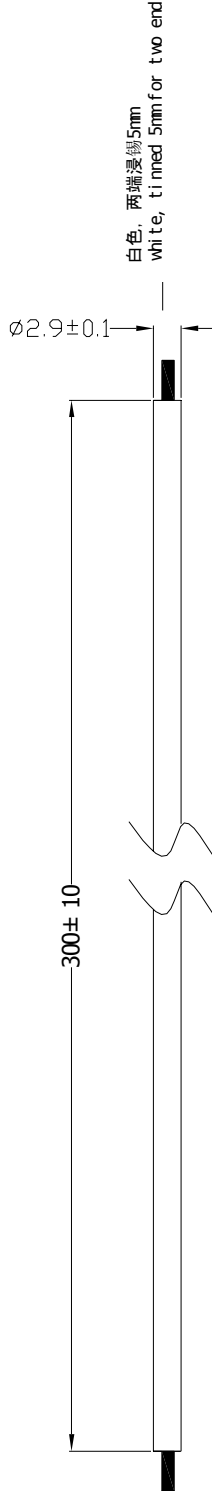
- 拉力试验要求: 1、SR、DC头和磁环与线身的拉力 $\geq 5\text{KG}$ (1分钟), 位移 $\leq 2\text{MM}$
Strain test requirements: 1、Apply more than 5KG strain between SR, DC terminal and cable for 1 minute, the displacement less more than 2MM
- 整条线拉力 $\geq 10\text{KG}$ (1分钟)无断芯和延伸率 \leq 总长的10%
Apply more than 10KG strain on cable for 1 minute without break up for inner-core wires and the elongation rate no more than 10% of the cable's over-all length.
- 摇摆测试要求: 90°: 300g, 120° (左右各60°): 45次/分钟, 最少1000次;
Sway test requirements: For SR side: 200g, 120° (Angle is 60 degree during test for each side), 45 times per 1 minute, the total test not less than 1000;
DC头: 300g, 120° (左右各60°): 45次/分钟, 最少1000次;
For SR side: 200g, 120° (Angle is 60 degree during test for each side), 45 times per 1 minute, the total test not less than 1000;
- 外观要求: 1、线材外皮, 每米不能超过3个小凸点;
Appearance requirements: 1、for cable sheath, if more than three scratch were found within 1m distance is not permit
Any appearance issue such as damage, crush, smudge on cable surface are not permit.
2、线材表面不能有破损、压伤、脏污等外观不良;
3、SR和DC表面不能有变形、缩水、披锋、气纹、缺胶等不良;
Any appearance issue such as distortion, shrinkage, burr, gas line, missing rubber on SR or DC terminal are not permit.
4、五金DC头不能有氧化、刮伤等不良;
5、五金DC头不能有氧化、刮伤等不良;
5、线头浸锡需完全;
The lead of the cable end must be tinned completely;
6、SR和DC头尾部不能有压线现象;
Two end of SR or DC can't press wire after assembled.

- 四、耐高温要求: 热变形温度 $\geq 80^\circ\text{C}$ 、试验3-6hurs, 无变形、开裂等不良;
Temperature requirements: Heat deflection temperature(HDT) $\geq 80^\circ\text{C}$, test for 3-6 hours without any distortion, crack on cable body
- 五、线材规格: 2464 20AWG 80°C 300V VW1, 线上有印字, 线芯要求: 21/70.18GXCF, 中芯线截面积0.518MM²
Cable Spec: 20AWG comply with 2464, two inner_core wire, 80°C 300V string requirements 21/70.18GXCF.

- 六、印字要求: 2464 20AWG 80°C 300V VW1, 带有UL认证号码和公司认证;
Printing: 2464 20AWG 80°C 300V VW1, and including safety standard number and company name which UL requested.

- 七、材质要求: 线身外皮材质为 $65\pm 5\text{P}$ 的PVC材质;
Material: PVC
- 八、颜色要求: 黑色(1101M色), 线身为半雾面;
Color: black
- 九、环保要求: 过RoHS标准;
Environmental protection requirements: meets RoHS requirement
- 十、料号/ P. N: 32230244

12. AC Cord/AC 短线



技术要求/technical requirements:

一、拉力试验要求: 1、SR、DC头与线身的拉力 $\geq 3.5\text{KG}$ (1分钟), 位移 $\leq 2\text{MM}$
Strain test requirements: 1、Apply more than 3.5KG strain between SR、DC terminal and cable for 1 minute, the displacement less more than 2MM

2、整条线拉力 $\geq 5\text{KG}$ (1分钟)无断芯和延伸率 \leq 总长的10%;

Apply more than 5KG strain on cable for 1 minute without break up for inner-core wires and the elongation rate no more than 10% of the cable's over-all length;

二、摇摆测试要求: SR端: 200g, 120° (左右各60°), 45次/分钟, 最少500次;

Sway test requirements: For SR side: 200g, 120° (Angle is 60 degree during test for each side), 45 times per 1 minute, the total test not less than 500;

DC头: 200g, 120° (左右各60°), 45次/分钟, 最少500次;

For SR side: 200g, 120° (Angle is 60 degree during test for each side), 45 times per 1 minute, the total test not less than 500;

三、外观要求: 1、线材外皮, 每米不能超过3个小凸点;

Appearance requirements: 1、For cable sheath, if more than three scratch were found within 1m distance is not permit

2、线材表面不能有破损、压伤、脏污等外观不良;

Any appearance issue such as damage, crush, smudge on cable surface are not permit.

3、SR和DC头表面不能有变形、缩水、披锋、气纹、缺胶等不良;

Any appearance issue such as distortion, shrinkage, burr, gas line, missing rubber on SR or DC terminal are not permit.

4、五金DC头不能有氧化、刮伤等不良;

Any oxidation or scratch for hardware DC terminal are not permit;

5、线头浸锡需完全;

The lead of the cable end must be tinned completely;

6、SR和DC头尾部不能有压线现象;

Two end of SR or DC can't press wire after assembled.

四、耐高温要求: 热变形温度 $\geq 80^\circ\text{C}$ 、试验3-6小时, 无变形、开裂等不良;

Temperature requirements: Heat deflection temperature (HDT) $\geq 80^\circ\text{C}$, test for 3-6 hours without any distortion, crack on cable body

五、线材规格: UL 1672 18AWG 双层绝缘线, 105°C 300V ;
Cable spec: 18AWG comply with UL1672, double insulation, 105°C 300V;

六、印字要求: UL 1672 18AWG 双层绝缘线, 105°C 300V及相关认证;
Printing: UL 1672, 18AWG, double insulation, 105°C, 300V, the safety mark and other safety standard requested.

七、材质要求: PVC材质;

Material: PVC;

八、颜色要求: 白色;

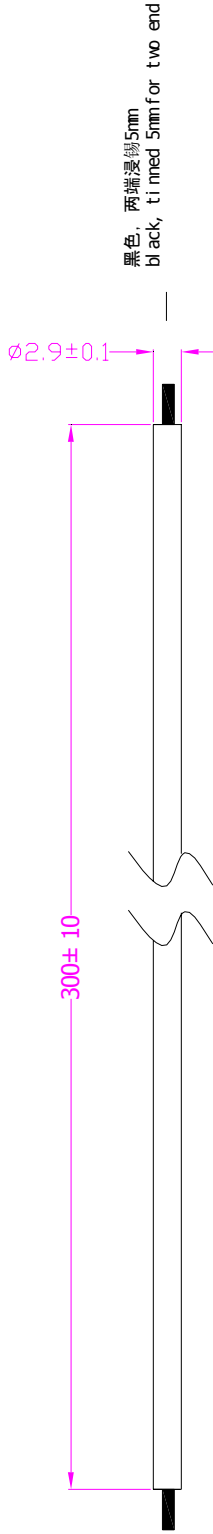
Color: white

九、环保要求: 过RoHS标准;

Environmental protection requirements: meets RoHS requirement

十、线材料号: 472-189672-000

P.N: 472-189672-000

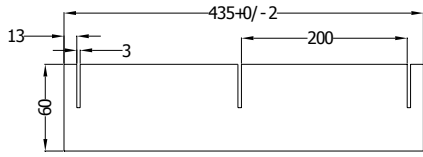


技术要求/technical requirements:

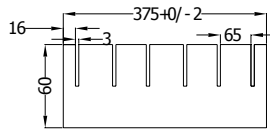
- 一、拉力试验要求: 1、SR、DC头与线身的拉力≥ 3.5KG(1分钟), 位移≤ 2MM
Strain test requirements: 1、Apply more than 3.5KG strain between SR, DC terminal and cable for 1 minute, the displacement less more than 2MM;
- 2、整条线拉力≥ 5KG(1分钟)无断芯和延伸率≤ 总长的10%;
Apply more than 5KG strain on cable for 1 minute without break up for inner-core wires and the elongation rate no more than 10% of the cable's overall length;
- 二、摇摆测试要求: SR端: 200g, 120° (左右各60°), 45次/分钟, 最少500次;
Sway test requirements: For SR side: 200g, 120° (Angle is 60 degree during test for each side), 45 times per 1 minute, the total test not less than 500;
DC头: 200g, 120° (左右各60°), 45次/分钟, 最少500次;
For SR side: 200g, 120° (Angle is 60 degree during test for each side), 45 times per 1 minute, the total test not less than 500;
- 三、外观要求: 1、线材外皮, 每米不能超过3个小凸点;
Appearance requirements: 1、for cable sheath, if more than three scratch were found within 1m distance is not permit
2、线材表面不能有破损、压伤、脏污等外观不良;
Any appearance issue such as damage, crush, smudge on cable surface are not permit.
3、SR和DC头表面不能有变形、缩水、披锋、气纹、缺胶等不良;
Any appearance issue such as distortion, shrinkage, burr, gas line, missing rubber on SR or DC terminal are not permit.
4、五金DC头不能有氧化、刮伤等不良;
Any oxidation, scratch for hardware DC terminal are not permit;
5、线头浸锡需完全;
The lead of the cable end must be tinned completely;
6、SR和DC头尾部不能有压线现象;
Two end of SR or DC can't press wire after assembled.
四、耐高温要求: 热变形温度≥ 80°C、试验3-6小时, 无变形、开裂等不良;
Temperature requirements: Heat deflection temperature (HDT) ≥ 80°C, test for 3-6 hours without any distortion, crack on cable body
- 五、线材规格: UL 1672 18AWG 双层绝缘线105°C 300V ;
Cable spec: 18AWG comply with UL1672, double insulation, 105°C 300V;
- 六、印字要求: UL 1672 18AWG 双层绝缘线, 105°C 300V及相关认证;
Printing: UL 1672, 18AWG, double insulation, 105°C, 300V, the safety mark and other safety standard requested.
- 七、材质要求: PVC材质;
Material: PVC;
- 八、颜色要求: 黑色;
Color: black
- 九、环保要求: 过ROHS标准;
Environmental protection requirements: meets RoHS requirement
- 十、线材料号: 472-180672-000
P.N: 472-180672-000

13. I/O Marking Drawing/铭牌示意

14. Package Drawing



3刀卡



6刀卡

包装说明:

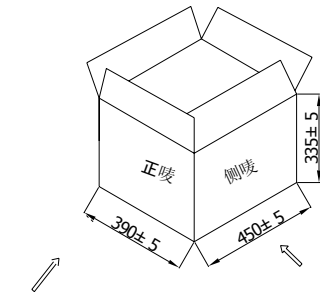
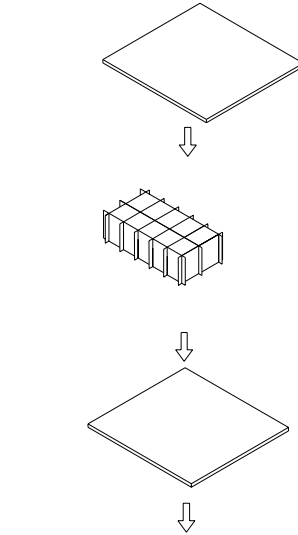
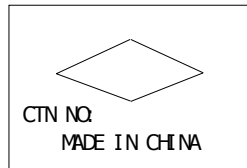
- 一、将产品每PCS装入220*90(mm)汽泡袋中包好, 再将包装的产品放入刀卡槽中, 每层装10PCS, 共装5层, 每箱装50PCS

即: 10pcs/层*5层=50PCS/箱

二、包装材料使用说明为:

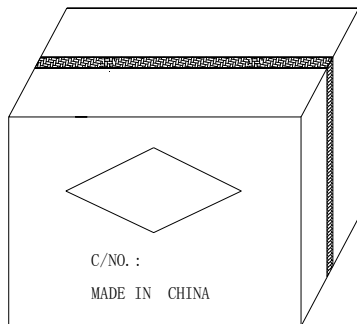
- 1、3刀卡435*60用量: 30PCS
- 2、6刀卡375*60用量: 15PCS
- 3、汽泡袋220*90用量: 50PCS
- 4、平卡435*375 材质 用量:6PCS
- 6、纸箱450L*390W*335H: 1PCS

正唛:(两边一样)



P/O NO.
ITEM NO.
QTY
G.W: N.W:
CTN SIZE:

纸箱的外尺寸: 450L*390W*335H



产品装入包装箱用胶袋封箱, 位置参考图中所示.