

# Electronic component

## 电子元器件

电线电缆

元器件工程网  
ComponentValley.com

# Component Family

## 元器件族系

Electronic component 电子元件

Passive component 被动元件

Active component 主动元件

Electromagnetic component 电磁元件

Electromechanical component 机电元件

Electro-optic component 光电元件

Printed board 印制电路板

Wire and cable 线材

# Wires and cables Sub-family

## 线材子族系

- Wires and cables 线材
  - 电线是指构造简单而且芯数较少的线材。
  - 电缆是指多重绞合，制造工艺复杂，或芯数较多的传线材。
  - 电线及电缆二者区分并不严格，通俗地讲，只要能传送电力或信号的线材，都可以称之为电线电缆。

# Wires and cables group

## 线材分类

UL Category	UL CCN (Category Code)	UL Standard	Example of Wire Types
Appliance Wiring Material	AVLV2	Subject 758	Style 1007, 1015, 1061, 2468, 20251, 2960, etc.
Flexible Cord	ZJCZ	UL 62	SPT-1, SPT-2, SPT-3 SVT, SJTW, S, SO, SOW HPN, CXT, XT, etc.
Communications Cable	DUZX	UL 444	CMX, CMH, CM, CMR, CMP, CMG MP, MPR, MPP
Power-Limited Circuit Cable	QPTZ	UL 13	CL2X, CL3X, CL2, CL3, CL2R, CL3R, CL2P, CL3P, PLTC
Thermoplastic-Insulated Wire and Cable	ZLGR	UL 83	TW, THW, THWN, THHN, THW-2, ETC.

# Wires and cables group

## 线材分类

- Wire & Cable 线材
- Definition by construction 根据结构可分
  - Single conductor 单芯线
  - Multi-conductor 多芯线
  - Twisted pairs 双绞线
  - Coaxial cable 同轴线

# Wires and cables group

## 线材分类

- Single conductor单芯线
  - Solid bare conductor单股裸线
  - Solid insulated conductor单股绝缘线
  - Stranded bare conductor裸绞线
  - Stranded insulated conductor绝缘绞线

# Wires and cables group

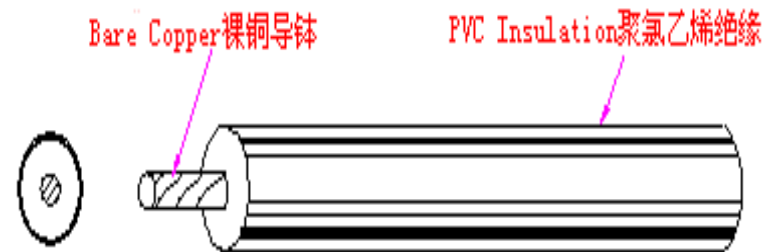
## 线材分类

- Solid bare conductor 单股裸线

# Wires and cables group

## 线材分类

- Solid insulated conductor 单股绝缘线





# Wires and cables group

## 线材分类

- Stranded bare conductor 裸绞线

# Wires and cables group

## 线材分类

- Stranded insulated conductor 绝缘绞线

# Wires and cables group

## 线材分类

- Multiconductor cable 多芯线



# UL Wires and cables Guideline

## UL线材规格介绍

Appliance Wiring Material Style Number Designations		
Style Designations	Section	Type/Use
1000 - 1999 and 10000 -	1	Single Conductor, thermoplastic-insulated wire.
2000 - 2999 and 20000 -	2	Multi-Conductor, thermoplastic-insulated and jacketed wire.
3000 - 3999	3	Single Conductor, thermosetting-insulated wire.
4000 - 4999	4	Multi-Conductor, thermosetting-insulated and jacketed wire.
5000 - 5999	5	Single and multiple conductor specialty items



StyleNumber

# UL Wires and cables Guideline

## UL线材规格介绍

- 1. 電線電纜的規格描述.
- 例: UL 2725 28AWG ( 7 / 0.127 A S ) x6C + E + A + B
- 1 2 3 4 5 6 7 8 9 10
- 1. --- 表示UL安規.
- 2. --- 表示AWG (American Wire Gauge 美國線規)數,
- 3. --- 表示導體購成,此條導體由7股細銅絲組成.
- 4. --- “/” 表示7股細銅絲是絞合在一起, “x” 則表示7股細銅絲是直放在一起。一般而言，電話線導體直放的多.
- 5. --- 表示銅絲單線徑是0.127mm.
- 6. --- “A”表示裸銅線( “T”表示鍍錫線), “S”表示細銅絲絞合.
- 7. --- “C”(core)表示芯數.
- 8. --- “E”(earth)表示地線.
- 9. --- “A”(al/mylar)表示包鋁薄麥拉帶( “P”表示包紙).
- 10.--- “B”(braid)表示編織( “S”(spiral)表示纏繞).



# UL Wires and cables Guideline

## UL线材规格介绍 - AWM1007

### UL STYLE 1007 Hook Up Wire

PVC

#### Wire Diagram



#### Product Description

Temperature Rating (°C)	:	80°C
Voltage Rating (V)	:	300V
Flamability Test	:	VW-1(UL), FT-1(c-UL)
Product Standard Certification	:	UL, cUL
Application	:	For internal wiring of Electronic & Electrical Equipment
Reference Standard	:	UL758, UL1581, UL2556 & CSA 22.2 No 210.2

#### Colour

According to customer requirement

Marking  
E306364



AWM 1007 VW-1 80°C 300V AWG\_\_ MASTER TEC



AWM1A 80°C 300V FT1 AWG\_\_ -F- (LEAD FREE)



AWM1007.pdf

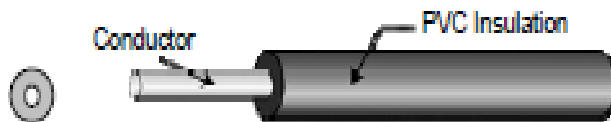
# UL Wires and cables Guideline

## UL线材规格介绍 - AWM1015

### UL STYLE 1015 Hook Up Wire

PVC

#### Wire Diagram



#### Product Description

Temperature Rating (°C)	:	105°C
Voltage Rating (V)	:	600V
Flammability Test	:	VW-1(UL), FT-1(c-UL)
Product Standard Certification	:	UL, cUL
Application	:	For internal wiring of Electronic & Electrical Equipment
Reference Standard	:	UL758, UL1581, UL2556 & CSA 22.2 No 210.2

#### Colour

According to customer requirement

#### Marking

E306364  AWM 1015 VW-1 105°C 600V AWG \_\_ MASTER TEC  AWMLA 105°C 600V FT1 AWG \_\_ -F- (LEAD FREE)



AWM1015

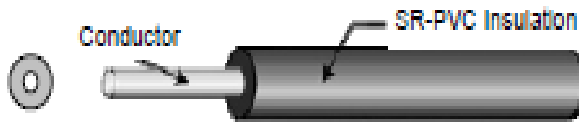
# UL Wires and cables Guideline

## UL线材规格介绍 – AWM1061

### UL STYLE 1061 Semi Rigid Heat Resistance Wire



#### Wire Diagram





#### Product Description

Temperature Rating (°C)	:	80°C
Voltage Rating( V)	:	300V
Flamability Test	:	VW-1(UL), FT-1(c-UL)
Product Standard Certification	:	UL, cUL
Application	:	For internal wiring of Electronic & Electrical Equipment
Reference Standard	:	UL758, UL1581, UL2556 & CSA 22.2 No 210.2

#### Colour

According to customer requirement

#### Marking

E306364  AWM 1061 VW-1 80°C 300V AWG \_\_ MASTER TEC  AWM IA 80°C 300V FT1 AWG \_\_ -P- (LEAD FREE)



AWM1061



# UL Wires and cables Guideline

## UL线材规格介绍 - AWM1095

Product specification

### UL STYLE 1095 Hook Up Wire

PVC

#### Wire Diagram



#### Product Description

Temperature Rating (°C)	:	80°C
Voltage Rating (V)	:	300V
Flamability Test	:	VW-1(UL), FT-1(c-UL)
Product Standard Certification	:	UL, cUL
Application	:	Internal wiring in electronic appliance, Time-recording machine
Reference Standard	:	UL758, UL1581, UL2556 & CSA 22.2 No 210.2

#### Colour

According to customer requirement

#### Marking

E306364  AWM 1095 VW-1 80°C 300V AWG \_\_ MASTER TEC  AWM IA 80°C 300V FT1 AWG \_\_ -F- (LEAD FREE)

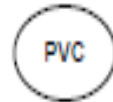


AWM1095

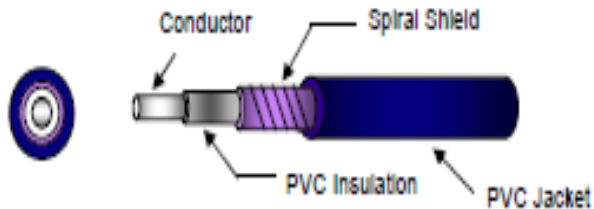
# UL Wires and cables Guideline

## UL线材规格介绍 – AWM1185

### UL STYLE 1185 Single Conductor Shielded Wire



#### Wire Diagram





#### Product Description

Temperature Rating (°C)	:	80°C
Voltage Rating (V)	:	300V
Flamability Test	:	VW-1(UL), FT-1(c-UL)
Product Standard Certification	:	UL, cUL
Application	:	For use in recording studios, sound systems and electronic circuits and power adaptor for portable PC
Reference Standard	:	UL758, UL1581, UL2556 & CSA 22.2 No 210.2

#### Colour

According to customer requirement

#### Marking

E306364  AWM 1185 VW-1 80°C 300V AWG\_MASTER TEC  AWM IA 80°C 300V FT1 AWG\_-F- (LEAD FREE)



AWM1185

# UL Wires and cables Guideline

## UL线材规格介绍 – AWM1569

Product description

### UL STYLE 1569 Hook Up Wire

PVC

#### Wire Diagram



#### Product Description

Temperature Rating (°C)	: 80°C, 105°C
Voltage Rating (V)	: 300V
Flamability Test	: VW-1(UL), FT-1(c-UL)
Product Standard Certification	: UL, cUL
Application	: For internal wiring of appliances and electronic equipment
Reference Standard	: UL758, UL1581, UL2556 & CSA 22.2 No 210.2

#### Colour

According to customer requirement

#### Marking

E306364  AWM 1569 VW-1 80°C 300V AWG\_\_ MASTER TEC  AWM 1A 80°C 300V FT1 AWG\_\_ -F- (LEAD FREE)

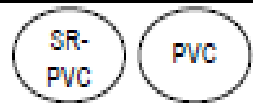


AWM1569

# UL Wires and cables Guideline

## UL线材规格介绍 – AWM1571

### UL STYLE 1571 Hook Up Wire



#### Wire Diagram



#### Product Description

Temperature Rating (°C)	:	80°C
Voltage Rating (V)	:	30V
Flamability Test	:	VW-1(UL), FT-1(c-UL)
Product Standard Certification	:	UL, cUL
Application	:	For internal wiring of electronic and electrical equipment
Reference Standard	:	UL758, UL1581, UL2556 & CSA 22.2 No 210.2

#### Colour

According to customer requirement

#### Marking

E306364  AWM 1571 VW-1 80°C 30V AWG \_\_ MASTER TEC  AWM 1A 80°C 30V FT1 AWG \_\_ -F- (LEAD FREE)



AWM1571

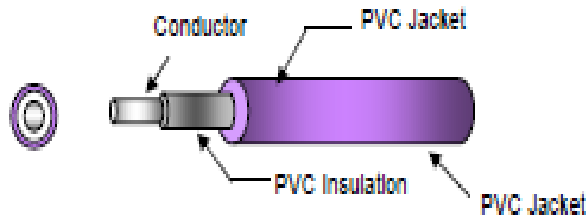
# UL Wires and cables Guideline

## UL线材规格介绍 – AWM1617

### UL STYLE 1617 Double Insulation Wire



#### Wire Diagram



#### Product Description

Temperature Rating (°C)	: 105°C
Voltage Rating( V)	: 600V
Flamability Test	: VW-1(UL), FT-1(c-UL)
Product Standard Certification	: UL, cUL
Application	: For use in recording studios, sound systems and electronic circuits and power adaptor for portable PC
Reference Standard	: UL758, UL1581, UL2556 & CSA 22.2 No 210.2

#### Colour

According to customer requirement

#### Marking

E306364 AWM 1617 VW-1 105°C 600V AWG\_\_ MASTER TEC AWM 1A 105°C 600V FT1 AWG\_\_ -F- (LEAD FREE)



AWM1617

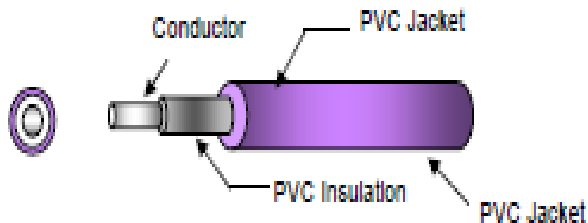
# UL Wires and cables Guideline

## UL线材规格介绍 – AWM1618

### UL STYLE 1618 Double Insulation Wire



#### Wire Diagram



#### Product Description

Temperature Rating (°C)	: 80°C
Voltage Rating (V)	: 300V
Flamability Test	: VW-1(UL), FT-1(c-UL)
Product Standard Certification	: UL, cUL
Application	: For use in recording studios, sound systems and electronic circuits and power adaptor for portable PC
Reference Standard	: UL758, UL1581, UL2556 & CSA 22.2 No 210.2

#### Colour

According to customer requirement

#### Marking

E306364 AWM 1618 VW-1 80°C 300V AWG\_MASTER TEC AWM 1A 80°C 300V FT1 AWG\_-F- (LEAD FREE)



AWM1618

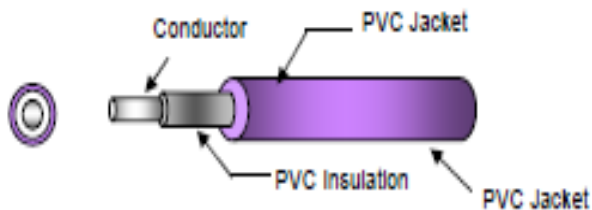
# UL Wires and cables Guideline

## UL线材规格介绍 –AWM1672

### UL STYLE 1672 Double Insulation Wire



#### Wire Diagram



#### Product Description

Temperature Rating (°C)	: 105°C
Voltage Rating( V )	: 300V
Flamability Test	: VW-1(UL), FT-1(c-UL)
Product Standard Certification	: UL, cUL
Application	: For use in recording studios, sound systems and electronic circuits and power adaptor for portable PC
Reference Standard	: UL758, UL1581, UL2556 & CSA 22.2 No 210.2

#### Colour

According to customer requirement

#### Marking

E306364 AWM 1617 VW-1 105°C 300V AWG\_\_ MASTER TEC AWM 1A 105°C 300V FT1 AWG\_\_ -F- (LEAD FREE)



AWM1672.pdf

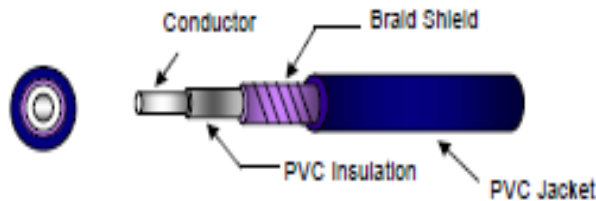
# UL Wires and cables Guideline

## UL线材规格介绍 – AWM2464

### UL STYLE 2464 Double Shielded Computer Cable



Wire Diagram



**Product Description**

- Temperature Rating (°C) : 80°C
- Voltage Rating(V) : 300V
- Flamability Test : VW-1(UL), FT-1(c-UL)
- Product Standard Certification : UL, cUL
- Application : For internal wiring and external interconnection of electronic equipment
- Reference Standard : UL758, UL1581, UL2556 & CSA 22.2 No 210.2

**Colour**

According to customer requirement

**Spec**

According for customer requirement

**Marking**

E306364 AWM 2464 VW-1 80°C 300V AWG\_ MASTER TEC AWM IA 80°C 300V FT1 AWG\_ -F- (LEAD FREE)



AWM2464



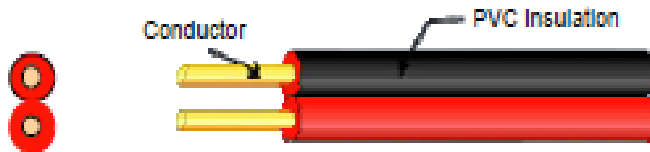
# UL Wires and cables Guideline

## UL线材规格介绍 - AWM2468

### UL STYLE 2468 Flat Ribbon Wire

PVC

#### Wire Diagram



#### Product Description

Temperature Rating (°C)	:	80°C
Voltage Rating(V)	:	300V
Flamability Test	:	VW-1(UL), FT-1(c-UL)
Product Standard Certification	:	UL, cUL
Application	:	For internal wiring of Electronic & Electrical Equipment
Reference Standard	:	UL758, UL1581, UL2556 & CSA 22.2 No 210.2

#### Colour

According to customer requirement

#### Marking

E306364  AWM 2468 VW-1 80°C 300V AWG\_\_ MASTER TEC  AWM 1A 80°C 300V FT1 AWG\_\_ -F- (LEAD FREE)



AWM2468

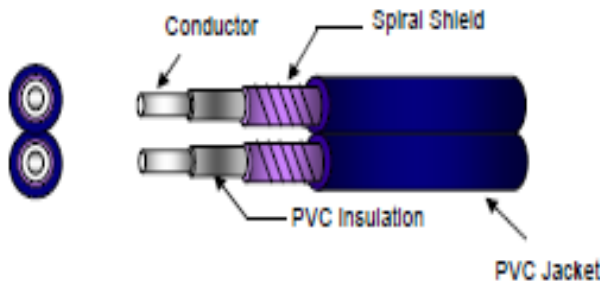
# UL Wires and cables Guideline

## UL线材规格介绍 – AWM2562

### UL STYLE 2562 Multi-Conductor Shielded Wire



#### Wire Diagram



#### Product Description

- Temperature Rating (°C) : 80°C
- Voltage Rating (V) : 300V
- Flamability Test : VW-1(UL), FT-1(c-UL)
- Product Standard Certification : UL, cUL
- Application : For internal wiring of electronic equipment
- Reference Standard : UL758, UL1581, UL2556 & CSA 22.2 No 210.2

#### Colour

According to customer requirement

#### Marking





E306364 AWM 2562 VW-1 80°C 300V AWG\_\_ MASTER TEC AWM IA 80°C 300V FT1 AWG\_\_ -F- (LEAD FREE)



AWM2562.pdf

# UL Wires and cables Guideline

## UL线材规格介绍 – AWM2651

UL STYLE 2651 Flat Ribbon Cable		PVC	RoHS
<b>Wire Diagram</b>		<b>Product Description</b> Temperature Rating (°C) : 105°C Voltage Rating(V) : 300V Flamability Test : VW-1(UL), FT-1(c-UL) Product Standard Certification : UL, cUL Application : For internal wiring of computer or appliances Reference Standard : UL758, UL1581, UL2556 & CSA 22.2 No 210.2	
		<b>Colour</b> According to customer requirement	
<b>Marking</b> E306364  AWM 2651 VW-1 105°C 300V AWG_ MASTER TEC  AWM IA 105°C 300V FT1 AWG_ -F- (LEAD FREE)		 AWM2651	

# UL Wires and cables Guideline

## UL线材规格介绍 – AWM1330/1331

铁氟龙(聚全氟乙丙烯)高温电子线 FEP insulated wire	<b>1330 AWM</b> <b>1331 AWM</b>
机器内部配线 Appliance wiring material	

- ◆ 等级 Rating UL1330 200°C 600V UL 1331 150°C 600V
- ◆ 标准 Standard UL 758

### ● 特性

- 1、导线使用30-4/0AWG 单条或绞合裸铜或镀锡铜线
- 2、通过UL VW-1 认证
- 2、优良热稳定和机械耐磨电绝缘性能。可抗强酸强碱、耐腐蚀、耐火不燃、不老化

- 用途 广泛应用于航空、冶金石油、电子仪器、仪器仪表、家用电器、变压器及电机引出线

### ● 结构、性能

### ● Features

- 1.30-4/0AWG solid or stranded soft annealed copper or tinned copper.
- 2.Passed UL VW-1 flame test
- 2.Resistant to acids,alkalies,oils,moisture and fungus

- Application Widely applied in aviation;metallurgy and petroleum industry as well as applied in other products such as: electronic instrument & device,electrical appliance, leads for transformer & electrical motor

### ● Construction,Properties



AWM1330

# UL Wires and cables Guideline

## UL线材规格介绍- AWM3239

<b>电视机用高压电线</b> High voltage wire for use in TV receivers	<h1>3239</h1>
<b>设备内配线用电线</b> Appliance wiring material	

- 额定 Rating 105°C, DC10-50kV (下表 see table)
- 标准 Standard UL Subject 758, CSA C22.2 No.127
- 日立标准规格书 Hitachi Specification : SP23-90772

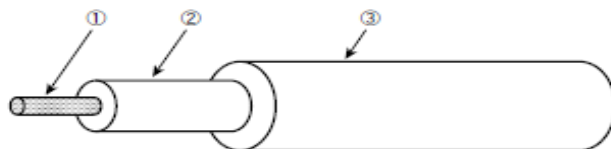
### ■ 特长


1. 由交联聚乙烯绝缘体和难燃聚氯乙烯树脂外层组合的双层型高压电线。
2. 难燃性UL: VW-1, CSA: FT1, 电气用品安全法: -F-

### ■ 用途

电视机、微波炉、复印机等直流高压导线。

### ■ 构造和性能



表面标识(例):  AWM E41447 STYLE 3239 20KV-DC 105C 22AWG VW-1 HITACHI CSA LL28158 TV-20 20KV-DC 105C FT1 XLHDPE -F-

### ◆ Features

1. High voltage lead wire with dual layer of irradiated PE and flame retardant PVC.
2. Flammability VW-1, FT1, -F-

### ◆ Application

DC high voltage lead wire for TV, Microwave oven, copy machine etc.

### ◆ Construction, Properties

- ① 导体 Conductor (镀锡软铜线 Tinned annealed copper)
- ② 绝缘体 Primary insulation (辐射交联PE Irradiated PE)
- ③ 外层绝缘 Secondary insulation (难燃PVC Flame retardant PVC)



**Questions & Answer?**

**Any question is welcome!**

