

UCS512A Specification

Description

UCS512A is the DMX512 differential parallel protocol LED driver chip, the 1/2/3 channel constant current output are optional, the UCS512A decoding technology decoding DMX512 signal accurately, UCS512A can auto-decode DMX512 signal that transmission frequency is within 200K-500K without any speed settings, addressing up to 4096 channels. UCS512A include E2PROM and support online writing code, One-time online writing code can finish 100 meters (spacing) *1024 (cascaded UCS512A points). The chips including 4*60ma constant current output port whose pressure value is above 24V. it have external resistor to adjust current. it have PWM reverse polarity and reducing-frequency output function, this function is suitable to external triode, MOS diode or a high current drive IC using the chips' port is with high fresh rate to improve screen image quality.

It is mainly for building decoration and stage lighting LED lighting system , abnormal chip does not affect other normal chips working, maintenance is simple and convenient.

Feature

1. Compatible with DMX512 (1990) signaling protocol;
2. Control mode: DMX512 differential Signal in parallel, maximum support 4096 channel
3. Exclusive adaptive decoding technology, Auto-decode DMX512 signal transmission rate of 200K ~500kbps.
4. E2PROM built in chips
5. it include receiving 485 signal modules. it can recognize the 485 signal accurately and high differential impedance to improve load capacity greatly.
6. one series writing line can write code one time for all channel.
7. Enhanced online cascade writing code mode, support 100 meters (spacing) *1024 (cascaded UCS512A points) one-time online writing code
8. PWM control unit correct 256 gray level as 1024 gray level gamma correction .
9. RGBW 4 channel output, Max 60mA /Channel
10. External resistor can adjust current from 3mA/CH to 60mA/CH
11. power on self test (white color), writing code finishing (Blue color)
12. The 80nS output channel delay, reducing the surge current interference.

Data Transmission Protocol

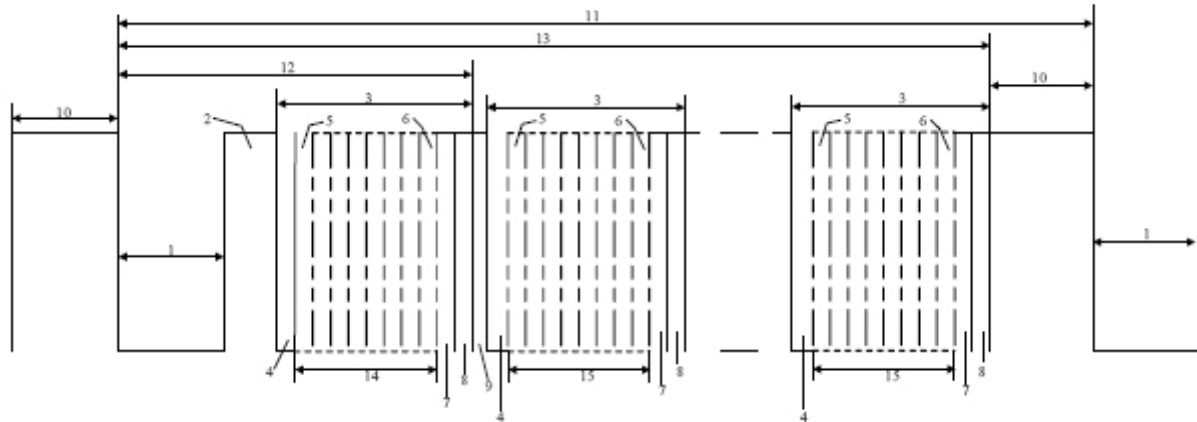


Figure Key

- 1- "SPACE" for BREAK
- 2- "MARK" After BREAK (MAB)
- 3- Slot Time
- 4- START Bit
- 5- LEAST SIGNIFICANT Data BIT
- 6- MOST SIGNIFICANT Data BIT
- 7- STOP Bit
- 8- STOP Bit
- 9- "MARK" Time Between slots
- 10- "MARK" Before BREAK (MBB)
- 11- BREAK to BREAK Time
- 12- RESET Sequence (BREAK,MAB,START Code)
- 13- DMX512 Packet
- 14- START CODE (Slot 0 Data)
- 15- SLOT 1 DATA
- 16- SLOT nnn DATA (Maximum 512)

Designation	Description	Min	Typical	Max	Unit
-	Bit Rate	245	250	255	kbit/s
-	Bit Time	3.92	4	4.08	us
-	Minimum Update Time for 513 slots	-	22.7	-	ms
-	Maximum Update Rate for 513 slots	-	44	-	/s
1	"SPACE" for BREAK	88	-	-	us
2	"MARK" After BREAK (MAB)	8	-	<1.00	us s
9	"MARK" Time Between slots	0	-	<1.00	s
10	"MARK" Before BREAK (MBB)	0	-	<1.00	s
11	BREAK to BREAK Time	1196	-	1.00	us s
13	DMX512 Packet	1196	-	1.00	us s