

LED

Light Stream LED IC

LED

IC	Wire	Speed (kbit/s)	Channels	Bit Depth	PWM (Hz)	LS Player	LS Converter (+Extender)	LS Converter	LS Converter	PDF
APA102	2-Wire (Clocked)	3	3	8 + 5 bit	19200	✓	✓	✓	✓	EN
APA102-1515	2-Wire (Clocked)	3	3	8 + 5 bit	20000	✓	✓	✓	✓	EN
APA102-2020	2-Wire (Clocked)	3	3	8 + 5 bit	20000	✓	✓	✓	✓	EN
APA107	2-Wire (Clocked)	3	3	8 + 5 bit	9000	✓	✓	✓	✓	EN
APA107-2020	2-Wire (Clocked)	3	3	8 + 5 bit	9000	✓	✓	✓	✓	EN
CS8812	Single Wire	800	3	8 + 12 bit γ	8000	✓	✓	✓	✓	EN
FW1906	Single Wire	800	6	8 bit	2600	✓	✓	✓	✓	EN
GS8206	Single Wire	800	3	8 + 12 bit γ	8000	✓	✓	GS8206	✓	EN
GS8208	Single Wire	800	3	8 + 12 bit γ	8000	✓	✓	GS8206	✓	EN
GS8208B	Single Wire	800	3	8 + 12 bit γ	8000	✓	✓	GS8206	✓	EN
GS8513	Single Wire DMX	250 – 500	3	8 + 16 bit γ	9000	✓	✓	DMX	✓	ZH
GS8515	Single Wire DMX	✓	✓	✓	✓	✓	✓	DMX	✓	✓
GS8523	Single Wire DMX	200 – 850	3	8 + 16 bit γ	9500	✓	✓	DMX	✓	ZH
GS8524	Single Wire DMX	200 – 850	4	8 + 16 bit γ	9500	✓	✓	DMX	✓	ZH
GS8526	Differential DMX	200 – 850	4	8 + 16 bit γ	300 - 9500	✓	✓	DMX	✓	EN

GS8802	Differential DMX (RDM)	200 – 500	4	8 ☒ 16 bit γ	240 - 31000	☒☒ ☒	☒	DMX	☒	☒ EN
HC2912C-2020	Single Wire	800	3	8 bit	☒	☒ ☒	☒	☒	☒☒	☒ EN
HD107S	2-Wire (ClockeD)	☒	3	8 + 5 bit	27000	☒ ☒	☒	☒	☒	☒ EN
HD108	2-Wire (ClockeD)	☒	3	16 + 5 bit gain	28000	☒ ☒	☒	☒	☒	☒ EN
Hi512E	Differential DMX	250 – 1600	4	8 ☒ 16 bit γ	250 - 16000	☒☒ ☒	☒	DMX	☒	☒ EN
Hi512E4	Differential DMX	250 – 1600	4	8 ☒ 16 bit γ	250 - 16000	☒☒ ☒	☒	DMX	☒	☒ EN
Hi512ES	Differential DMX	250 – 1600	4	8 ☒ 16 bit γ	250 - 16000	☒☒ ☒	☒	DMX	☒	☒ EN
LB1908	Single Wire	800	3	8 bit	8000	☒ ☒	☒	☒	☒☒	☒ EN
LPD6803	2-Wire (ClockeD)	☒	3	5 bit	2500	☒ ☒	☒	☒	☒	☒ EN
LPD8803	2-Wire (ClockeD)	☒	6	7 bit	4000	☒ ☒	☒	☒	☒	☒ EN ☒ ZH
LPD8806	2-Wire (ClockeD)	☒	6	7 bit	4000	☒ ☒	☒	☒	☒	☒ EN ☒ ZH
SK6812	Single Wire	800	3 - 4	8 bit	1200	☒ ☒	☒	SK6812	☒☒	☒ EN
SK9822	2-Wire (ClockeD)	☒	3	8 + 5 bit	4700	☒ ☒	☒	☒	☒	☒ EN
SM16703P	Single Wire	800	3	8 bit	1200	☒ ☒	☒	☒	☒☒	☒ EN
SM16703SP	Single Wire	800	3	8 bit	4700	☒ ☒	☒	☒	☒☒	☒ EN
SM16704	Single Wire	800	4	8 bit	1200	☒ ☒	☒	☒	☒☒	☒ EN
SM16704PB	Single Wire	800	4	8 bit	1200	☒ ☒	☒	☒	☒☒	☒ EN
SM16716	2-Wire (ClockeD)	☒	3	8 bit	1030000	☒ ☒	☒	☒	☒	☒ EN
SM18522P	Differential DMX	200 – 700	1 - 4	8 ☒ 16 bit γ	4000	☒☒ ☒	☒	DMX	☒	☒ ZH
SM18522PS	Differential DMX	200 – 700	1 - 4	8 ☒ 16 bit γ	4000	☒☒ ☒	☒	DMX	☒	☒ EN
SM19522PG	Differential DMX	200 – 750	1 - 6	8 ☒ 16 bit γ	32000	☒☒ ☒	☒	DMX	☒	☒ EN
TM512AB3	Single Wire DMX	200 – 1000	3	8 bit	3600	☒☒ ☒	☒	DMX	☒	☒ ZH

TM512AC	Differential DMX	200 – 1000	4	8 ☒ 16 2000 bit γ	☒☒ ☒	☒	DMX	TM512AC	☒ EN ☒ ZH
TM512AC0	Differential DMX	200 – 1000	3	8 bit 2000	☒☒ ☒	☒	DMX	TM512AC	☒ ZH
TM512AC4	Differential DMX	200 – 1000	4	8 bit 3600	☒☒ ☒	☒	DMX	TM512AC	☒ ZH
TM512ACE	Differential DMX	200 – 1000	3	8 ☒ 16 2000 bit γ	☒☒ ☒	☒	DMX	TM512AC	☒ ZH
TM1803	Single Wire	400 / 800	3	8 bit 400	☒ ☒	☒	TM1803	☒☒	☒ EN ☒ ZH
TM1804 (High speed)	Single Wire	800	3	8 bit > 400	☒ ☒	☒	WS2812	☒☒	☒ EN ☒ ZH
TM1804 (Low speed)	Single Wire	400	3	8 bit > 400	☒ ☒	☒	☒	☒☒	☒ EN ☒ ZH
TM1809	Single Wire	400 / 800	9	8 bit 400	☒ ☒	☒	☒	☒☒	☒ EN
TM1812	Single Wire	800	12	8 bit 400	☒ ☒	☒	☒	☒☒	☒ EN
TM1814	Single Wire	800	4	8 + 6 bit ☒ gain	☒ ☒	☒	☒	☒☒	☒ EN
TM1829	Single Wire	800	3	8 + 5 bit 7000 gain	☒ ☒	☒	☒	☒☒	☒ EN
TM1903	Single Wire	400 – 800	3	8 bit ☒	☒ ☒	☒	☒	☒☒	☒ EN
TM1914	Single Wire	400 – 800	3	8 bit ☒	☒ ☒	☒	☒	☒☒	☒ EN
TM1914A	Single Wire	800	3	8 bit ☒	☒ ☒	☒	TM1914	☒☒	☒ ZH
TM1934	Single Wire	400 – 800	3	8 bit ☒	☒ ☒	☒	☒	☒☒	☒ EN
UCS512	Differential DMX	200 – 500	1 - 4	8 bit 2000	☒☒ ☒	☒	DMX	UCS512	☒ ZH
UCS512B3	Single Wire DMX	250 – 750	3	8 bit 3000	☒☒ ☒	☒	DMX	☒	☒ EN
UCS512C	Differential DMX	200 – 500	1 - 4	8 ☒ 16 2000 bit γ	☒☒ ☒	☒	DMX	UCS512	☒ ZH
UCS512C1	Differential DMX	200 – 750	1 - 4	8 ☒ 16 16000 bit γ	☒☒ ☒	☒	DMX	UCS512	☒ EN ☒ ZH
UCS512C1L	Differential DMX	200 – 750	1 - 4	8 ☒ 16 16000 bit γ	☒☒ ☒	☒	DMX	UCS512	☒ EN ☒ ZH
UCS512C2	Differential DMX	200 – 750	1 - 4	8 bit 16000	☒☒ ☒	☒	DMX	UCS512	☒ EN ☒ ZH
UCS512C2L	Differential DMX	200 – 750	1 - 4	8 bit 16000	☒☒ ☒	☒	DMX	UCS512	☒ EN ☒ ZH
UCS512C3	Differential DMX	200 – 750	1 - 4	8 bit 3390	☒☒ ☒	☒	DMX	UCS512	☒ ZH

UCS512C4	Differential DMX	200 – 500	1 - 4	8 ☒ 16	3600	☒☒ ☒	☒	DMX	UCS512	☒ ZH
UCS512C7	Differential DMX	200 – 750	1 - 4	8 ☒ 16 bit γ	16000	☒☒ ☒	☒	DMX	UCS512	☒ EN
UCS512C7L	Differential DMX	200 – 750	1 - 4	8 ☒ 16 bit γ	16000	☒☒ ☒	☒	DMX	UCS512	☒ EN
UCS512C7T	Differential DMX	200 – 750	1 - 4	8 ☒ 16 bit γ	16000	☒☒ ☒	☒	DMX	UCS512	☒ EN
UCS512C8	Differential DMX	200 – 750	1 - 4	8 ☒ 16 bit γ	16000	☒☒ ☒	☒	DMX	UCS512	☒ EN
UCS512C8L	Differential DMX	200 – 750	1 - 4	8 ☒ 16 bit γ	16000	☒☒ ☒	☒	DMX	UCS512	☒ EN
UCS512CBL	Single Wire DMX	200 – 750	1 - 4	8 ☒ 16 bit γ	16000	☒☒ ☒	☒	DMX	UCS512	☒ EN ☒ ZH
UCS512CL	Differential DMX	200 – 500	1 - 4	8 ☒ 16 bit γ	2000	☒☒ ☒	☒	DMX	UCS512	☒
UCS512CN	Differential DMX	200 – 500	1 - 4	8 ☒ 16 bit γ	2000	☒☒ ☒	☒	DMX	UCS512	☒ ZH
UCS512CNB	Differential DMX	200 – 500	4	8 ☒ 16 bit γ	2000	☒☒ ☒	☒	DMX	UCS512	☒
UCS512D	Differential DMX	200 – 500	1 - 4	8 ☒ 16 bit γ 250 - + 6 4000 bit gain		☒☒ ☒	☒	DMX	UCS512	☒ EN
UCS512D-H	Differential DMX	200 – 500	1 - 4	8 ☒ 16 bit γ 250 - + 6 4000 bit gain		☒☒ ☒	☒	DMX	UCS512	☒ EN
UCS512DHN	Differential DMX	200 – 750	1 - 4	8 ☒ 16 bit γ 250 - + 6 4000 bit gain		☒☒ ☒	☒	DMX	UCS512	☒ ZH
UCS512G	Differential DMX	200 – 500	1 - 6	8 ☒ 16 bit γ 250 - + 6 32000 bit gain		☒☒ ☒	☒	DMX	UCS512	☒ ZH

UCS512G4	Differential DMX	200 – 500	1 - 4	8 bit 16 bit bit gain	γ	250 - 32000	☒☒ ☒	☒	DMX	UCS512	☒ ZH
UCS512G4H	Differential DMX	200 – 500	1 - 4	8 bit 16 bit bit gain	γ	250 - 32000	☒☒ ☒	☒	DMX	UCS512	☒ ZH
UCS512G6	Differential DMX	200 – 500	1 - 6	8 bit 16 bit bit gain	γ	250 - 32000	☒☒ ☒	☒	DMX	UCS512	☒ ZH
UCS512G6H	Differential DMX	200 – 500	1 - 6	8 bit 16 bit bit gain	γ	250 - 32000	☒☒ ☒	☒	DMX	UCS512	☒ ZH
UCS512H	Differential DMX	200 – 750	1 - 4	8 bit 16 bit	γ	250 - 32000	☒☒ ☒	☒	DMX	UCS512	☒ EN
UCS512H0L	Differential DMX	200 – 750	Master*	☒	☒	☒☒ ☒	☒	DMX	☒		☒ EN
UCS512H4	Differential DMX	200 – 750	1 - 4	8 bit 16 bit	γ	250 - 32000	☒☒ ☒	☒	DMX	UCS512	☒ EN
UCS512H4L	Differential DMX	200 – 750	4	8 bit 16 bit	γ	250 - 32000	☒☒ ☒	☒	DMX	UCS512	☒ EN
UCS512H5L	Differential DMX	200 – 750	1 - 4	8 bit 16 bit	γ	250 - 32000	☒☒ ☒	☒	DMX	UCS512	☒ EN
UCS512K	Differential DMX	250 – 750	1 - 128	☒	☒	☒☒ ☒	☒	DMX	☒		☒ EN
UCS512KH	Differential DMX	250 – 750	1 - 128	☒	☒	☒☒ ☒	☒	DMX	☒		☒ EN
UCS512KHB	Differential DMX	250 – 750	1 - 128	☒	☒	☒☒ ☒	☒	DMX	☒		☒ EN
UCS512KLB	Differential DMX	250 – 750	1 - 128	☒	☒	☒☒ ☒	☒	DMX	☒		☒ EN
UCS1903 (High speed)	Single Wire	800	3	8 bit	400	☒ ☒	☒	UCS1903	☒☒		☒ EN
UCS1903 (Low speed)	Single Wire	400	3	8 bit	400	☒ ☒	☒	☒	☒☒		☒ EN
UCS1904	Single Wire	800	3	8 bit	1500	☒ ☒	☒	☒	☒☒		☒ ZH
UCS2903	Single Wire	800	3	8 bit	1500	☒ ☒	☒	☒	☒☒		☒ EN

UCS2904B	Single Wire	800	4	8 bit	1800	☒	☒	☒	☒	☒☒	☒ EN
UCS5603	Single Wire	800	3	12 + 4 bit gain	2000	☒	☒	☒	☒	☒☒	☒ EN
UCS7604	Single Wire	800 / 1600	4	8 bit + 4 bit gain	16000	☒	☒	☒	UCS7604	☒☒	☒ EN
UCS7614	Single Wire	800 / 1600	4	16 bit + 4 bit gain	32000	☒	☒	☒	☒	☒☒	☒ ZH
UCS8603	Single Wire	800 / 1600	3	16 bit + 4 bit gain	8000	☒	☒	☒	GS8206	☒☒	☒ EN
UCS8903	Single Wire	800	3	16 bit + 5 bit gain	2000	☒	☒	☒	UCS8903	☒☒	☒ EN
UCS8904A	Single Wire	800	4	16 bit	1000	☒	☒	☒	UCS8904	☒☒	☒ EN
UCS8904B	Single Wire	800	4	16 bit	4000	☒	☒	☒	UCS8904	☒☒	☒ EN
UCS9812	Single Wire	1100	12	16 bit + 4 bit gain	5000	☒	☒	☒	☒	☒☒	☒ EN
WS2801	2-Wire (Clocked)	☒	3	8 bit	2500	☒	☒	☒	☒	☒	☒ EN
WS2801S	2-Wire (Clocked)	☒	3	8 bit	2500	☒	☒	☒	☒	☒	☒ EN
WS2805	Single Wire	800	5	8 bit	4000	☒	☒	☒	WS2812	☒☒	☒ EN
WS2811	Single Wire	800	3	8 bit	4000	☒	☒	☒	WS2811	☒☒	☒ EN
WS2811C	Single Wire	800	3	8 bit	2000	☒	☒	☒	☒	☒☒	☒ EN
WS2811L	Single Wire	☒	3	8 bit	400	☒	☒	☒	WS2811L	☒☒	☒
WS2812	Single Wire	800	3	8 bit	400	☒	☒	☒	WS2812	☒☒	☒ EN
WS2812B-2020	Single Wire	800	3	8 bit	2000	☒	☒	☒	WS2812	☒☒	☒ ZH
WS2812B-2020-V6	Single Wire	800	3	8 bit	2000	☒	☒	☒	WS2812	☒☒	☒ EN
WS2812B-Mini-V3J	Single Wire	800	3	8 bit	2000	☒	☒	☒	WS2812	☒☒	☒ EN

WS2812B-Mini-V6	Single Wire	800	3	8 bit 2000	☒	☒	☒	WS2812	☒☒	☒ ZH
WS2812B-V5-W	Single Wire	800	3	8 bit 2000	☒	☒	☒	WS2812	☒☒	☒ EN
WS2812C	Single Wire	800	3	8 bit 2000	☒	☒	☒	☒	☒☒	☒ EN
WS2812C-4020	Single Wire	800	3	8 bit 2000	☒	☒	☒	☒	☒☒	☒ EN
WS2812E-V5-W	Single Wire	800	3	8 bit 2000	☒	☒	☒	☒	☒☒	☒ ZH
WS2812S	Single Wire	800	3	8 bit 2000	☒	☒	☒	☒	☒☒	☒ EN
WS2813	Single Wire	800	3	8 bit 2000	☒	☒	☒	☒	☒☒	☒ EN
WS2813B-RGBW	Single Wire	800	4	8 bit 2000	☒	☒	☒	☒	☒☒	☒ EN
WS2813B-V5-W	Single Wire	800	3	8 bit 2000	☒	☒	☒	☒	☒☒	☒ EN
WS2814	Single Wire	800	4	8 bit 2000	☒	☒	☒	WS2814	☒☒	☒ EN
WS2814A	Single Wire	800	4	8 bit 2000	☒	☒	☒	WS2814	☒☒	☒ EN
WS2814B	Single Wire	800	4	8 bit 4000	☒	☒	☒	WS2814	☒☒	☒ ZH
WS2814C	Single Wire	800	4	8 bit 4000	☒	☒	☒	WS2814	☒☒	☒ ZH
WS2814D	Single Wire	800	4	8 bit 2000	☒	☒	☒	WS2814	☒☒	☒ ZH
WS2814F	Single Wire	800	4	8 bit 2000	☒	☒	☒	☒	☒☒	☒ ZH
WS2815	Single Wire	800	3	8 bit 2000	☒	☒	☒	WS2812	☒☒	☒ EN
WS2815A-5054MP	Single Wire	800	3	8 bit 4000	☒	☒	☒	WS2812	☒☒	☒ ZH
WS2815B-V1	Single Wire	800	3	8 bit 4000	☒	☒	☒	WS2812	☒☒	☒ EN
WS2815C	Single Wire	800	3	8 bit 4000	☒	☒	☒	WS2812	☒☒	☒ EN
WS2815F	Single Wire	800	3	8 bit 4000	☒	☒	☒	WS2812	☒☒	☒ ZH
WS2816A	Single Wire	800	3	16 + 5 bit gain 10000	☒	☒	☒	WS2812	☒☒	☒ EN
WS2816B-2020	Single Wire	800	3	16 + 4 bit γ 10000	☒	☒	☒	WS2812	☒☒	☒ EN
WS2816B-2121	Single Wire	800	3	16 + 4 bit γ 10000	☒	☒	☒	WS2812	☒☒	☒ EN
WS2816B-2427	Single Wire	800	3	16 + 4 bit γ 10000	☒	☒	☒	WS2812	☒☒	☒ EN

- 3 **RGB**
- 4 **RGBW** / **RGB + Amber**
- 1–4 **1–6** **RGBW**
- 5–12 **RGB/RGBW**

Bit

LED 0 100%

- 5 bit — 32 **LPD6803**
- 7 bit — 128 **LPD8806/8803**
- 8 bit — 256
- 12 bit — 4,096
- 16 bit — 65,536

- 8 + 5 bit — 8 + 5 **APA102/SK9822/HD107S** 8 5
- 16 + 4 bit gain / 16 + 5 bit gain — 16 + 4 5 **UCS9812 / WS2816A / UCS8903 / HD108** + **PWM**
- 12 + 4 bit gain — 12 + 4 **UCS5603**
- 8 12 bit γ — 8 **Gamma** 12 **PWM** **GS8206/8208**
- 16 + 4 bit γ — 16 + 4 γ 20 **WS2816B/C**

PWM (Hz)

LED —

- < 1000 Hz
- > 2000 Hz
- 8000 32000 Hz *Flicker-Free*

(Backup line / Redundant Line)

- **Single Wire** / **2-Wire Clocked** — **DIN** 24/32 **DO / DOUT** Data Output backup
- **DIN + BIN** — Backup Input **WS2813/WS2815/WS2818/WorldSemi**
- **DIN + FDIN** — Forward (auxiliary) Data Input **UCS5603/UCS7604/UCS7614/TM1914/LB1908**
- **DATA1+CLK1 + DATA2+CLK2** — 2-Wire Data+Clock
- **Differential DMX** / **Single Wire DMX** — **A+B = D+ / D-** **DMX**

- **DIN+BIN/FDIN**
- —
- **DMX/RS-485** —

