Nyquest

NY1 Series — LED Control & Drive IC (State Machine)

2019/1/3

P/N	Sample (8-bit)	MOQ (K pcs)	MFQ (K pcs)	Operating Voltage	I/O	Section	Sentence	Step	OKY	Toggle On/Off	Mode Switch	NDC	LSC	CSC	Current Control	Brightness Control	POP	POL	Edge Loop	Loop On/Off	Loop End	Level Sequential	Level Stop	Noise TG	Pause Resume	LVR	Operating Freq.	Playspeed Freq.	Int. Rosc	Pad Count
NY1P207A	32,768	OTP		1.6~6.4V	7	1984	32	1984	1	1	v	7	7	7	v	v	v	v	v	v	v	v	v	v	v	v	524kHz	4	+/- 1%	11
NY1A003B	3,520	110K	1000K	1.6~6.4V	3	8	1	64	-	1	-	3	3	3	v	v	v	v	v	v	-	-	-	v	-	v	524kHz	4	+/- 1%	5
NY1A103B	7,040	100K	900K	1.6~6.4V	3	8	1	64	-	1	-	3	3	3	v	v	v	v	v	v	-	-	-	v	-	v	524kHz	4	+/- 1%	5
NY1B005A	5,120	66K	800K	1.6~6.4V	5	32	32	256	1	1	v	5	5	5	v	v	v	v	v	v	v	v	v	v	v	v	524kHz	4	+/- 3%	7
NY1B105A	10,240	61K	700K	1.6~6.4V	5	32	32	256	1	1	v	5	5	5	v	v	v	v	v	v	v	v	v	v	v	v	524kHz	4	+/- 3%	7
NY1B007A	6,720	57K	600K	1.6~6.4V	7	32	32	512	1	1	v	7	7	7	v	v	v	v	v	v	v	v	v	v	v	v	524kHz	4	+/- 3%	9
NY1B107A	13,440	52K	550K	1.6~6.4V	7	32	32	512	1	1	v	7	7	7	v	v	v	v	v	v	v	v	v	v	v	v	524kHz	4	+/- 3%	9
NY1B207A	26,880	46K	500K	1.6~6.4V	7	32	32	512	1	1	v	7	7	7	v	v	v	v	v	v	v	v	v	v	v	v	524kHz	4	+/- 3%	9

Remarks:

1. Mode-Switch: 2 modes of different sentence combination by one input pin option.
2. NDC, LSC & CSC: Normal Drive current, Large Sink Current & Constant Sink Current for high brightness LED at 3V and 4.5V.
3. Current Control: Different current output of 100%, 83%, 50%, 33% for LSC and CSC. (No Current Control at NDC)
4. Brightness Control: 128-Level brightness control at 256Hz Frame Rate.
5. POP: Power On Play, E/U/R & L/U/R.
6. POL: Power On Play in loop.
7. Edge-Loop: E/U/R, one sentence played in loop.
8. Loop On/Off: Cooperate with Edge-Loop, one sentence played in loop & Toggle On/Off.
9. Loop-End: Cooperate with Edge-Loop, stop after the last sentence.
10. Level-Sequential: One-Shot, Hold with Sequential function.
11. Level-Stop: Hold key 2 seconds to stop play and enter sleep.
12. Noise-TG: Noise Trigger for lighter application.
13. Pause-Resume: Trigger to pause and trigger again to play continuously.
14. LVR: Low Voltage Reset at 1.5V.

P/N	V_{DD}	V_{OUT}	I/O	Section	Sentence	Step	OKY	Toggle On/Off	Mode Switch	Pause Resume	LSC	CSC	Current Control	LVR	Int. Rosc
NY1C007A	0.9~4.2V	2.6, 3.0, 3.3, 3.5V	7	32	32	512	1	1	v	v	7	7	v	v	+/- 1%

Remarks:

1. Mode-Switch: 2 modes of different sentence combination by one input pin option.
2. Pause-Resume: Trigger to pause and trigger again to play continuously.
3. LSC & CSC: Very Large Sink Current & Constant Sink Current.
4. Current Control: Different current output of 33, 50, 83, 100% at LSC and CSC. (No Current Control at Drive Current)
5. Current Control of NY1C007A not available in CSC mode.
6. LVR: Low Voltage Reset at 1.5V, but NY1C007A is at 2.0V of V_{OUT}.

P/N	Operating Voltage	V_{OUT}	I_{SB}	Output Channel	Current Option	Line/Load Regulation	Current Deviation	CE	Rising/Falling Time	ZTC	Temperature Deviation	UVLO
NY1D003B	1.8~6.4V	≧0.2V	0.1uA	3	20/30mA	+/-1%	+/-1%	v	2us	v	+/-1.5%	1.6V

Remarks:

1. NY1D003B is a simple linear LED driver.
2. CE: Chip-Enable to control LED dimming with PWM input.
3. ZTC: Current compensation for constant current in wide range temperature of -40 ~ +85ºC.
4. UVLO: Under-Voltage-Lock-Out to prevent IC or circuit unstable while power up or unstable.
5. There is SOT23 package type for NY1D003B. (N160, N190, N320 & N330)