深圳市矽源特科技有限公司

ShenZhen ChipSourceTek

NY Touch Standard Code

NY9T Touch Key and LED controller standard code

Version 1.1

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1.0	2016/05/27		-
1.1	2016/11/28	NY9T001A-008a NY9T001A-010b	10, 13

NY Touch Standard Code

NY9T001A Standard Codes		
NY9T001A-003a	1*Touch Button	Die, SOT23-6, SOP-8
NY9T001A-005b	1*Touch Table Lamp	Die, SOP-8
NY9T001A-008a	1*Touch Snap Light	Die, SOT23-6, SOP-8
NY9T001A-010b	1*Touch Button (High Sensitivity)	Die, SOP-8
NY9T004A Standard Codes		
NY9T004A-005b	1*Touch Table Lamp	Die, SOP-8
NY9T004A-007b	3*Touch Candle Light	Die
NY9T004A-008a	4*Touch Button	Die, SOP-8, SOP-14
NY9T004A-009a	4*Touch Button	Die, SOP-8, SOP-14
NY9T008A Standard Codes		
NY9T008A-002a	8*Touch Button	Die, SOP-16, SSOP-24
NY9T008A-003a	8*Touch Button	Die, SOP-16, SSOP-24
NY9T008A-005b	8*Touch Table Lamp	Die, SSOP24
NY9T016A Standard Codes		
NY9T016A-005b	8*Touch Table Lamp	Die, SSOP24
NY9T016A-006a	16*Touch Serial Control	Die, SSOP24

1.NY9T001A-003a

Input 1 (PA0) 1 (PE2)

Output 2 (PE0, PE1)

PA0 Touch Key PE2 Level/Hold On/Off

(PE0 - CDC, PE1 - CSC 100%)

PE0 Normal-IO Busy-High High-Trigger IC

PE1 Normal-IO Busy-Low Low-Trigger IC

**CDC – Constant Drive Current*

**CSC – Constant Sink Current*

(PE0 High-Trigger IC Pull-Low)*

VDD 2.0 ~ 6.0V

Isb 1.1uA@3.0V,

(Touch Scan) 2.2uA@4.5V,

( ) Iop 340uA @3.0V

480uA @4.5V

(CDC) Ioh 3.6mA @3.0V

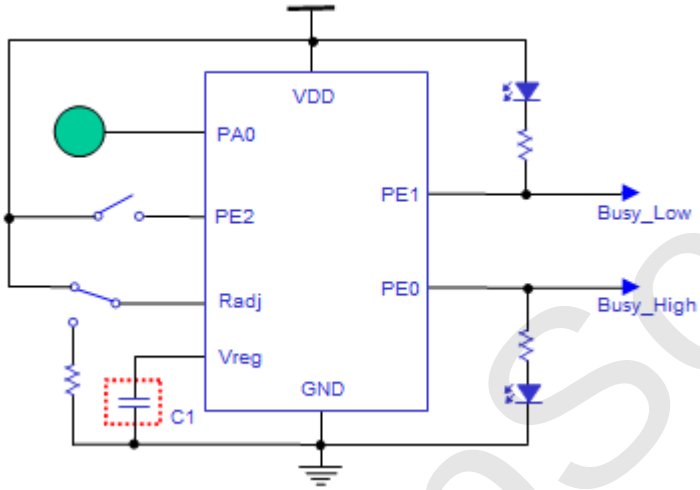
4.0mA @4.5V

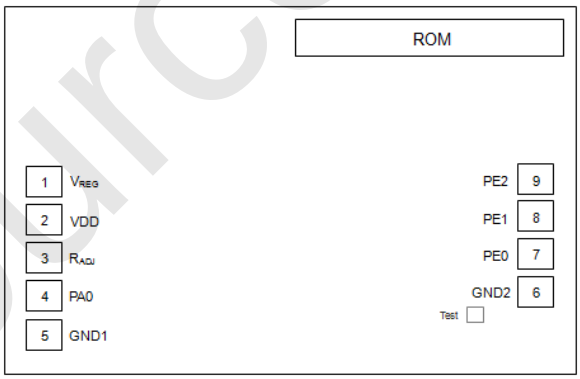
(CSC 100%) Iol 19mA @3.0V

20mA @4.5V

Oscillation Frequency 400KHz

Low Voltage Reset 1.8V





** Radj VDD*

** AC C1 (102);*

DC C1 (: Isb)

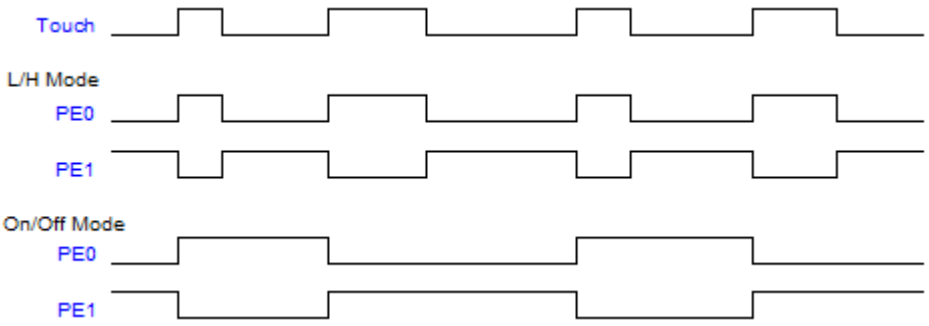
1. PE2 = x ( ) PA0 Busy Initial

Level/Hold (L/H) (Tact Switch)

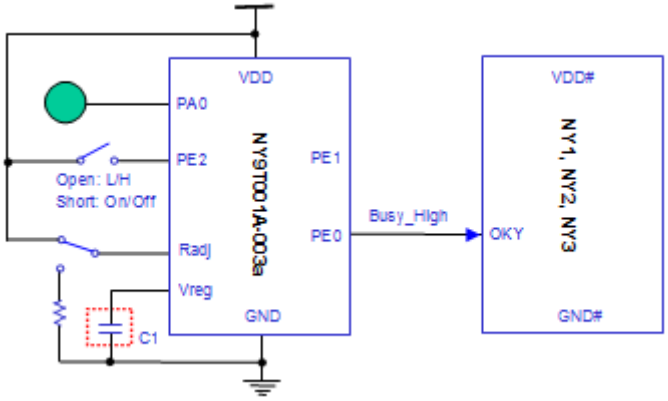
2. PE2 = 1 (VDD) PA0 Busy Initial

On/Off (Push Button / Slide Switch)

- PE0 LED High-Trigger IC (: NY1, NY2, NY3 State-Machine IC)
- PE1 LED Low-Trigger IC (: NY4, NY5, NY7 4-bit MCU Speech IC)

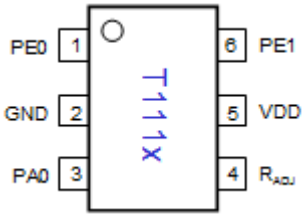


PE0 control High-Trigger IC **PE1 control Low-Trigger I N>ƀC94.2 74.3 131.o)**

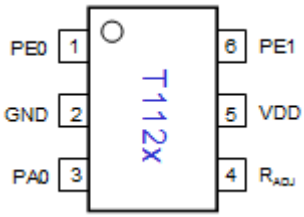


IC

SOT23-6 (1*Touch, 2*Out)

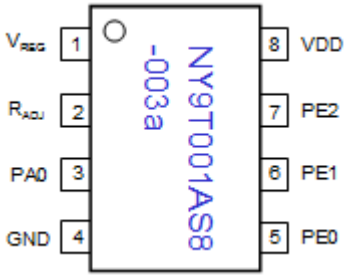


NY9T001AS6-003a1 (L/H Mode)



NY9T001AS6-003a2 (On/Off Mode)

SOP-8 (1*Touch, 1*Option, 2*Out)



NY9T001AS8-003a (L/H or On/Off Mode by PE2 option)

2.NY9T001A-005b

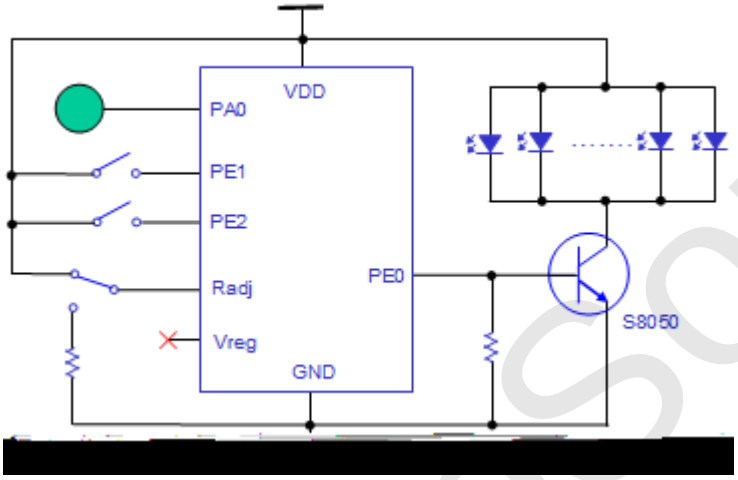
Input 1 (PA0) 2 (PE1, PE2)
Output 1 (PE0)

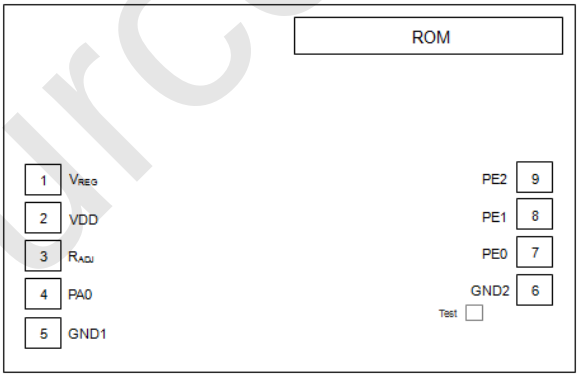
PA0 Touch Key 4
PE1, PE2

PE0 PWM-IO CDC (Constant Drive Current)

VDD 2.0 ~ 6.0V

Isb 1.1uA@3.0V,
(Touch Scan) 2.2uA@4.5V,
( ) Iop 290uA @3.0V
420uA @4.5V
(CDC) Ioh 3.6mA @3.0V
4.0mA @4.5V
Oscillation Frequency 400KHz
PWM Frame Rate 4.4KHz
Low Voltage Reset 1.8V





** Radj VDD*
** AC Vreg 1nF(102) ;*
DC (: Isb)

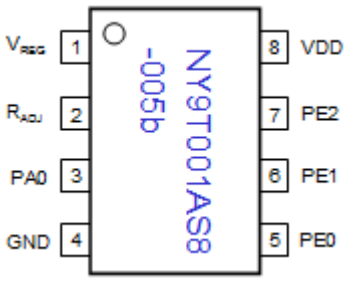
(Bonding Option,)

1, PE1, PE2 = x, x , ,
2, PE1, PE2 = x, 1 , ,
3, PE1, PE2 = 1, x , ,
4, PE1, PE2 = 1, 1 , ,

	PE1	PE2		
1	x	x	( ) ( )	1. 10% 2. 50% 3. 100% 4.
2	x	1	+ / ( ) ( )	1. 1.5 100% 2. 1.5 (0%)
				1. 0.5 0.5 3 (0%) 100% 2. 0.5 0.5 1% 3.
3	1	x	+ / ( ) ( )	1. 2 (100%) 2.

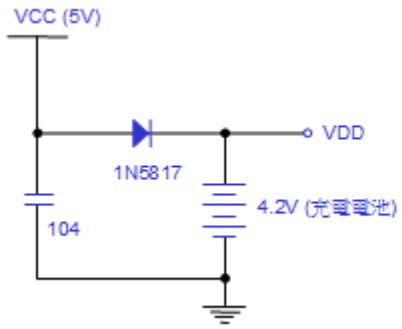
IC

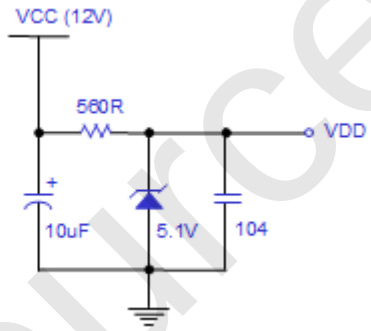
SOP-8



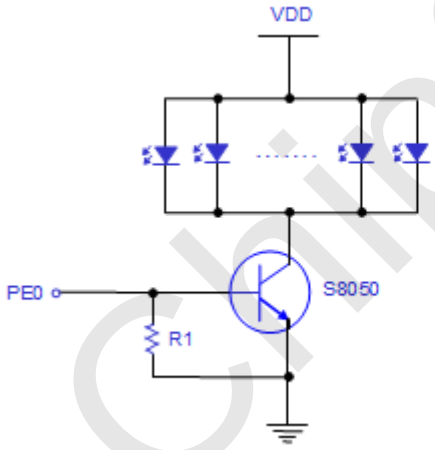
NY9T001AS8-005b

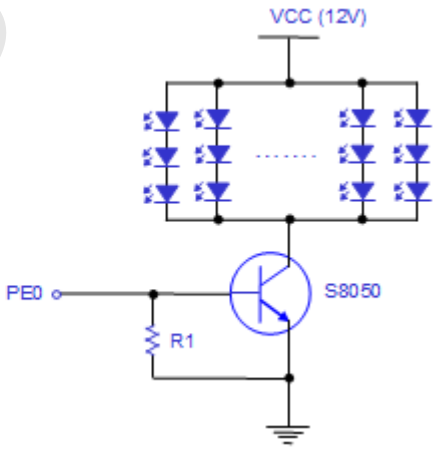
DC-5V & DC-12V





PE0 Drive LED (CDC,)





3.NY9T001A-008a

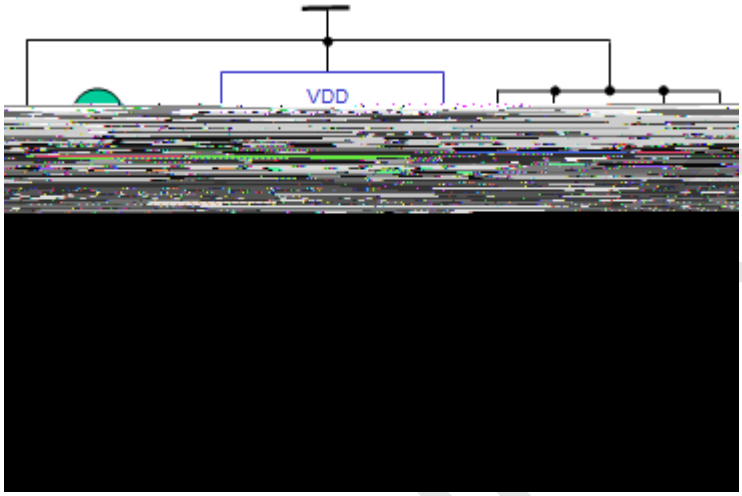
VDD 2.0 ~ 6.0V

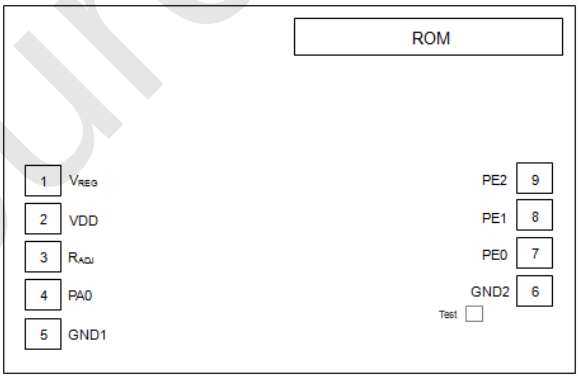
Input 1 (PA0)
1 (PE0)
1 (PE2: /)
Output 1 (PE1)

Isb 3.5uA @3.0V,
(Touch Scan) 5.3uA @4.5V,
( ) Iop 330uA @3.0V
490uA @4.5V
(CDC) Ioh 3.6mA @3.0V
4.0mA @4.5V
Oscillation Frequency 400KHz
PWM Frame Rate 4.0KHz

PA0 Touch-Key PE0

PE1 Constant Drive Current (CDC) Busy-High LED





** Radj VDD*

** PE0 GND (Pin Floating)*

(Bonding Option,)

PE2 LED

PE2 = x 100% 15 (PE2)

PE2 = 1 2 100% 11 2 0% 15 (PE2 VDD)

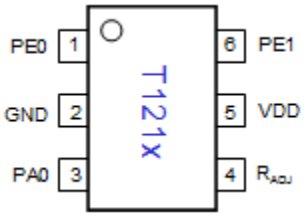
PA0 Touch-Key 15

Touch-Key

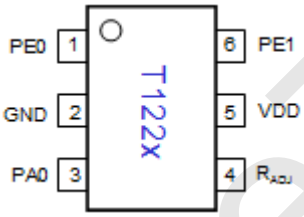
PE0 15

IC

SOT23-6 (1*Touch, 1*Mic_In, 1*Out)

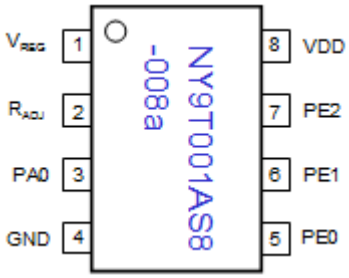


NY9T001AS6-008a1 ( )



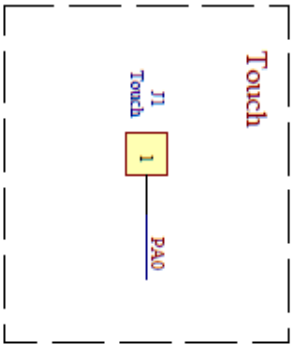
NY9T001AS6-008a2 ( )

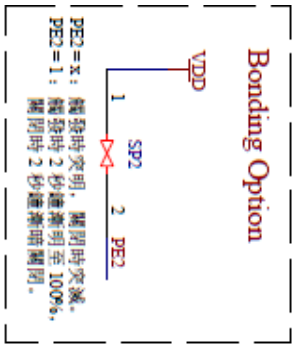
SOP-8 (1*Touch, 1*Mic_In, 1*Option, 1*Out)



NY9T001AS8-008a (/ by PE2 option)

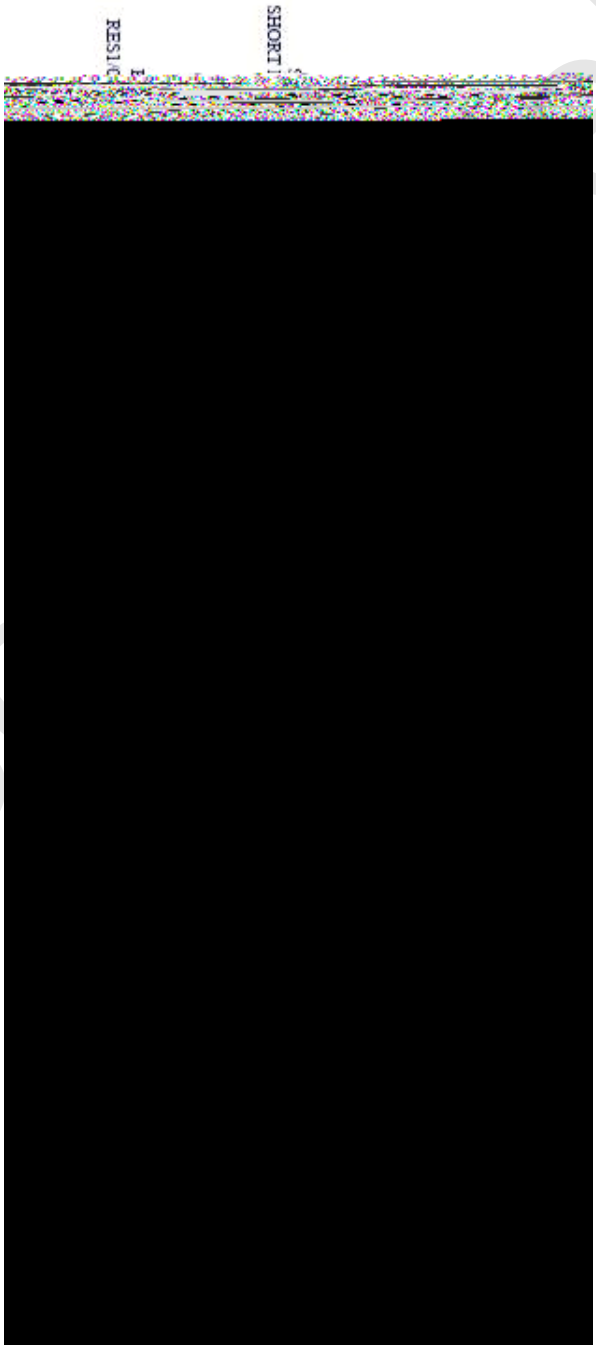
參考應用電路

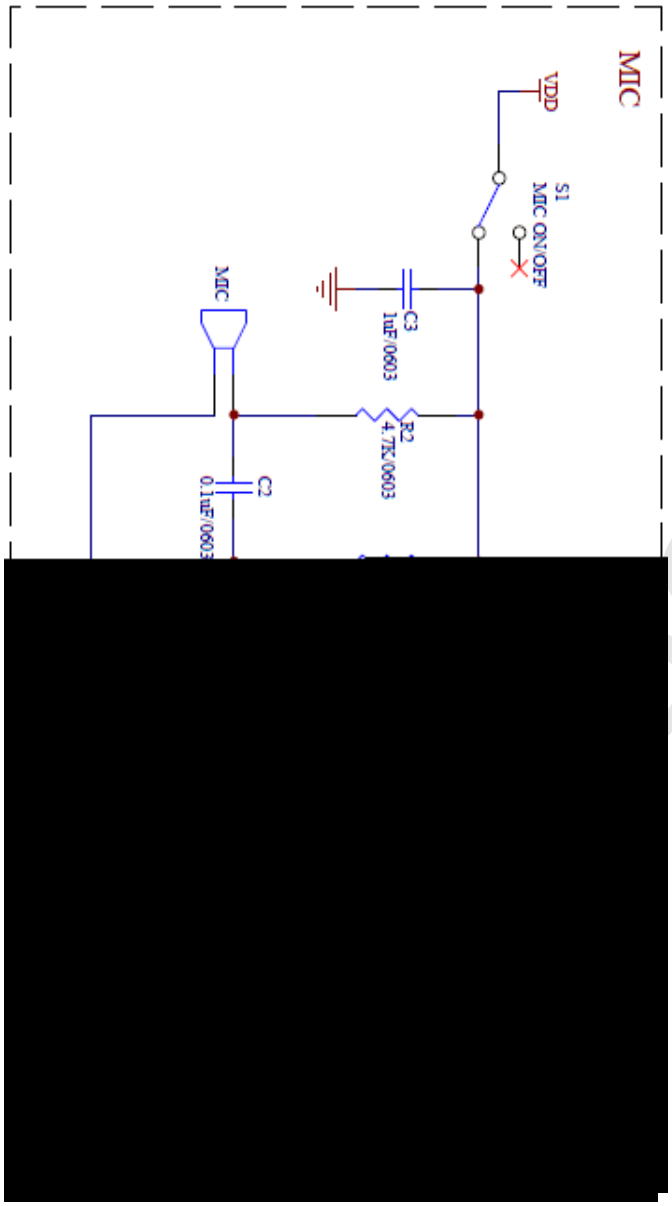




R_{ADJ}	Sensitivity
750KΩ	0(High)
360KΩ (Floating)	1
180KΩ	2
120KΩ	3
82KΩ	N/A
51KΩ	N/A
33KΩ	4
16KΩ	5(Low)

(* +/-1% tolerance R is suggested for R_{ADJ})





4.NY9T001A-010b

VDD 2.0 ~ 6.0V

Input 1 (PA0)

1 Feedback (PE0)

2 (PE1* PE2*)

*PE1 PE1 Busy-High Busy-Low

*PE2 2-Sec_On/Off

PA0 Touch-Key

PE1 Normal-IO Trigger IC (Level/Hold)

PE2 Normal-IO 2 (Pulse)

I_{SB} 2.2uA @3.0V

(Touch Scan) 3.6uA @4.5V

( ) I_{OP} 150uA @3.0V

285uA @4.5V

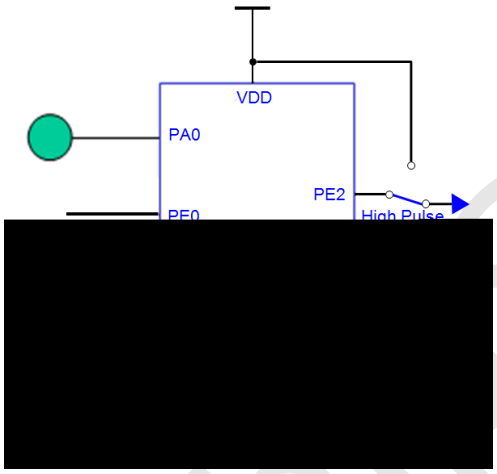
(Drive) I_{OH} 10mA @3.0V

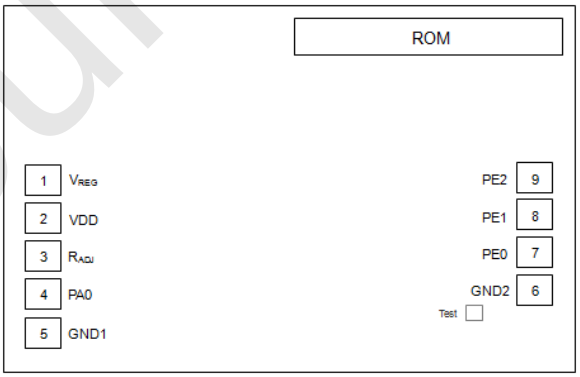
16mA @4.5V

(Sink) I_{OL} 20mA @3.0V

30mA @4.5V

Oscillation Frequency 400KHz





** Radj PCB 0.5cm GND*

** C1(102 ~104) (: lsb)*

( )

1. PE1 Busy-High Busy-Low (***Pin*** ***Floating***)

   - PE1 = 0 PE1 I/O Pull-Low Touch PE1 Busy-High

- PE1 = 1 PE1 I/O Pull-High Touch PE1 Busy-Low

2. PE2 “ 2 / PE1 ” (2-Sec_On/Off)

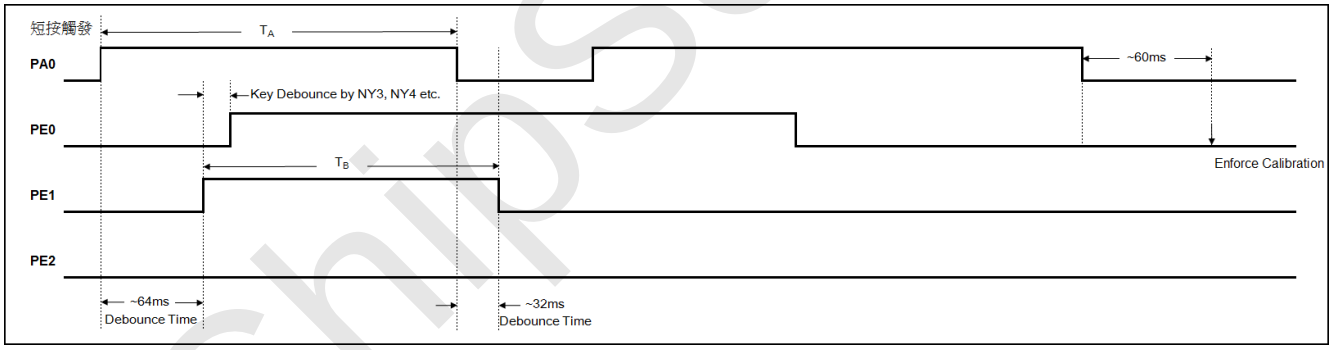
- PE2 = 0 x (I/O Pull-Low Floating) 2-Sec_On/Off PE1
2 PE1 2 PE1 2 PE2
50ms High-Pulse

- PE2 = 1 2-Sec_ON/OFF PE1 PE2 High

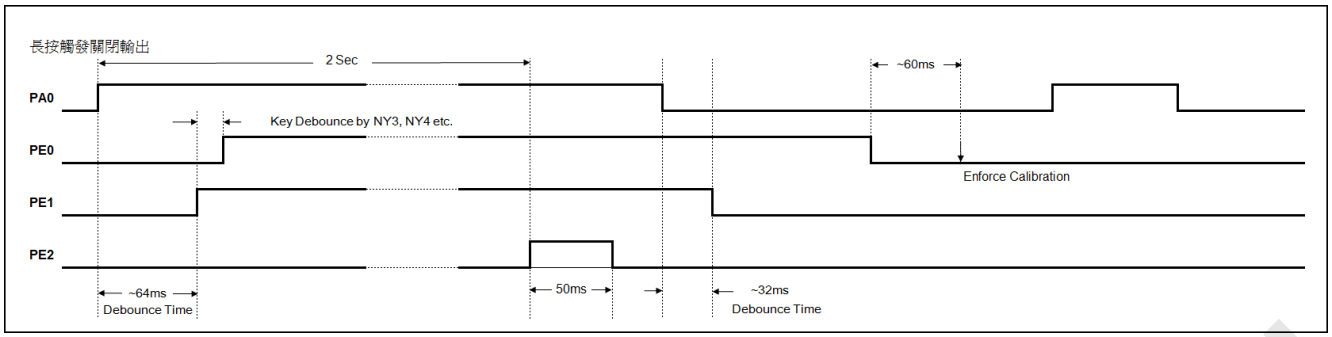
1. “2-Sec_On/Off” PE1 PE1 Busy PE2
Low 2 PE2 50ms High-Pulse PE1
PE1 Busy 2 PE2 50ms High-Pulse
PE1 PE1 Busy “2-Sec_On/Off”
PE1 PE1 2 PE1
2. “2-Sec_On/Off” PE1 / PE1 Busy
PE2 High
3. PE0 Feedback PE0 PE1 PE0
PE1 (Enforce Calibration) Enforce Calibration
Touch-Key Enforce Calibration (PE0 Retrigger/Irretrigger)
4. Touch-Key 2 PE2 High Pulse 50ms “2-Sec_On/Off“
5. 8 IC 4 Enforce Calibration Touch-Key 40
Enforce Calibration

Note: (Ex. …..etc.) IC

:

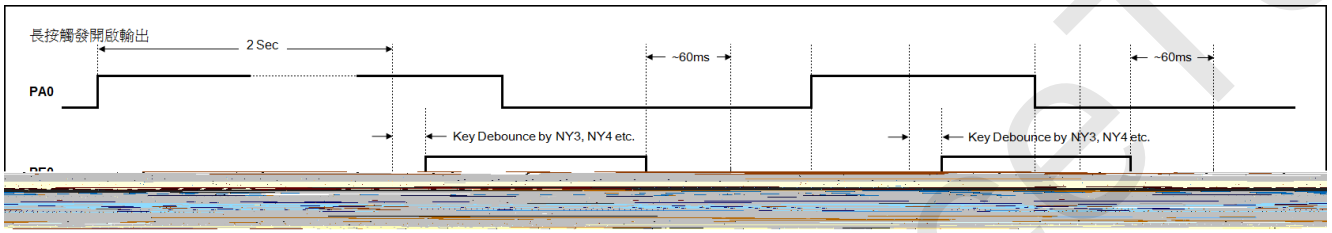


1. PE1 $T_B = T_A - 64ms + 32ms$ (T_B 80ms)
T_A = T_B = Level/Hold
2. Touch_On Debounce 64ms Touch PE1 Busy_High/Low Touch_Off
Debounce 32ms Touch Release PE1 Busy
3. PE0 Feedback Touch-Key
Touch Trigger IC Touch Calibration Touch
4. PE0 Touch-Key 60ms
Enforce Calibration Enforce Calibration 48ms



PE1 Touch Key PE1 Busy 2 PE2 High Pulse 50ms IC PE1 * Touch-Key

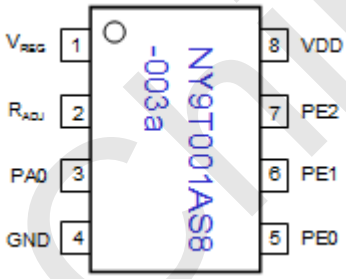
* *2-Sec_On/Off* *PE1* *PE2* *High*



PE1 Touch-Key 2 2 PE2 High Pulse 50ms IC PE1 Touch-Key PE1

IC R_{ADJ}

SOP-8 (1*Touch, 1*Input, 2*Output)



NY9T001AS8-010b

R_{ADJ}	Sensitivity
750KΩ	0(High)
360KΩ	1
180KΩ	2
51KΩ (Floating)	*4(Default)*

5.NY9T004A-005b

VDD 2.0 ~ 6.0V

Input 1 (PA0) 3 (PA3, PE0, PE1)

2 (PA1, PA2)

Output 2 (PE2, PE3)

Isb 1.2uA@3.0V

(Touch Scan) 2.8uA@4.5V

( ) Iop 350uA @3.0V

500uA @4.5V

PA0 Touch Key 8

PA3, PE0, PE1

(CMOS) Ioh 10mA @3.0V

16mA @4.5V

(CSC 33%) Iol 6.4mA @3.0V

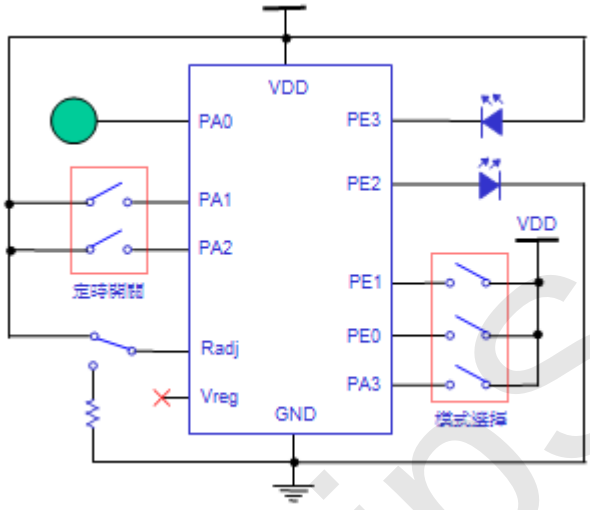
6.7mA @4.5V

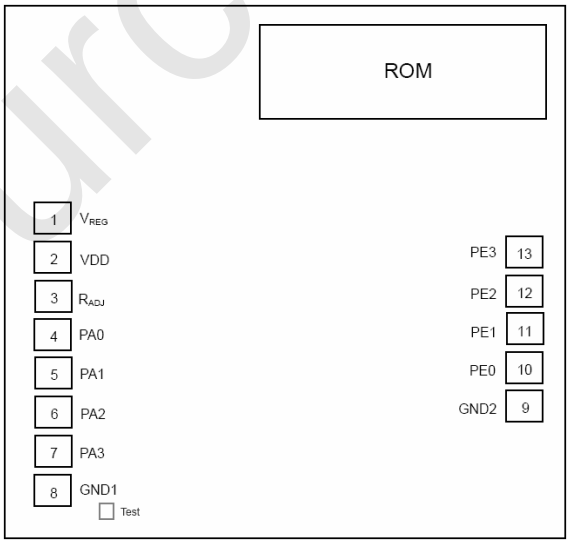
PE2 PWM-IO Drive

PE3 PWM-IO CSC 33%

Oscillation Frequency 400KHz

Low Voltage Reset 1.8V





** Radj VDD*

** AC Vreg 1nF(102) ;*

DC (: Isb)

(Software Option,)

PA1, PA2 = x, x

PA1, PA2 = x, 1 30 (30)

PA1, PA2 = 1, x 60 (60)

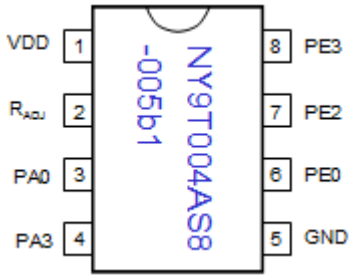
PA1, PA2 = 1, 1 90 (90)

(Bonding Option,)

	PE1	***PE0***	***PA3***		
1	x	x	x	**+ /** ( ) ( )	1. 1.5 100% 2. 1.5 (0%)
					1. 0.5 0.5 3 (0%) 100% 2. 0.5 0.5 1% 3.

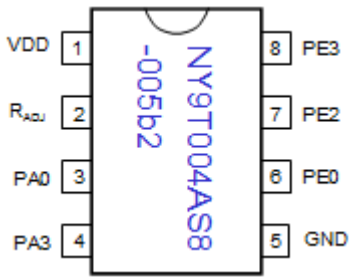
IC

SOP-8



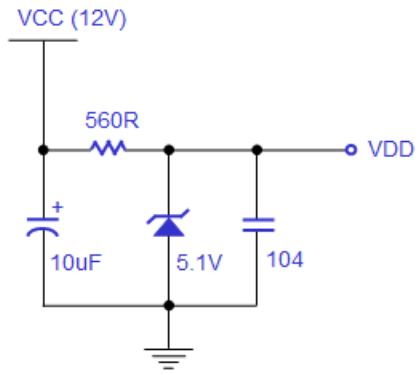
NY9T004AS8-005b1 (Mode 1~4)

SOP-8

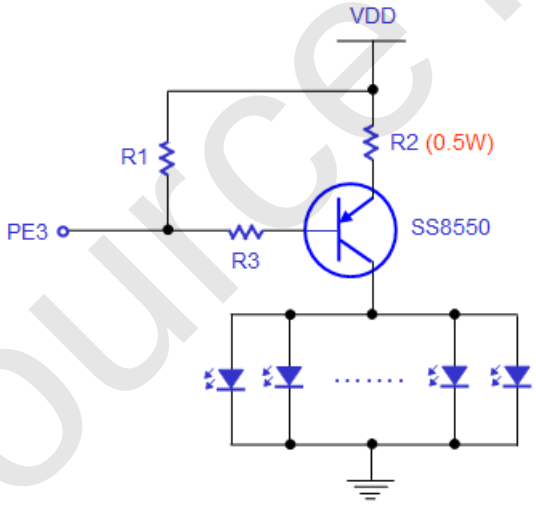


NY9T004AS8-005b2 (Mode 5~8)

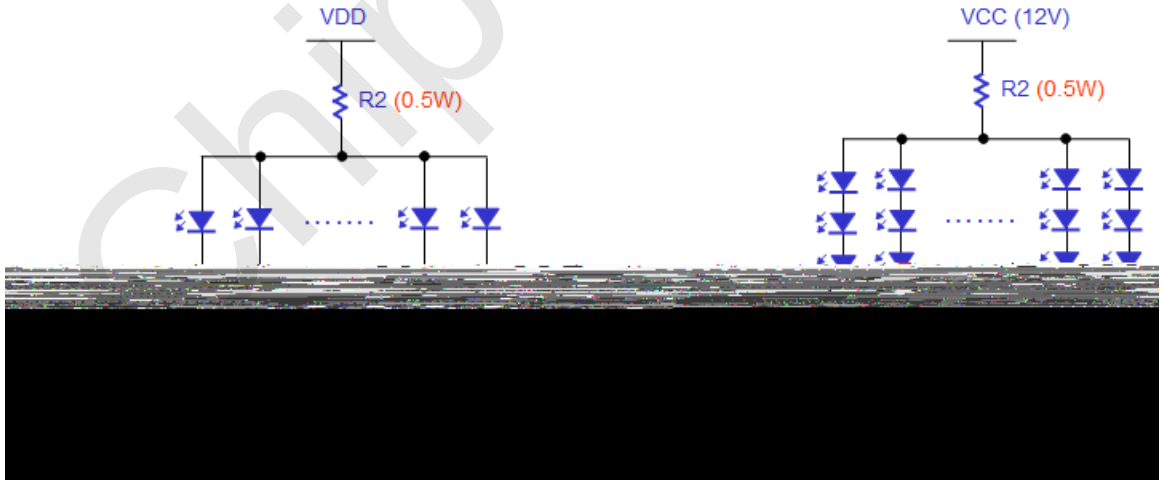
DC (. DC 12V)

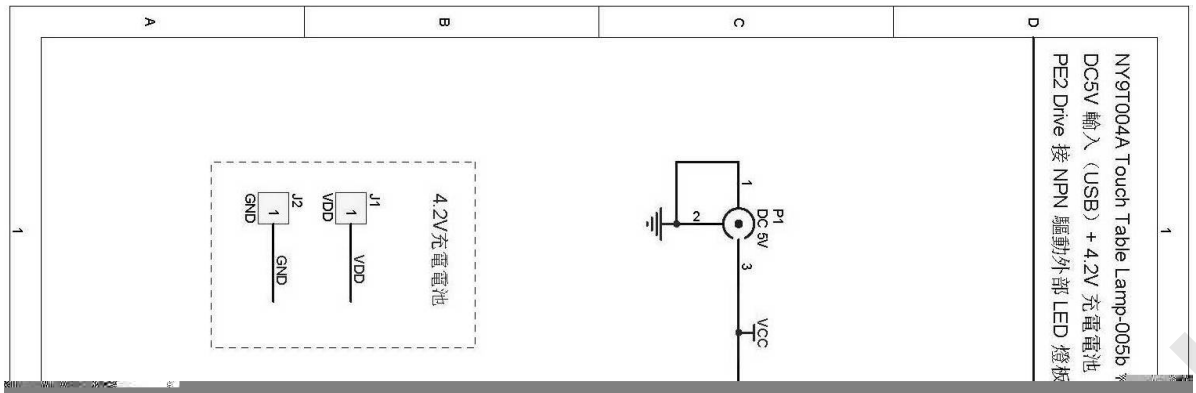


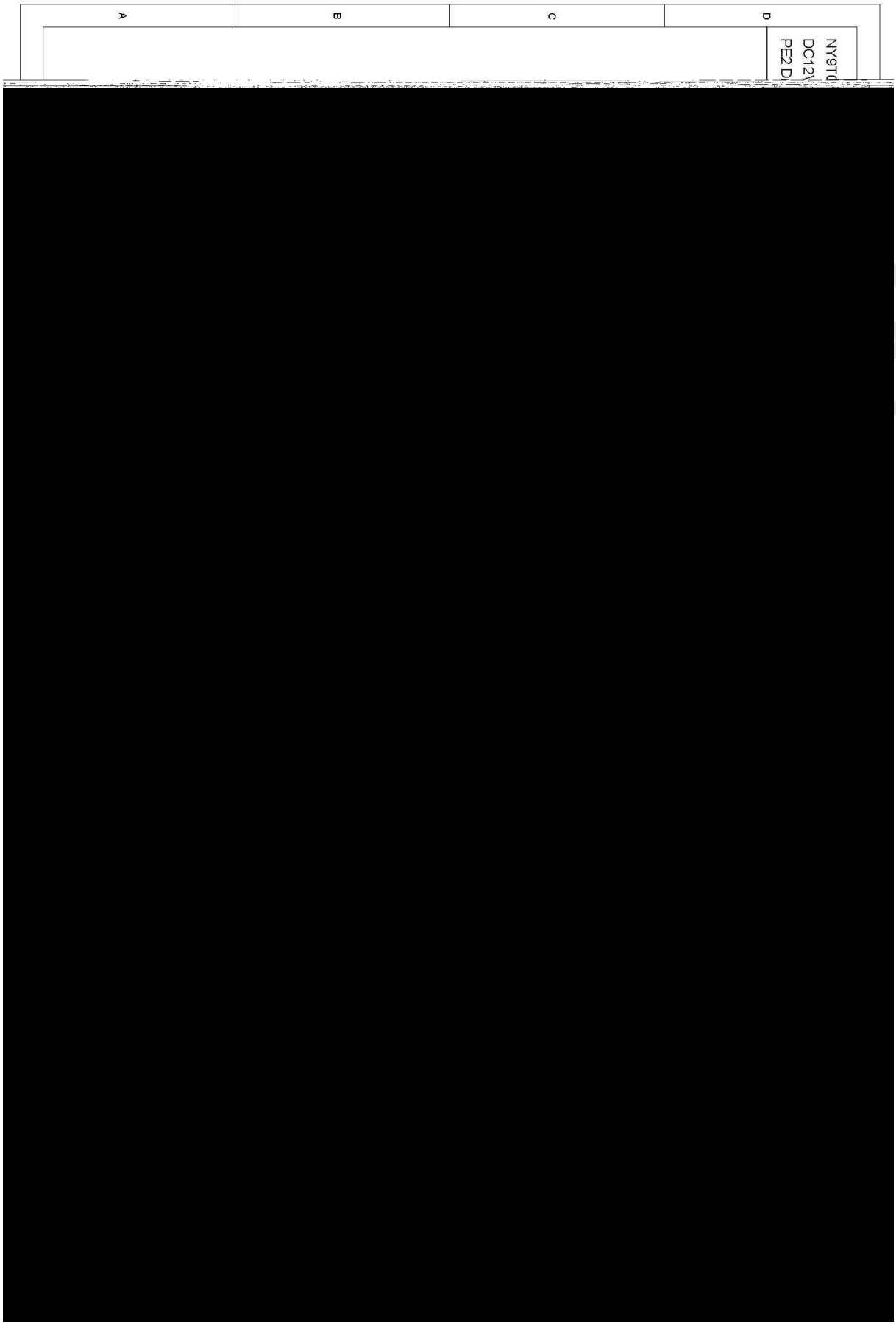
PE3 Sink LED ( )



PE2 Drive LED ( )






A
B
C
D

6.NY9T004A-007b

VDD 2.0 ~ 6.0V

Input 3 (PA0, PA1, PA2)

2 (PA3, PE0)

Output 3 (PE1, PE2, PE3)

Isb 1.6uA@3.0V

(Touch Scan) 3.3uA@4.5V

( ) Iop 350uA @3.0V

500uA @4.5V

(CSC-100%) Iol 19mA @3.0V

20mA @4.5V

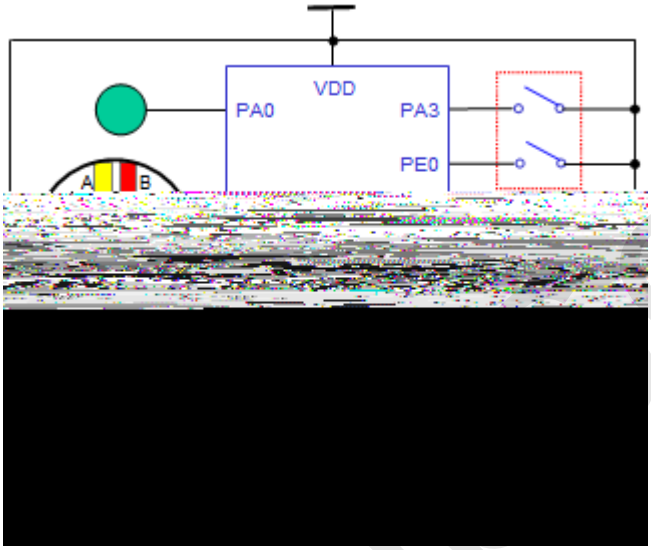
PA0 Touch Key

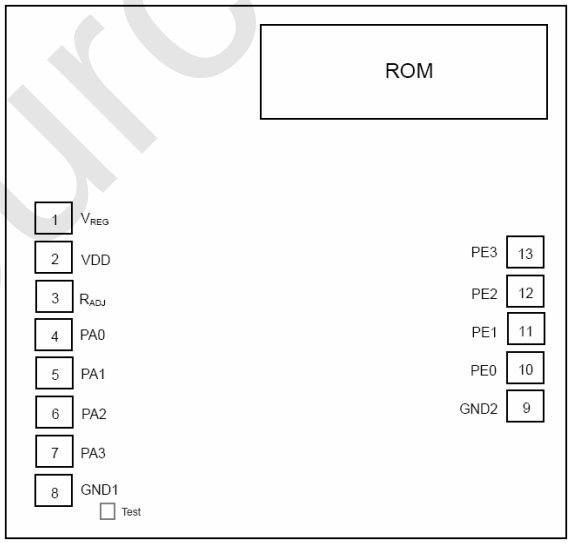
PA1 & PA2 Touch

Oscillation Frequency 400KHz

PE1, PE2, PE3 PWM-IO CSC-100% RGB

Low Voltage Reset 1.8V





** Radj VDD*

** AC Vreg 1nF(102) ;*

DC (: Isb)

(Software Option,)

PA3, PE0 = x, x

PA3, PE0 = x, 1 1 (1)

PA3, PE0 = 1, x 4 (4)

PA3, PE0 = 1, 1 8 (8)

PA0 RGB LED

1. PA0 (2) IC RGB → RGB → RGB ...

A) PA0 IC RGB Touch RGB

Touch (A PA1, B PA2) PA1 PA2 RGB

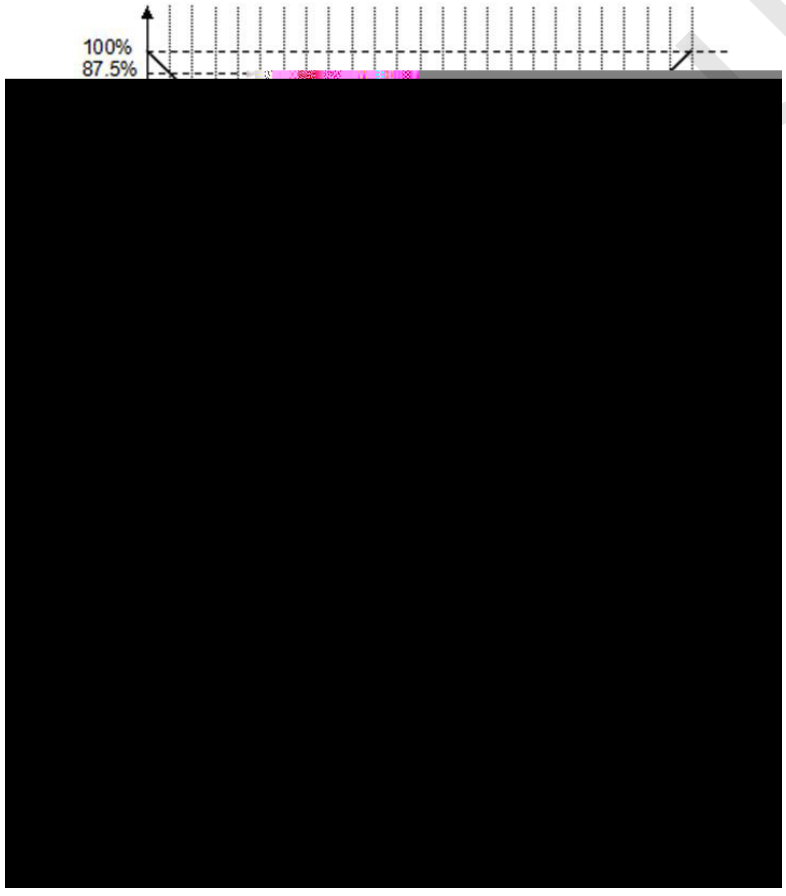
00--10--11--01--00

00--01--11--10--00

24 ( )

0 *1*

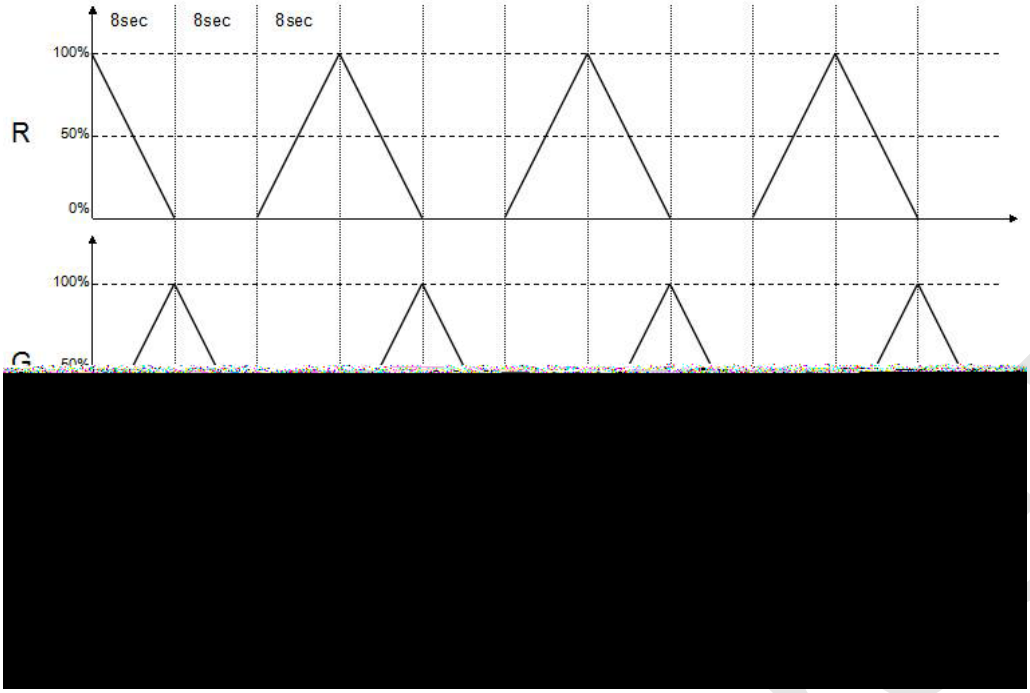
RGB 24 100ms



B) PA0 IC RGB RGB LED Action

( )

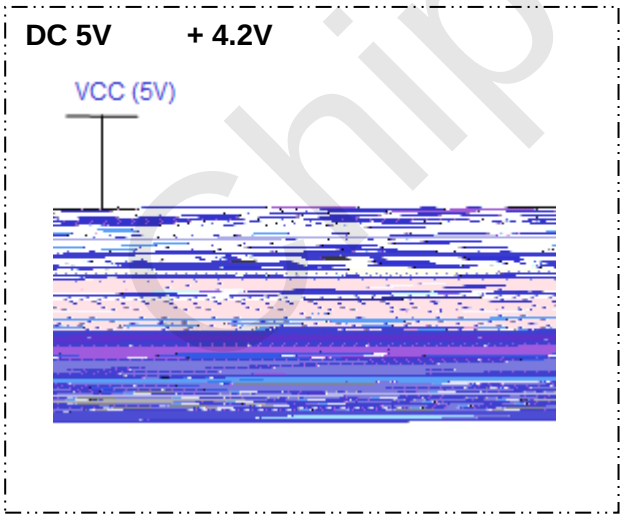
RGB



24

2. PA0 (2) IC

( ) PA0



7.NY9T004A-008a

Input 4 (PA0, PA1, PA2, PA3)

Output 4 (PE0, PE1, PE2, PE3)

PA0, PA1, PA2, PA3 Touch Key L/H

(PE0~PE3: CMOS, Normal Sink)

PE0	Normal-IO	Busy-Low	Low-Trigger IC
PE1	Normal-IO	Busy-Low	Low-Trigger IC
PE2	Normal-IO	Busy-Low	Low-Trigger IC
PE3	Normal-IO	Busy-Low	Low-Trigger IC

VDD 2.0 ~ 6.0V

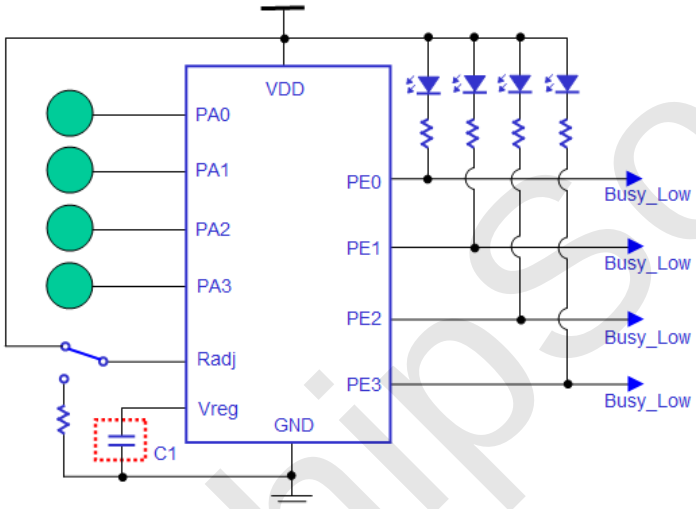
Isb 2.5uA@3.0V,
(Touch Scan) 4.5uA@4.5V,

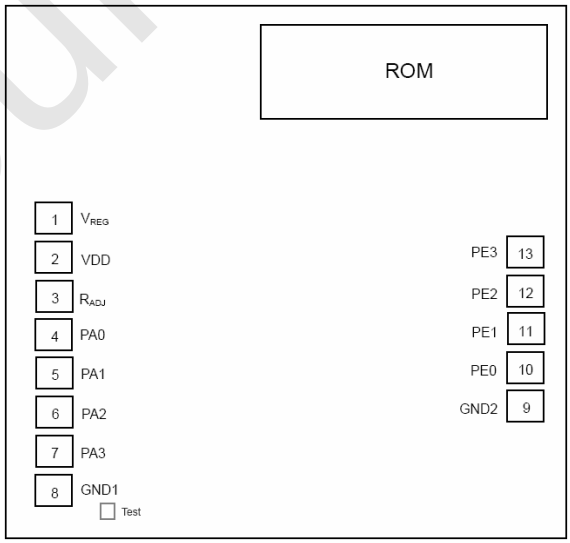
( ) Iop 155uA @3.0V
290uA @4.5V

(CMOS) Iol 20mA @3.0V
30mA @4.5V

Oscillation Frequency 400KHz

Low Voltage Reset 1.8V





** Radj VDD*

** AC C1 (102);*

DC C1 (: Isb)

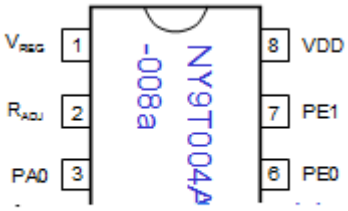
PA0, PA1, PA2, PA3 Level Hold PE0, PE1, PE2, PE3 LED

Low-Trigger IC (: NY4, NY5 NY7 4-bit MCU Speech IC)

PA0	PE0	PE0
PA1	PE1	PE1
PA2	PE2	PE2
PA3	PE3	PE3

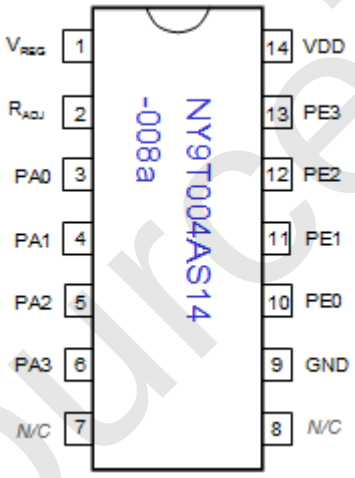
IC

SOP-8 (2*Touch, 2*Out)



NY9T004AS8-008a

SOP-14 (4*Touch, 4*Out)



NY9T004AS14-008a

8.NY9T004A-009a

Input 4 (PA0, PA1, PA2, PA3)

Output 4 (PE0, PE1, PE2, PE3)

PA0, PA1, PA2, PA3 Touch Key L/H

(PE0~PE3: CMOS, Drive)

PE0	Normal-IO	Busy-High	High-Trigger IC
PE1	Normal-IO	Busy-High	High-Trigger IC
PE2	Normal-IO	Busy-High	High-Trigger IC
PE3	Normal-IO	Busy-High	High-Trigger IC

VDD 2.0 ~ 6.0V

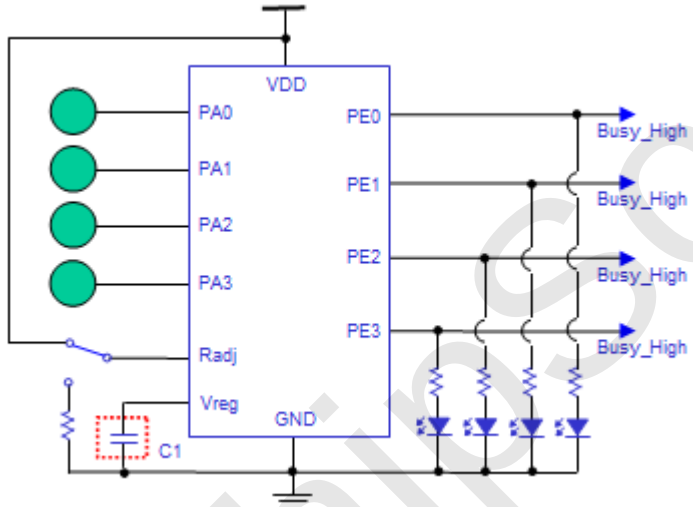
Isb 2.5uA@3.0V,
(Touch Scan) 4.5uA@4.5V,

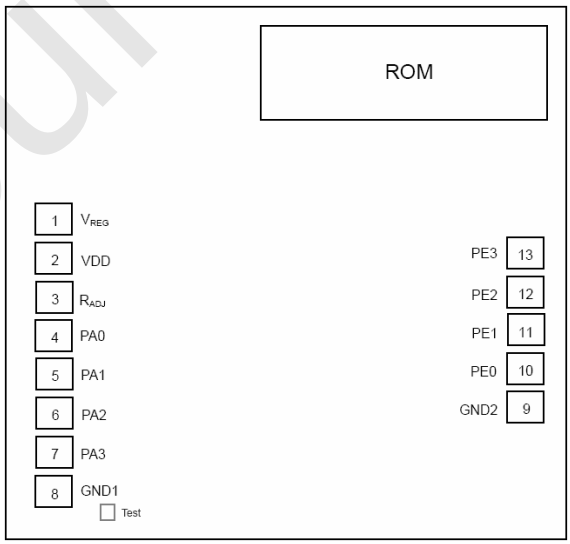
( ) Iop 155uA @3.0V
290uA @4.5V

(CMOS) Ioh 10mA @3.0V
16mA @4.5V

Oscillation Frequency 400KHz

Low Voltage Reset 1.8V





** Radj VDD*

** AC C1 (102);*

DC C1 (: Isb)

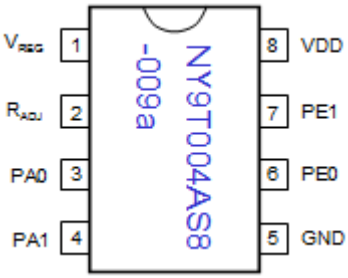
PA0, PA1, PA2, PA3 Level Hold PE0, PE1, PE2, PE3 LED

High-Trigger IC (: NY2 NY3 State Machine Speech IC)

PA0	PE0	PE0
PA1	PE1	PE1
PA2	PE2	PE2
PA3	PE3	PE3

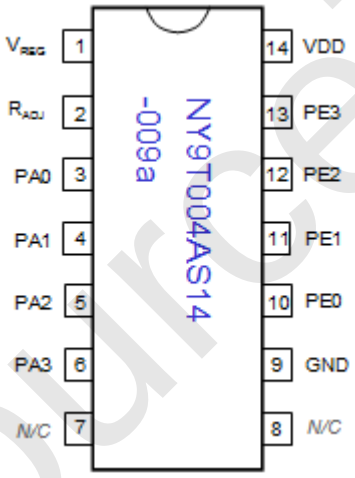
IC

SOP-8 (2*Touch, 2*Out)



NY9T004AS8-009a

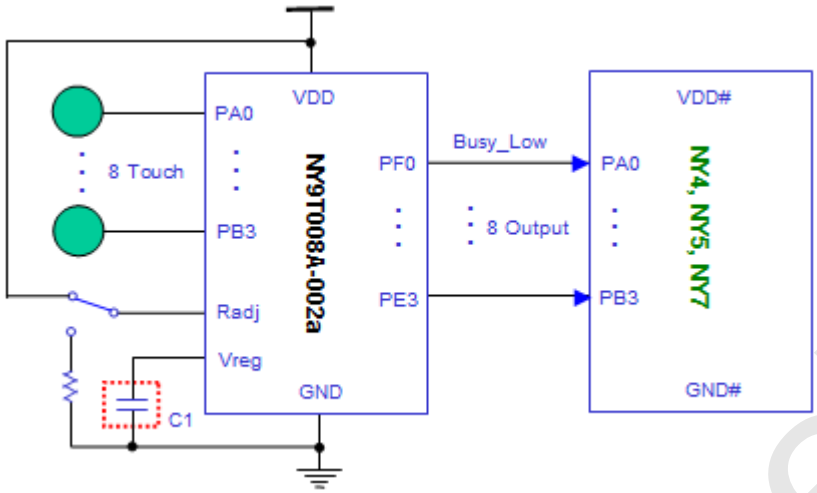
SOP-14 (4*Touch, 4*Out)



NY9T004AS14-009a

9.NY9T008A-002a

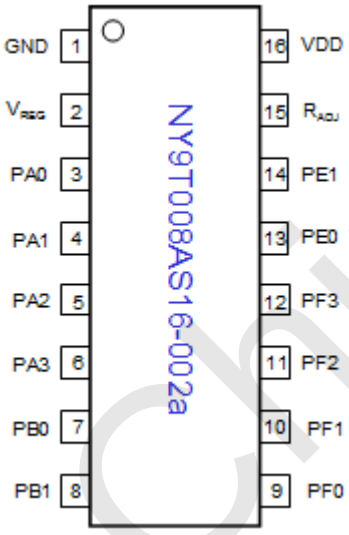
PB0	PE0	PE0
PB1	PE1	PE1
PB2	PE2	PE2
PB3	PE3	PE3



PF0~PF3, PE0~PE3 output to control *Low-Trigger* IC

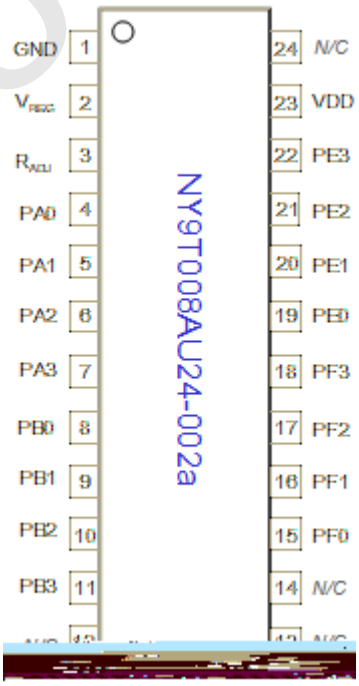
IC

SOP-16 (6*Touch, 6*Out)



NY9T008AS16-002a

SSOP-24 (8*Touch, 8*Out)



NY9T008AU24-002a

10.NY9T008A-003a

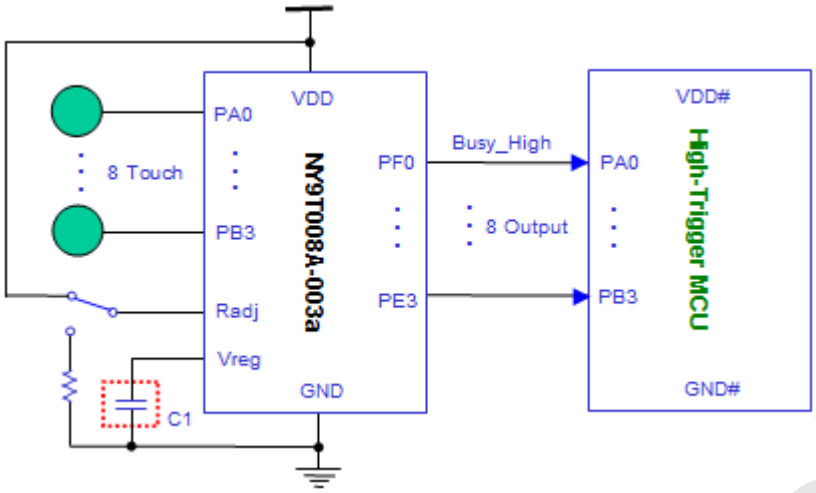
Input 8 (PA0, PA1, PA2, PA3, PB0, PB1, PB2, PB3)

Output 8 (PF0, PF1, PF2, PF3, PE0, PE1, PE2, PE3)

PA0, PA1, PA2, PA3, PB0, PB1, PB2, PB3 Level Hold PF0, PF1, PF2, PF3, PE0, PE1, PE2, PE3 LED High-Trigger IC (: NY2 NY3 State Machine IC)

PA0	PF0
PA1	PF1
PA2	PF2
PA3	PF3
PB0	PE0

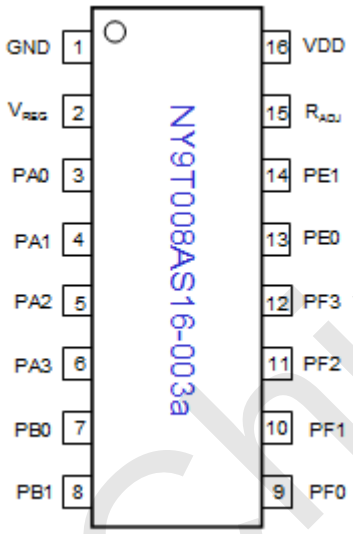
PB1	PE1	PE1
PB2	PE2	PE2
PB3	PE3	PE3



PF0~PF3, PE0~PE3 output to control *High-Trigger* IC

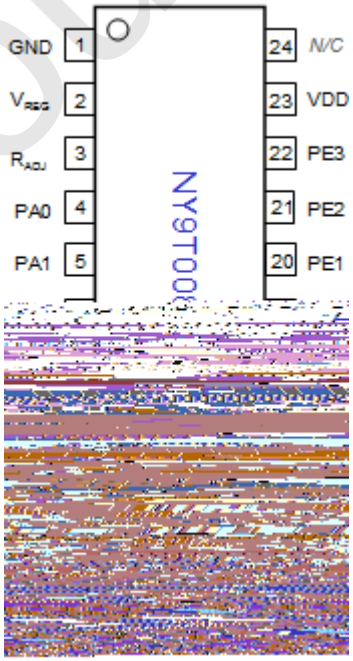
IC

SOP-16 (6*Touch, 6*Out)



NY9T008AS16-003a

SSOP-24 (8*Touch, 8*Out)



NY9T008AU24-003a

11.NY9T008A-005b

VDD 2.0 ~ 6.0V

Input 8 (PA0~PB3) 1 (PE3)

Output 1 LED (PE2) 6 Matrix LED

(PE0~PE1, PF0~PF3)

Isb 1.6uA@3.0V

(Touch Scan) 2.9uA@4.5V

( ) Iop 390uA @3.0V

620uA @4.5V

(CDC) Ioh 3.6mA @3.0V

4.0mA @4.5V

Oscillation Frequency 400KHz

PWM Frame Rate 4.4KHz

Low Voltage Reset 1.8V

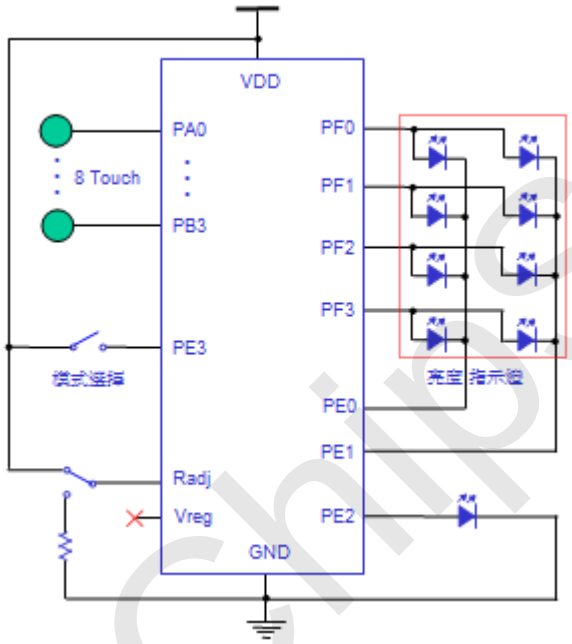
PA0 1 Touch Key

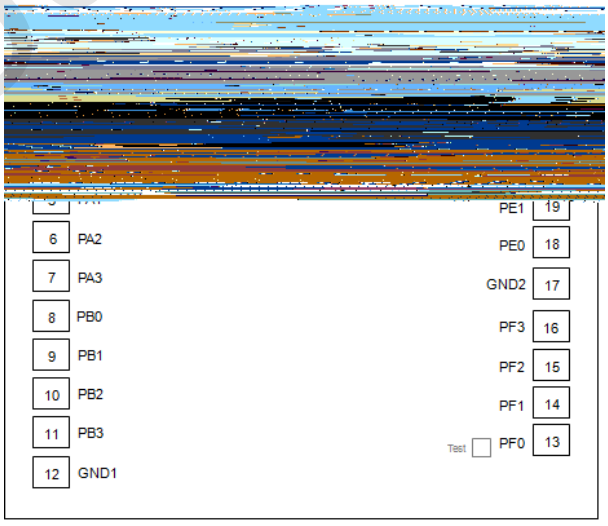
PA1~PB3 7 Touch Key 7 (12%, 24%, 36%, 48%, 60%, 80%, 100%)

(PE2 – CDC*)

PE2 PWM-IO Busy-High LED Lamp

**CDC – Constant Drive Current*





** Radj VDD*

** AC Vreg 1nF(102) ;*

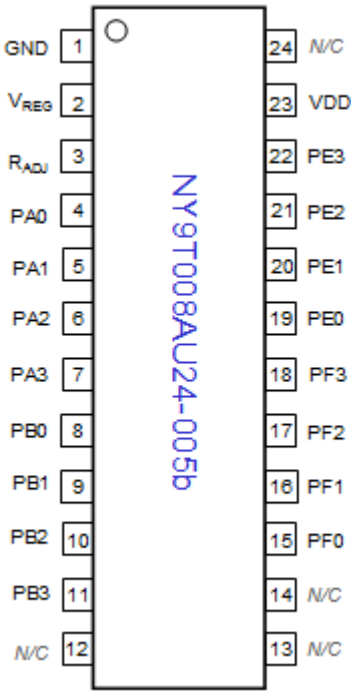
DC (: Isb)

(Bonding Option,)

	PE3	***(PA0: / + PA1, PA2, PA3, PB0, PB1, PB2, PB3: 7)***	
			1. PA0 100% 2. PA0
1	x	,	1. PA0 100% 0.5 0.5 0.38 100% → 80% → 60% → 48% → 36% → 24% → 12% 2. PA0 0.5 0.5 0.38 100% 3. PA1~PB3 7
2	1	,	1. PA0 0.19 48% 100% 48% 12% (100%) 2. PA0 0.19
			1. PA0 0.5 0.5 0.38 12% → 24% → 36% → 48% → 60% → 80% → 100% 2. PA0 0.5 0.5 0.38 12% 3. PA1~PB3 7

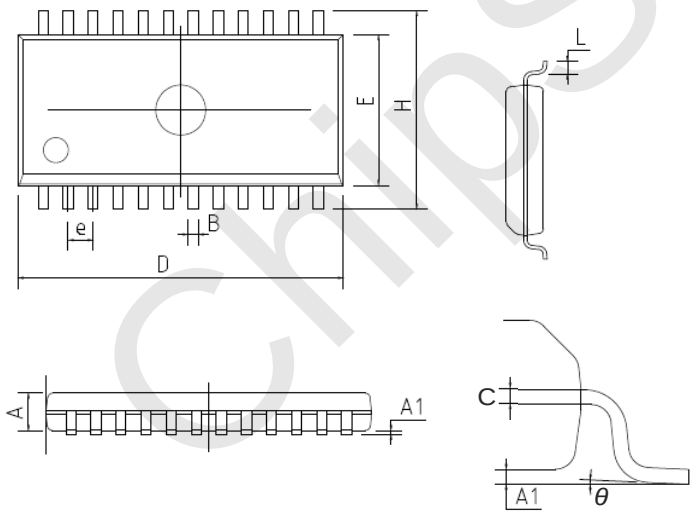
IC

0.635-SSOP24



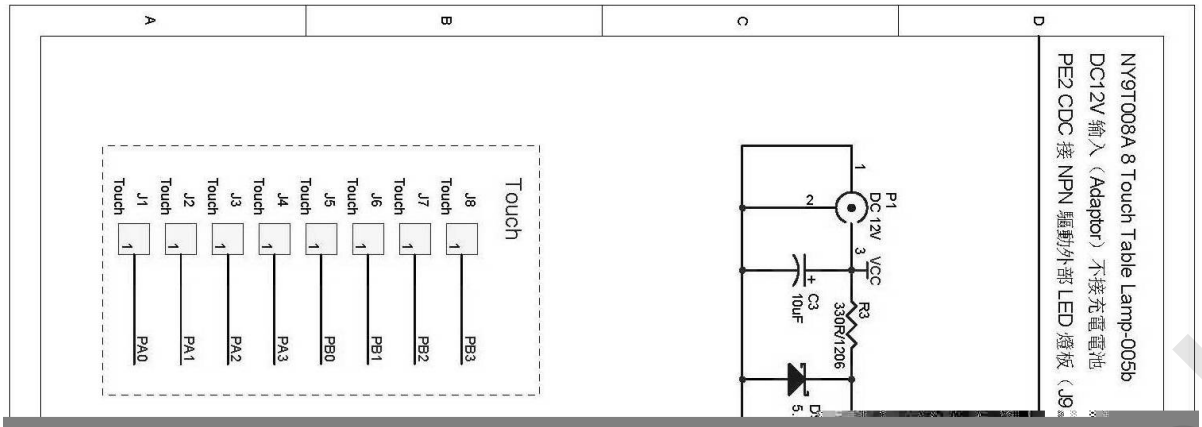
IC

0.635-SSOP24 (150mil Width, 0.635mm Pin-Pitch)



	INCHES			MILLIMETERS		
	MIN	TYP	MAX	MIN	TYP	MAX
A	0.049	-	0.061	1.25	-	1.55
A1	0.002	-	0.010	0.05	-	0.25
B	0.008	-	0.012	0.19	-	0.31
C	0.006	-	0.010	0.15	-	0.25
D	0.337	-	0.344	8.55	-	8.75
e	0.025 BSC			0.635 BSC		
E	0.150	-	0.157	3.80	-	4.00
H	0.224	-	0.248	5.70	-	6.30
L	0.012	-	0.035	0.30	-	0.90
θ	0°	-	7°	0°	-	7°

Note: For 24-pin SSOP, 50 units per tube.



12.NY9T016A-005b

(Software Option,)

1. PC2, PC1, PC0 = x, x, x
2. PC2, PC1, PC0 = x, x, 1 0.5 ( )
3. PC2, PC1, PC0 = x, 1, x 1.0 ( )
4. PC2, PC1, PC0 = x, 1, 1 1.5 ( )
5. PC2, PC1, PC0 = 1, x, x 2.0 ( )
6. PC2, PC1, PC0 = 1, x, 1 4.0 ( )
7. PC2, PC1, PC0 = 1, 1, x 6.0 ( )
8. PC2, PC1, PC0 = 1, 1, 1 8.0 ( )

(Bonding Option,)

	PF3	***PF2***	***(PA0: / + PA1, PA2, PA3, PB0, PB1, PB2, PB3: 7)***	
1	x	x	,	1. PA0 0.19 2. PA0 0.19
				1. PA0 0.5 0.5 0.38 12% → 24% → 36% → 48% → 60% → 80% → 100% 2. PA0 0.5 0.5 0.38 12% 3. PA1~PB3 7
2	x	1	,	1. PA0 100% 2. PA0
				1. PA0 100% 0.5 0.5 0.38 100% → 80% → 60% → 48% → 36% → 24% → 12% 2. PA0 0.5 0.5 0.38 100% 3. PA1~PB3 7
3	1	x	,	1. 1 (100%) 2. 50% 100% 50% 12% 3. 0.5 0.5 (1)
4	1	1	,	1. 2 (100%) 2. 50% 100% 50% 12% 3. 0.5 0.5 50% 50%

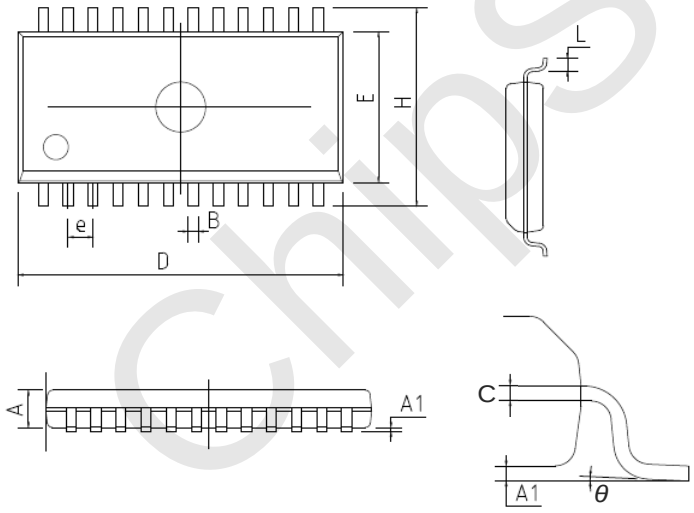
IC

0.635-SSOP24

(PC1, PC2 , 1H, 2H, 6H)

IC

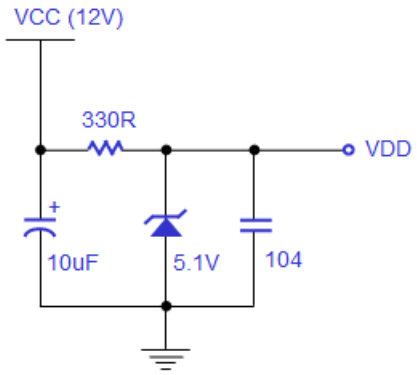
0.635-SSOP24 (150mil Width, 0.635mm Pin-Pitch)



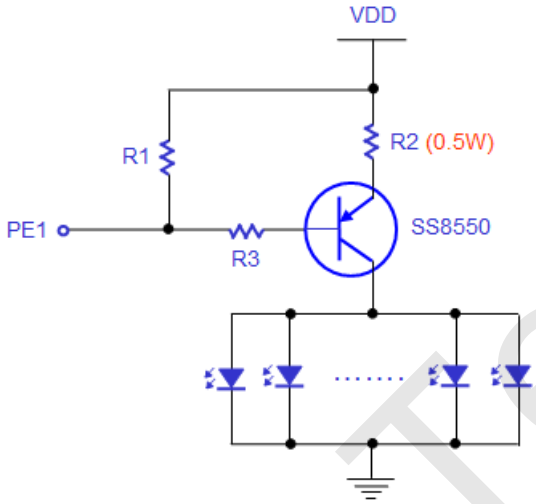
	INCHES			MILLIMETERS		
	MIN	TYP	MAX	MIN	TYP	MAX
A	0.049	-	0.061	1.25	-	1.55
A1	0.002	-	0.010	0.05	-	0.25
B	0.008	-	0.012	0.19	-	0.31
C	0.006	-	0.010	0.15	-	0.25
D	0.337	-	0.344	8.55	-	8.75
e	0.025 BSC			0.635 BSC		
E	0.150	-	0.157	3.80	-	4.00
H	0.224	-	0.248	5.70	-	6.30
L	0.012	-	0.035	0.30	-	0.90
θ	0°	-	7°	0°	-	7°

Note: For 24-pin SSOP, 50 units per tube.

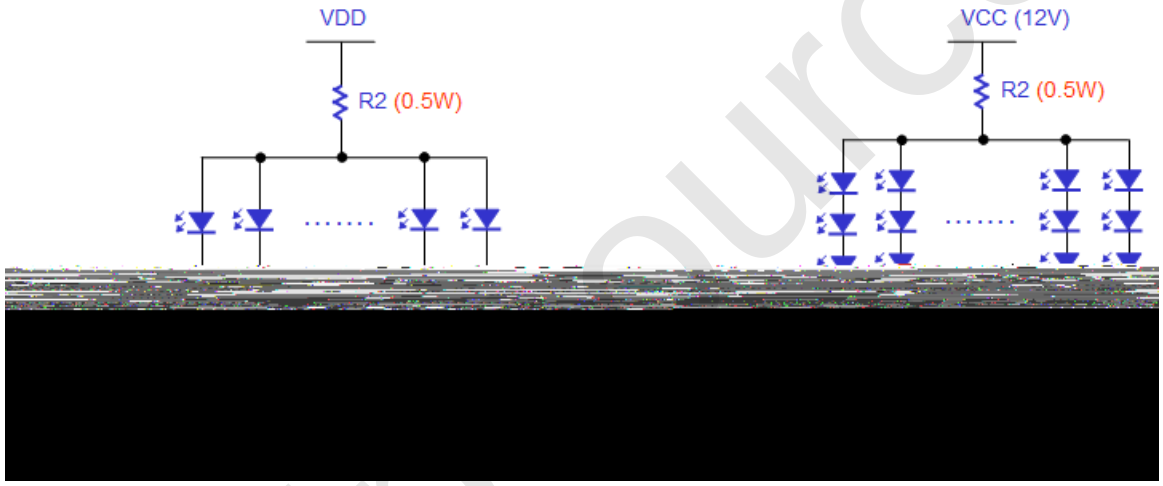
DC (. DC 12V)



PE1 Sink LED ( )



PE2 Drive LED ( )



13.NY9T016A-006a

Input 16 (PA0~3, PB0~3, PC0~3, PD0~3)
4 (PE0, PE1, PE3, PE2)
Output 3 (PF1, PF2, PF3)

PA0~3, PB0~3, PC0~3, PD0~3 16 Touch Key
PAx, PBx, PCx, PDx, Px0, Px1, Px2, Px3 16

PF1, PF2, PF3 NY3/NY4/NY5/NY7

VDD 2.0 ~ 6.0V

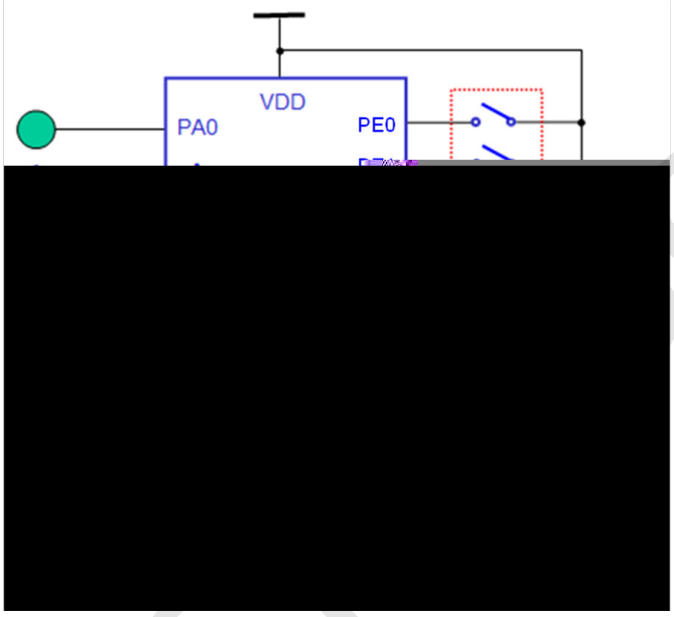
Isb 2.5uA@3.0V
(Touch Scan) 4.5uA@4.5V

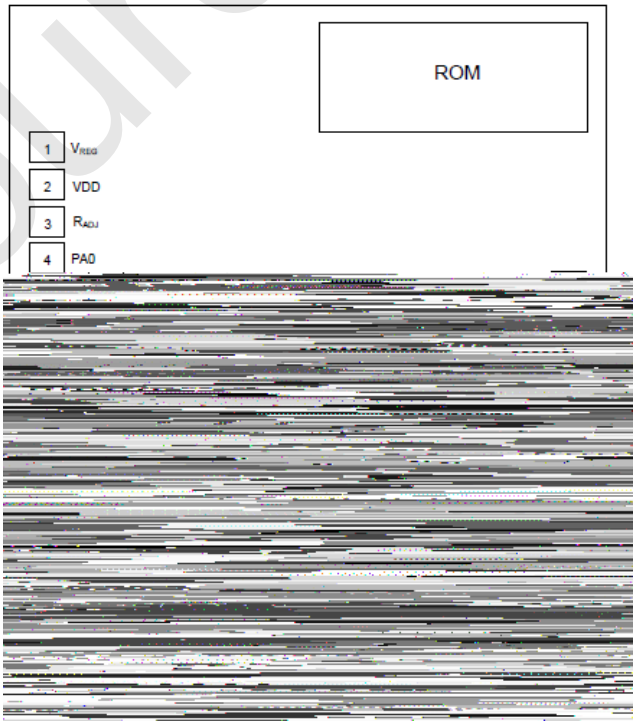
Iih 3uA@3.0V
8uA@4.5V

( ) Iop 320uA @3.0V
480uA @4.5V

Oscillation Frequency 400KHz

Low Voltage Reset 1.8V





** Radj VDD*

** AC C1 (102);*

DC C1 (: Isb)

Touch ***(Software Option,)***

1. PE1 = x Touch On
2. PE1 = 1 Touch Off

Touch ***(Software Option,)***

1. PE0 = x Touch Off (Slide Off)
2. PE0 = 1 Touch On (Slide On)

Touch ***(Software Option,)***

1. PE3, PE2 = x, x 4*4 Slide mode (PAx *2, PBx *2, PCx *2, PDx *2, Px0 *2, Px1 *2, Px2 *2, Px3 *2 16)
2. PE3, PE2 = x, 1 3*3 Slide mode (PA0~2 *2, PB0~2 *2, PC0~2 *2, Px0 *2, Px1 *2, Px2 *2 12)
3. PE3, PE2 = 1, x 4*3 Slide mode (PA0~2 *2, PB0~2 *2, PC0~2 *2, PD0~2 *2, Px0 *2, Px1 *2, Px2 *2 14)
4. PE3, PE2 = 1, 1 3*4 Slide mode (PAx *2, PBx *2, PCx *2, Px0 *2, Px1 *2, Px2 *2, Px3 *2 14)

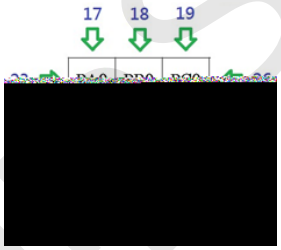
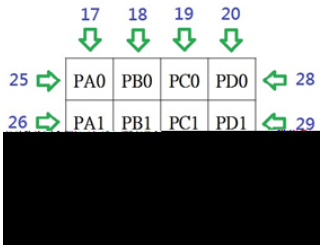
Slide PA0~3 PB0~3 PC0~3 PD0~3 Touch PF1~3

IC NY3/NY4/NY5/NY7

“⇩” Data PA0 PA3 Data 17

1. Slide NY3 Serial-Trigger SPI_Like IR_Trigger

2. PE0,2,3 VDD (=1) (Iih= 3uA@3V, 8uA@4.5V) (PE1)

4*4 Slide Mode	3*3 Slide Mode	4*3 Slide Mode	3*4 Slide Mode
			

(Serial Control) ***(Power On Auto-Detection,)***

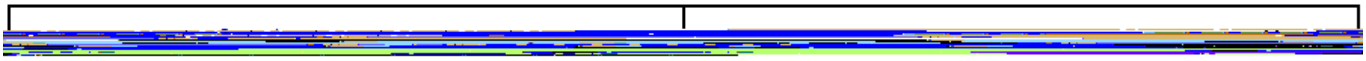
PF1, PF2, PF3

1. SPI_Like
2. NY3 Serial-Trigger
3. IR_Trigger

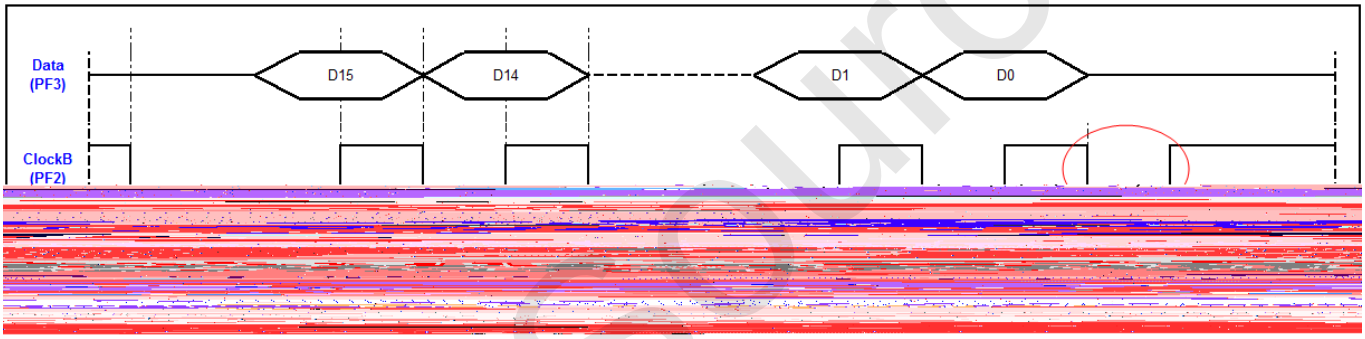
1. SPI_Like

PF1 Clock (Active High) PF2 ClockB (Active Low) PF3 Data

NY9T016A-006a NY4/NY5/NY7 (Low-Active MCU) IC (High-Active MCU)



SPI_Like

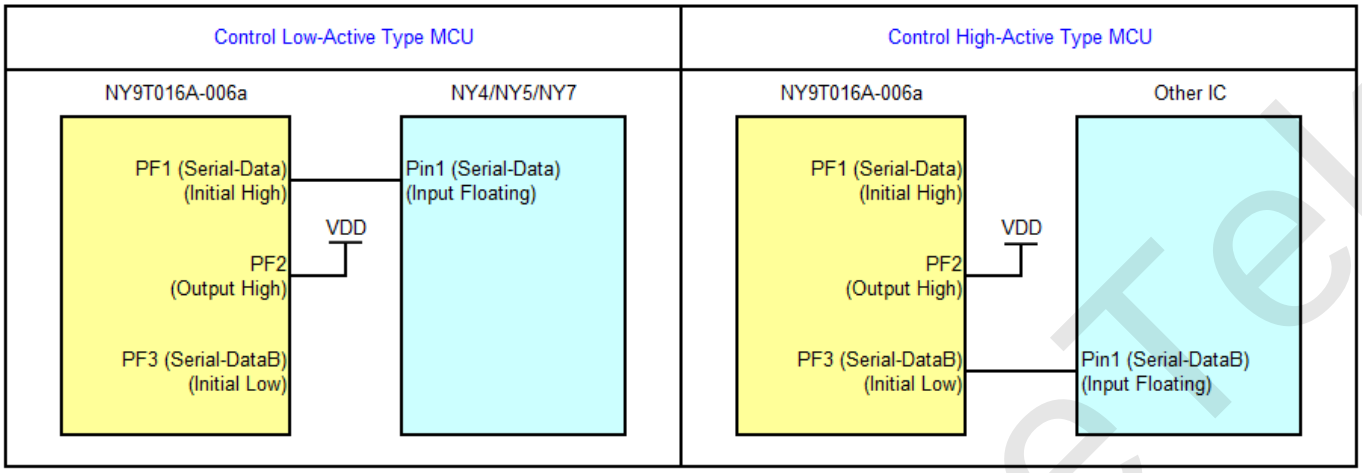


2. NY3 Serial-Trigger

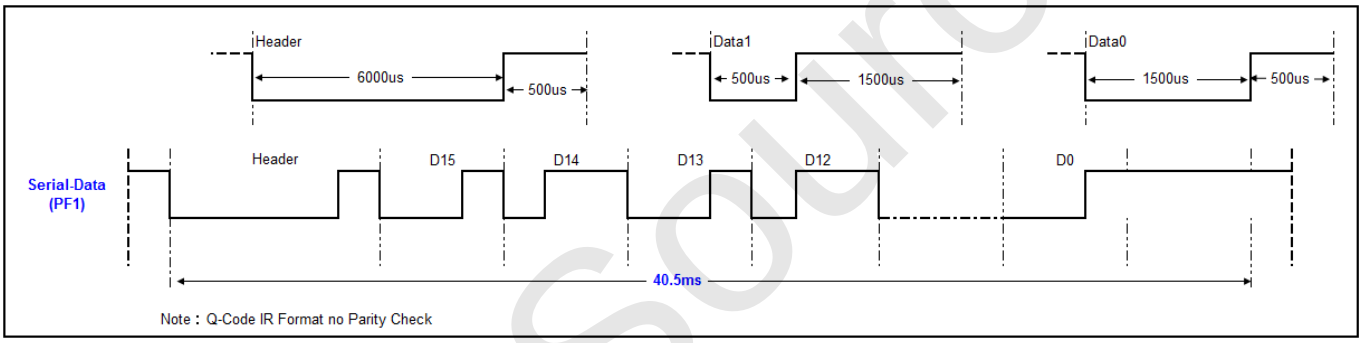
3. IR_Trigger

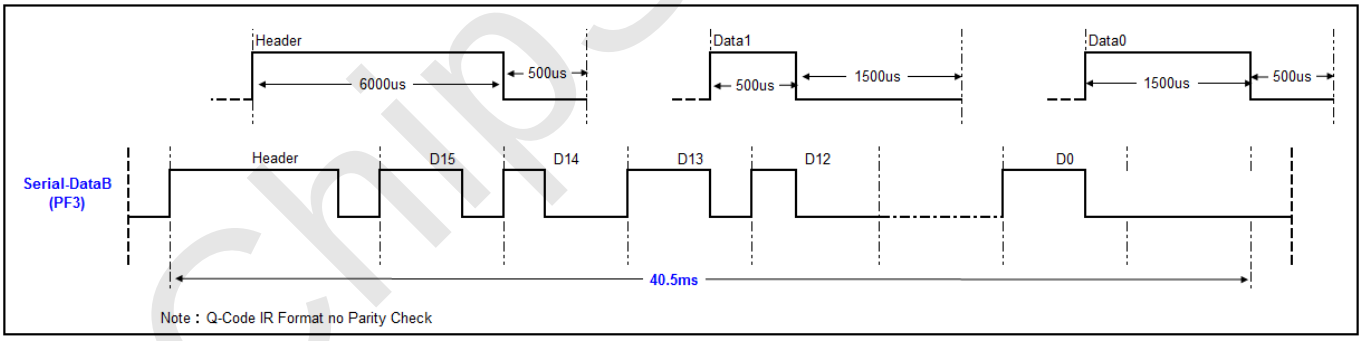
PF2 VDD PF1 Serial-Data (Active Low) PF3 Serial-DataB (Active High)

NY9T016A-006a NY4/NY5/NY7 (Low-Active MCU) IC (High-Active MCU)



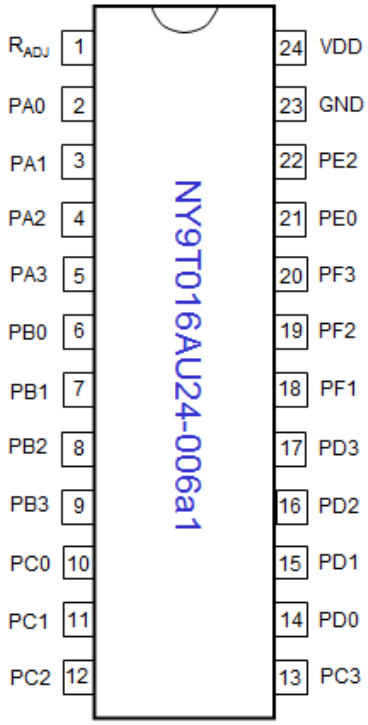
IR_Trigger





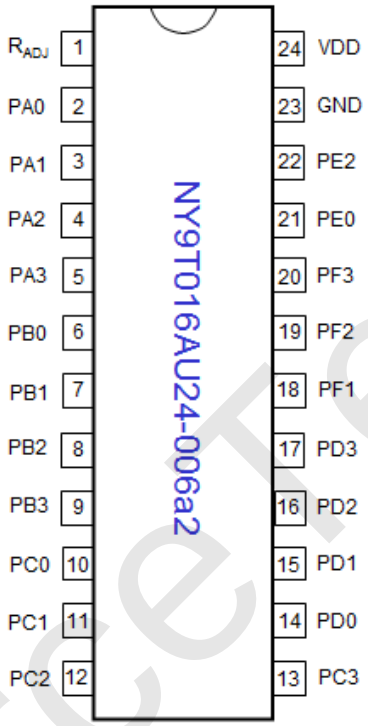
IC

0.635-SSOP24



NY9T016AU24-006a1 (Slide Mode : 4*4 & 3*3)

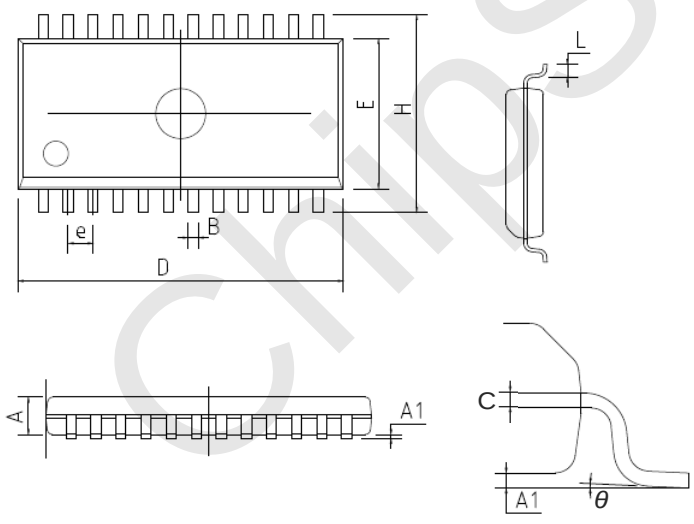
0.635-SSOP24



NY9T016AU24-006a2 (Slide Mode : 4*3 & 3*4)

IC

0.635-SSOP24 (150mil Width, 0.635mm Pin-Pitch)



	INCHES			MILLIMETERS		
	MIN	TYP	MAX	MIN	TYP	MAX
A	0.049	-	0.061	1.25	-	1.55
A1	0.002	-	0.010	0.05	-	0.25
B	0.008	-	0.012	0.19	-	0.31
C	0.006	-	0.010	0.15	-	0.25
D	0.337	-	0.344	8.55	-	8.75
e	0.025 BSC			0.635 BSC		
E	0.150	-	0.157	3.80	-	4.00
H	0.224	-	0.248	5.70	-	6.30
L	0.012	-	0.035	0.30	-	0.90
θ	0°	-	7°	0°	-	7°

Note: For 24-pin SSOP, 50 units per tube.