

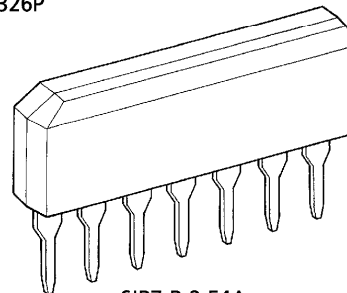
TA7326P, TA7326F, TA7327P

CR TIMER

FEATURES

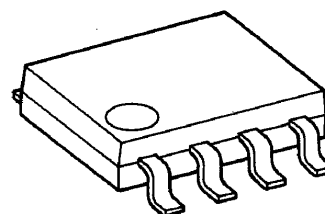
- I²L IC with 12-stage binary counter.
- Built-in initialize circuit.
- Built-in Voltage regulator.
- Operates in both timer and oscillator modes.
- Excellent temperature stability.
- TA7327P has initial adjustment terminals of timing.

TA7326P



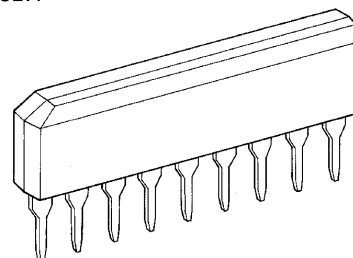
SIP7-P-2.54A

TA7326F



SOP8-P-225-1.27

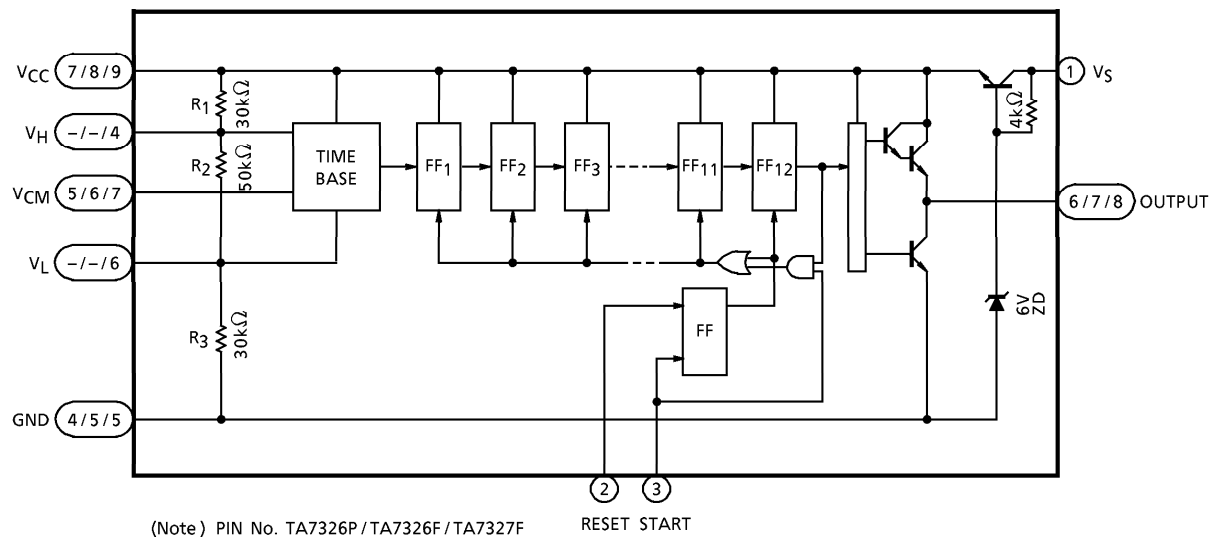
TA7327P



SIP9-P-2.54A

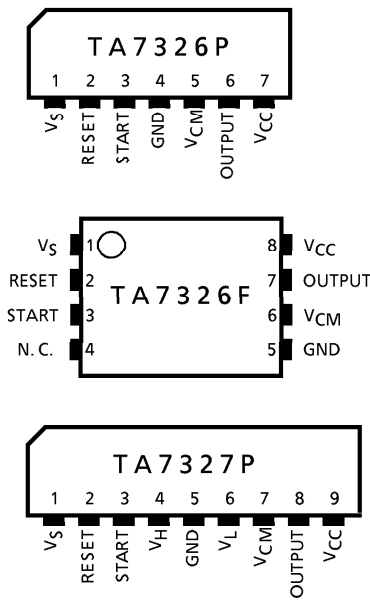
Weight
SIP7-P-2.54A : 0.7g (Typ.)
SOP8-P-225-1.27 : 0.1g (Typ.)
SIP9-P-2.54A : 0.9g (Typ.)

BLOCK DIAGRAM



PIN CONNECTION

PIN No.	CONNECTION		
	TA7326P	TA7326F	TA7327F
1	VS	VS	VS
2	RESET	RESET	RESET
3	START	START	START
4	GND	N.C.	VH
5	VCM	GND	GND
6	OUTPUT	VCM	VL
7	VCC	OUTPUT	VCM
8	—	VCC	OUTPUT
9	—	—	VCC



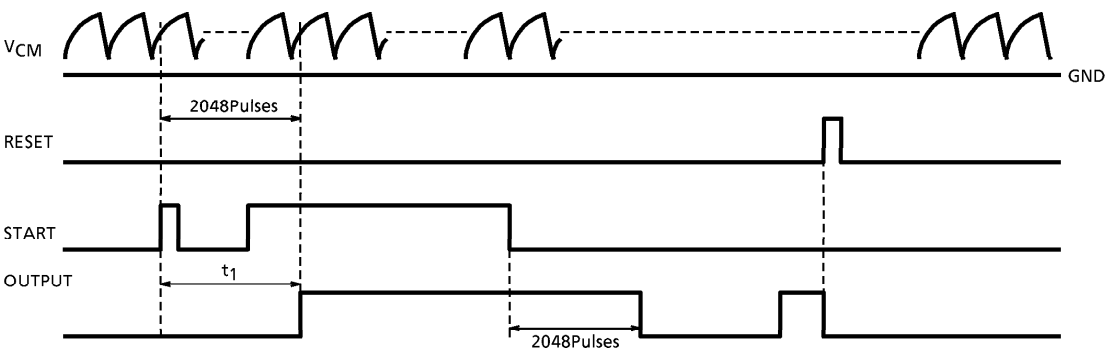
TRUTH TABLE

MODE	INPUTS		OUTPUT
	RESET	START	
1	H	(*)	L
2	L	H	COUNT, OSCILLATOR MODE
3	L	H	HOLD "H", TIMER MODE
4	L	L	HOLD LAST STATE

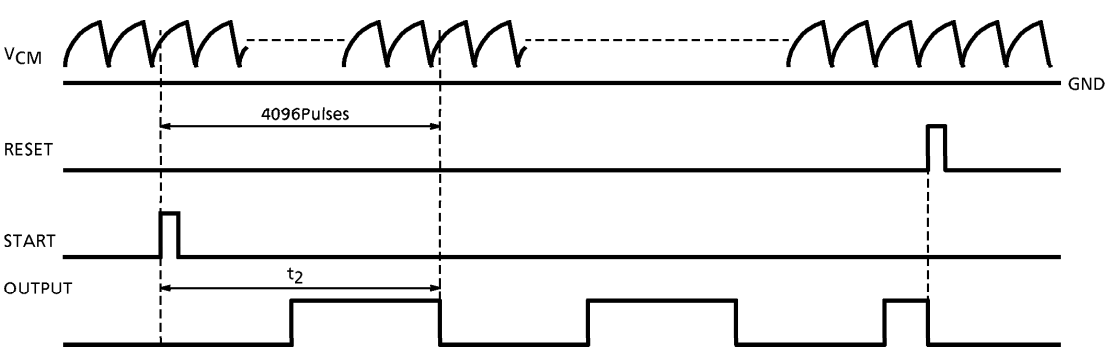
(*) H or L
Output equal "L" when power on.

TIMING CHART

• Timer mode



• Oscillator mode



MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Supply Voltage		V_S	12	V
Supply Voltage		V_{CC}	7	V
Input Voltage		V_{IH}	20	V
Output Current		I_{OH}	-30	mA
		I_{OL}	2	
Power Dissipation (Note)	TA7326P, TA7326F	P_D	400	mW
	TA7327P		600	
Operating Temperature		T_{opr}	-20 ~ 75	°C
Storage Temperature		T_{stg}	-55 ~ 125	°C

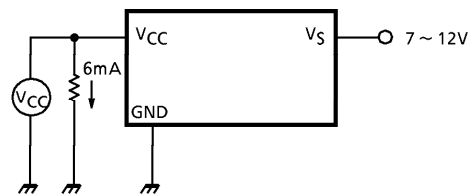
(Note) Derated above Ta = 25°C in the propotion of 4mW/°C for TA7326P and 6mW/°C for TA7327P.

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

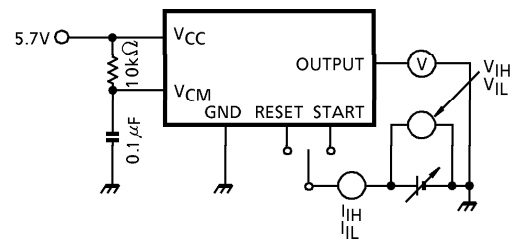
CHARACTERISTIC		SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage		V_S	—	Ta = -20 ~ 75°C	7	—	12	V
Supply Voltage		V_{CC}	1	$V_S = 7 \sim 12V$, $I_{CC} = 6mA$	5.0	—	6.3	V
Supply Current		I_S	2	$V_S = 12V$	—	2	5	mA
Input Bias Current		I_I	3	$V_{CC} = 5.7V$	—	—	0.35	μA
Input Voltage	"H" Level	V_{IH}	4	$V_{CC} = 5.7V$	2.5	—	—	V
	"L" Level	V_{IL}	4	$V_{CC} = 5.7V$	—	—	1.5	V
Input Current	"H" Level	I_{IH}	4	$V_{CC} = 5.7V$, $V_{IH} = 2.5V$	—	—	0.25	mA
	"L" Level	I_{IL}	4	$V_{CC} = 5.7V$, $V_{IL} = 0V$	—	—	-1	μA
Output Voltage	"H" Level	V_{OH}	5	$V_{CC} = 5.7V$, $I_{OH} = -30mA$	3.5	—	—	V
	"L" Level	V_{OL}	6	$V_{CC} = 5.7V$, $I_{OH} = 1mA$	—	—	0.3	V
Temperature Coefficient of V_{CC}		$\Delta V_{CC} / \Delta T_a$	—	$V_S = 10V$, Ta = -20~75°C	—	5	—	mV/°C
Temperature Coefficient of Timing		$\Delta t / \Delta T_a$	—	$V_{CC} = 5.7V$, Ta = -20~75°C, $C_t = 100\mu F$, $R_t = 10k\Omega$	—	200	—	ppm/°C
Timing Drift with Supply Voltage Ratio		$\Delta t / \Delta V_{CC}$	—	$V_{CC} = 5.0 \sim 6.3V$, $C_t = 100\mu F$, $R_t = 10k\Omega$	—	0.5	—	%/V
Timing Resistance		R_t	—	—	1	—	1000	kΩ

TEST CIRCUIT

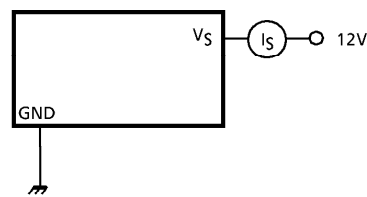
1. V_{CC}



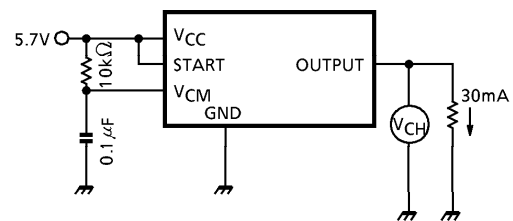
4. V_{IH} , V_{IL} , I_{IH} , I_{IL}



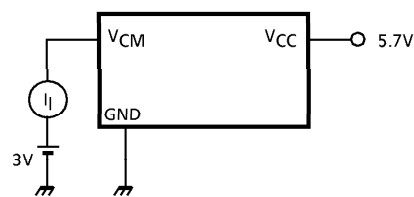
2. I_S



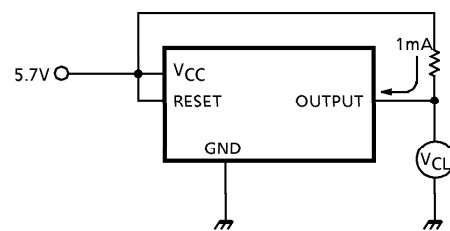
5. V_{OH}

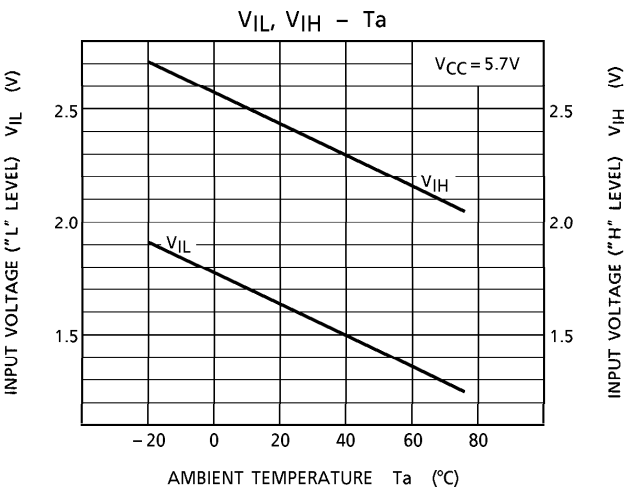
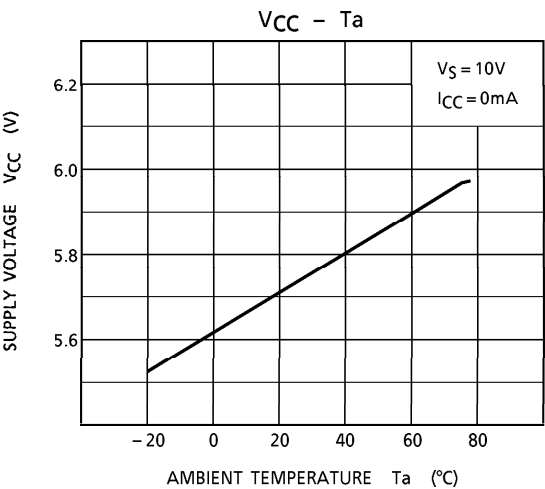
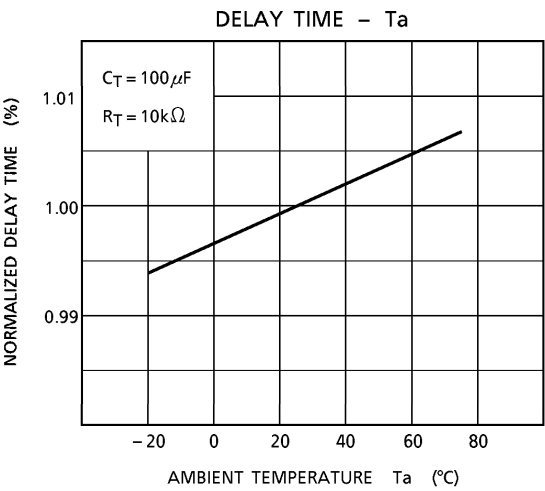
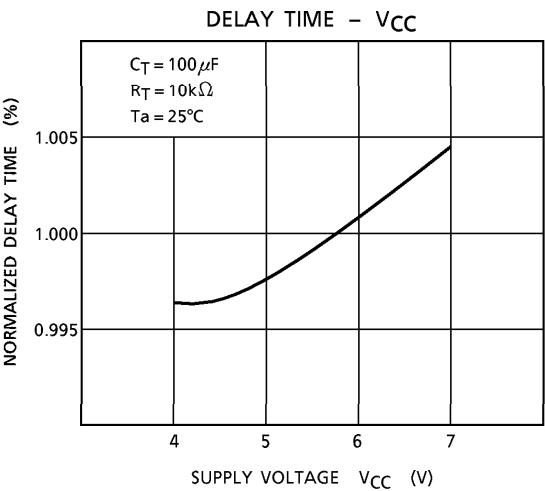
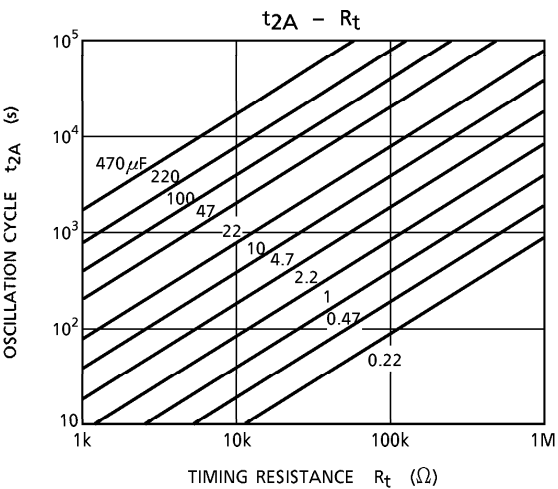
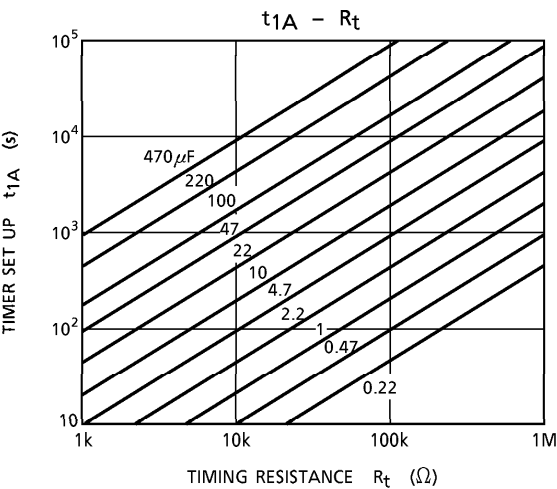


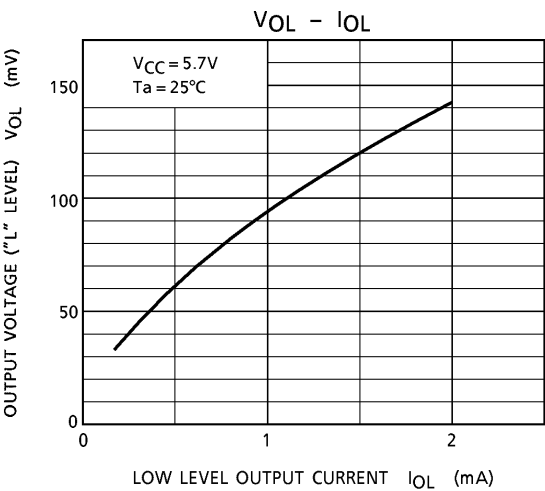
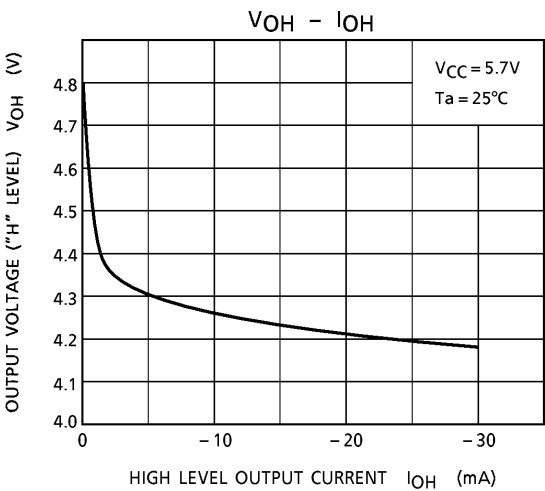
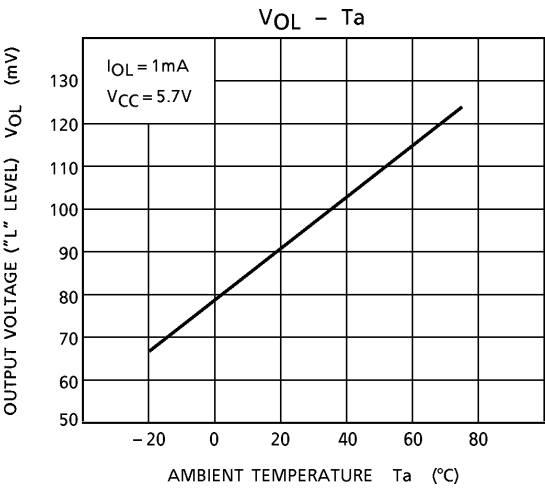
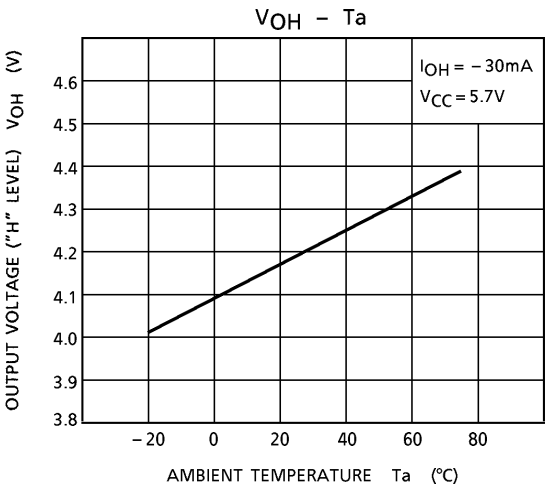
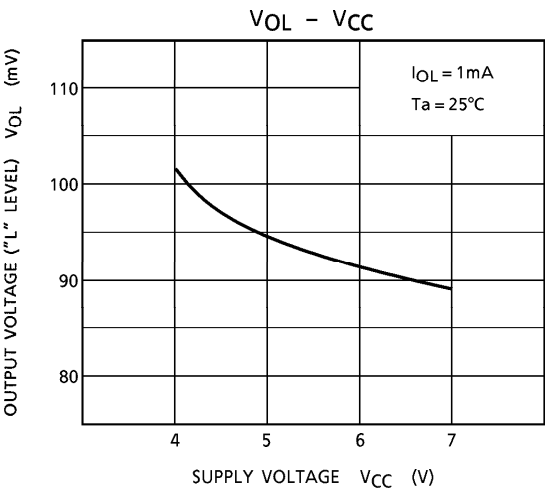
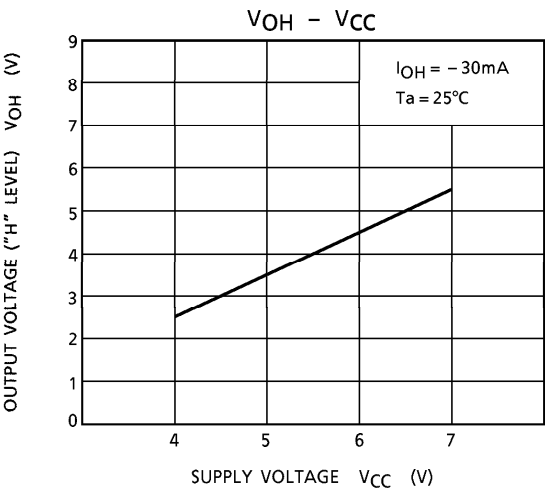
3. I_I

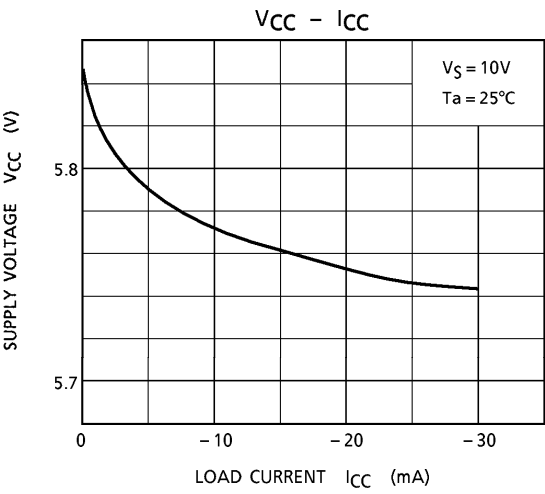
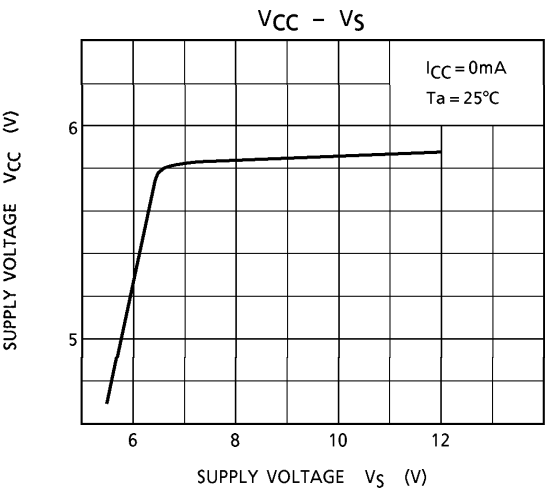


6. V_{OL}



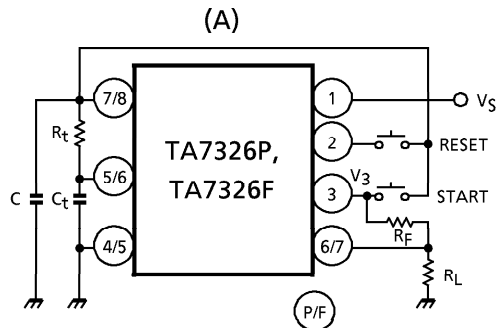






APPLICATION CIRCUIT (Ta = 25°C)

Timer mode



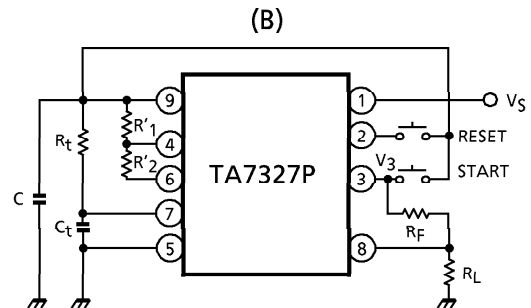
$$C = 1 \sim 10 \mu F$$

$$V_3 > V_{IH}$$

$$t_{1A} \doteq 2048 C_t \cdot R_t \text{ (s)}$$

$$C_t : (\text{F})$$

$$R_t : (\Omega)$$



$$C = 1 \sim 10 \mu F$$

$$V_3 > V_{IH}, V_H < V_{CC} - 1V, V_L > 1.2V$$

$$t_{1B} = 2048 C_t \cdot R_t \left| \ln \frac{r_1}{r_1 + r_2} \right| \text{ (s)}$$

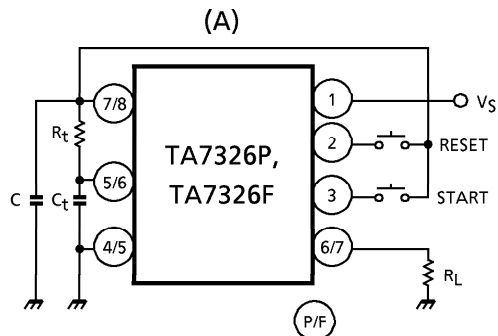
$$C_t : (\text{F})$$

$$R_t : (\Omega)$$

$$r_1 = R_1 // R'_1, R_1 = 30k\Omega$$

$$r_2 = R_2 // R'_2, R_2 = 50k\Omega$$

Oscillator mode

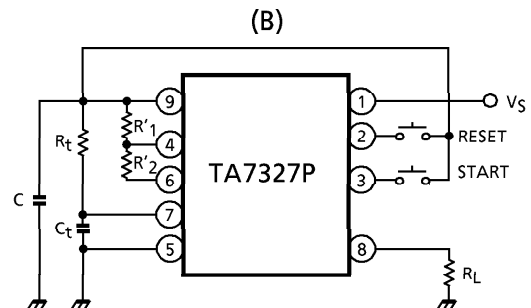


$$C = 1 \sim 10 \mu F$$

$$t_{2A} \doteq 4096 C_t \cdot R_t \text{ (s)}$$

$$C_t : (\text{F})$$

$$R_t : (\Omega)$$



$$C = 1 \sim 10 \mu F$$

$$V_H < V_{CC} - 1V, V_L > 1.2V$$

$$t_{2B} = 4096 C_t \cdot R_t \left| \ln \frac{r_1}{r_1 + r_2} \right| \text{ (s)}$$

$$C_t : (\text{F})$$

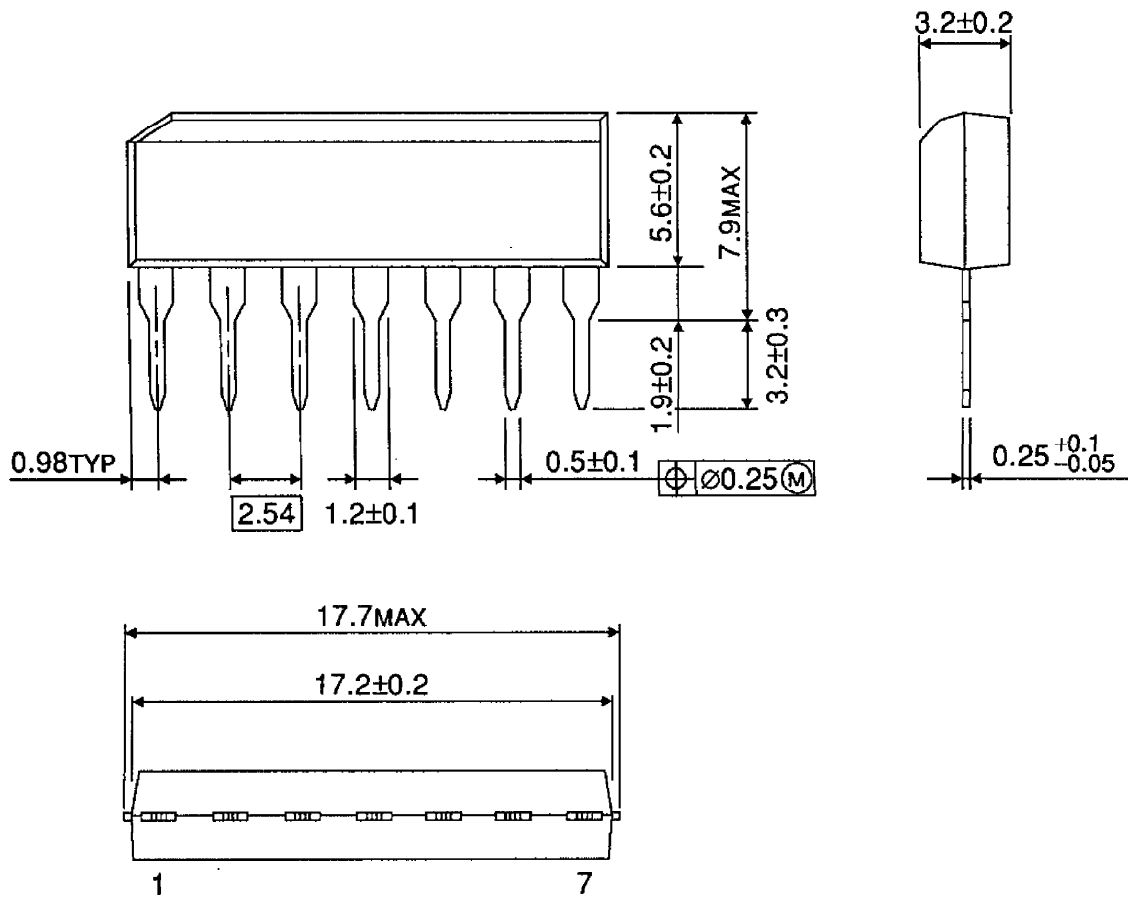
$$R_t : (\Omega)$$

$$r_1 = R_1 // R'_1, R_1 = 30k\Omega$$

$$r_2 = R_2 // R'_2, R_2 = 50k\Omega$$

PACKAGE DIMENSIONS
SIP7-P-2.54A

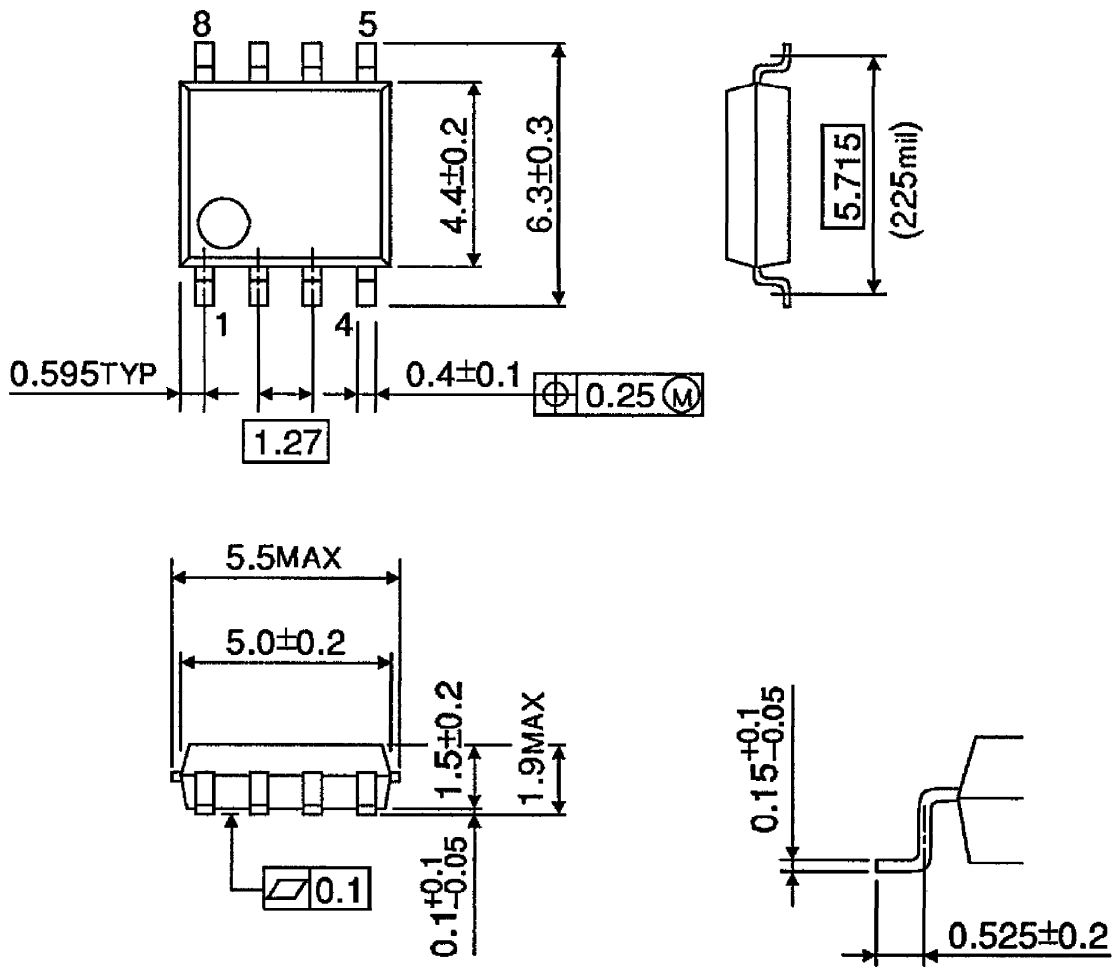
Unit : mm



Weight : 0.7g (Typ.)

PACKAGE DIMENSIONS
SOP8-P-225-1.27

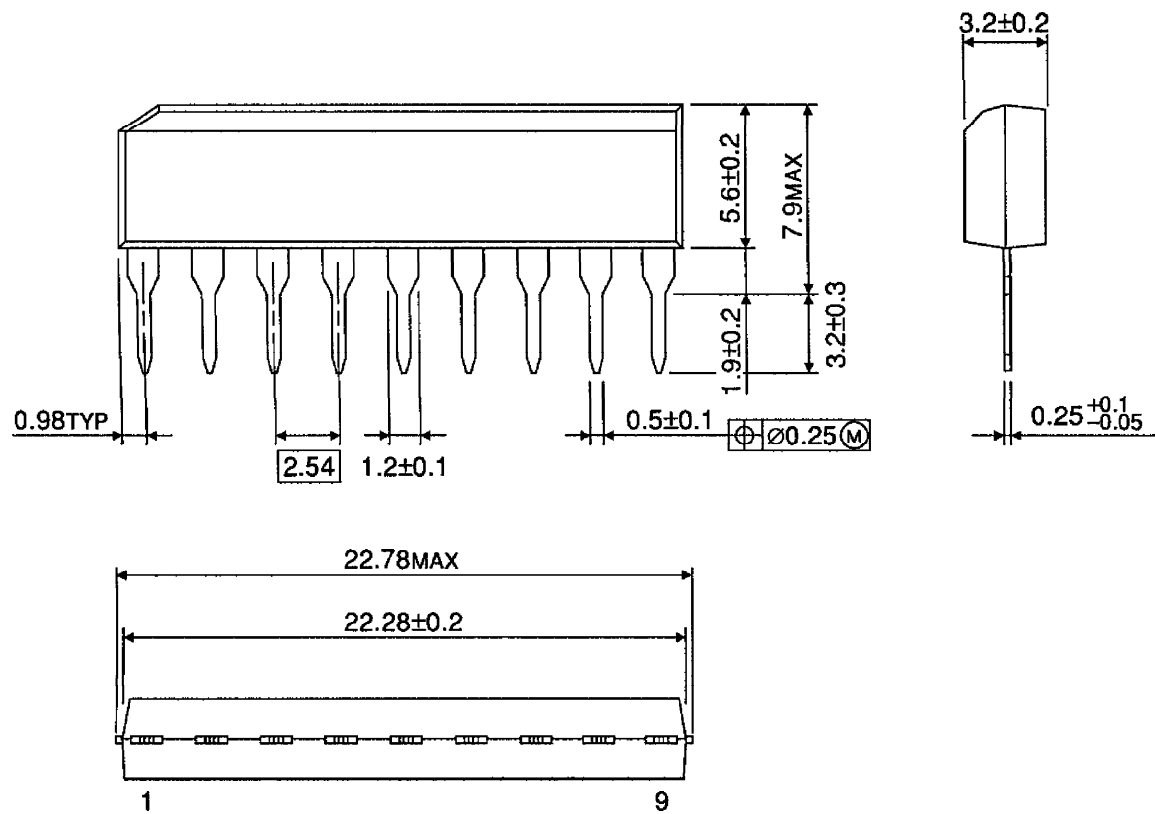
Unit : mm



Weight : 0.1g (Typ.)

PACKAGE DIMENSIONS
SIP9-P-2.54A

Unit : mm



Weight : 0.9g (Typ.)

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000707EBA

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