

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8505P

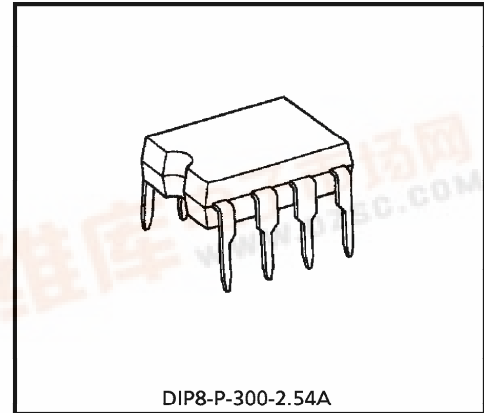
SUPPLY VOLTAGE SUPERVISOR

TA8505P is a bipolar monolithic IC developed for Reset Controller in digital systems, especially in microcomputer systems.

Wide Range detecting voltage can be set freely by a few external parts.

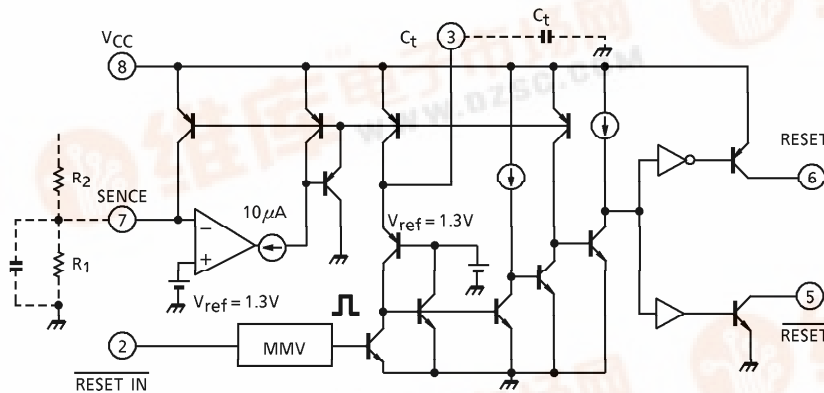
FEATURES

- A detected voltage and hysteresis can be set with 2 external resistances.
- Provided the 2 Outputs of Reset and $\overline{\text{Reset}}$.
- $\overline{\text{Reset-IN}}$ signal can reset two Outputs' Voltage.
- Wide operating Voltage Range : 1.8~32V
- Output current : $I_{OL} = 20\text{mA}$ (Max.)

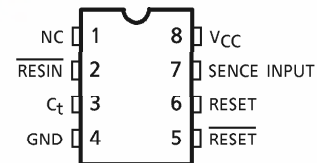


Weight : 0.5g (Typ.)

BLOCK DIAGRAM



PIN CONNECTION (TOP VIEW)



961001EBA2

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MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	36	V
Breakdown Voltage	RESIN	36	V
	SENCE		
Output Current	I _{OH}	- 1	mA
	I _{OL}	20	
Power Dissipation	P _D	0.6	W
Operating Temperature	T _{opr}	- 40~85	°C
Storage Temperature	T _{stg}	- 55~150	°C

RECOMMENDED OPERATING CONDITION

CHARACTERISTIC			SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage			V _{CC}	—	1.8	—	32	V
Input Voltage			V _{IN}	—	0	—	V _{CC}	V
Input Voltage	"H" Level	RESIN	V _{IH}	—	2.0	—	V _{CC}	V
	"L" Level	RESIN	V _{IL}	—	0	—	0.6	
Output Current	RESET		I _{OH}	—	0	—	- 1	mA
	RESET		I _{OL}	—	0	—	16	
Operation Temperature			T _{opr}	—	0	—	70	°C

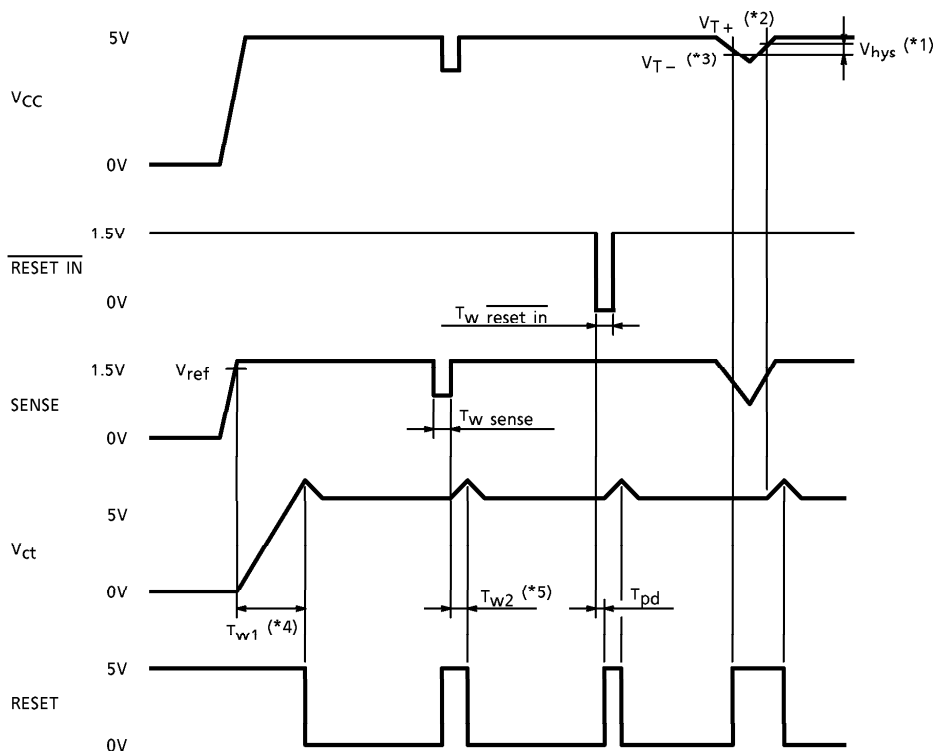
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC			SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Input Current	"H" Level	RESIN	I _{IH}	—	V _{CC} = 5.0V	V _{IN} = 2.0V	—	—	2	μA
		SENSE				V _{IN} = 1.5V	- 8	- 12	- 16	
	"L" Level	RESIN	I _{IL}			V _{IN} = 0.4V	0	- 0.8	- 6	
		SENSE				V _{IN} = 1V	0	—	± 2	
C _t Charge Current			I _{ct}	—	V _{CC} = 5.0V, V _{ct} = 0V	- 12	- 19	- 26	μA	
Output Voltage	RESET		V _{OH}	—	V _{CC} = 5.0V	I _{OL} = - 1mA	4.5	4.8	—	V
	RESET		V _{OL}			I _{OH} = 16mA	—	0.1	0.4	
Output Current	RESET		I _{OL}	—	V _{CC} = 5.0V	V _{OL} = 0V	—	—	- 2	μA
	RESET		I _{OH}			V _{OH} = 5.0V	—	—	2	
Reference Voltage			V _{ref}	—	V _{CC} = 5.0V	1.24	1.31	1.38	V	
Supply Current			I _{CC}	—	V _{CC} = 5.0V, All inputs and outputs open	—	1.6	3.0	mA	

AC CHARACTERISTICS ($V_{CC} = 5V$, $T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Pulse Width	t_w sense	—	$V_{IH} = V_{ref}$ Typ + 200mA $V_{IL} = V_{ref}$ Typ - 200mA	1.0	—	—	μs
	t_w reset in	—	—	0.4	1.4	—	
Output Pulse Width	t_w	—	$C_t = 0.1 \mu F$ $V_{ct}(t=0) = 1V$ $V_{ct}(t=0) = 0V$	0.65	1.3	2.6	ms
				—	5.7	—	
Propagation Delay Time (RESIN-RESET)	t_{pd}	—	$C_L = 100pF$, $R_L = 4.7k\Omega$	—	1	—	μs

TIMING CHART



(*1) $V_{hys} = (R_1 + R_2) \times 10^{-5}$ (V)

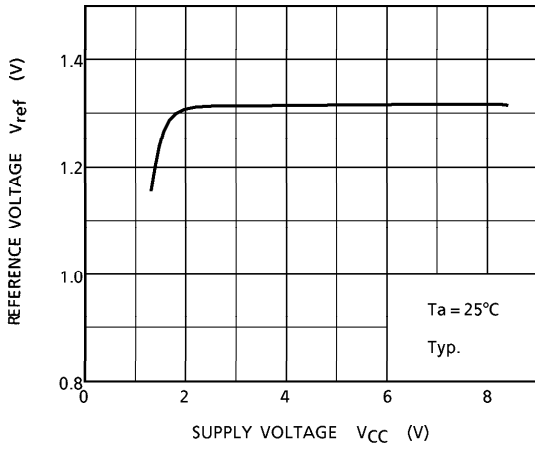
(*2) $V_{T+} = \frac{R_1 + R_2}{R_1} \times 1.31$ (V)

(*3) $V_{T-} = \frac{R_1 + R_2}{R_1} \times (1.31 - R_1 \times 10^{-5})$ (V)

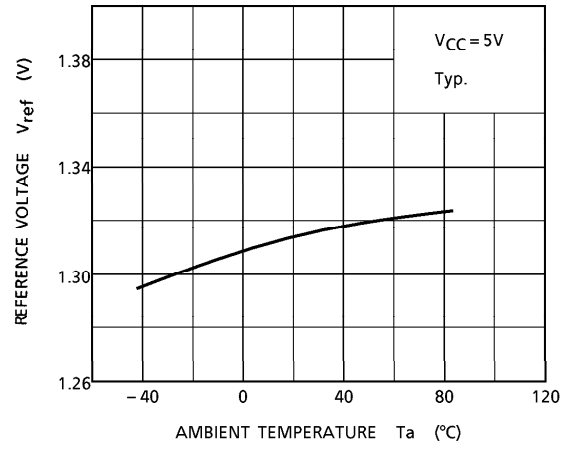
(*4) $T_{w1} = G_t \cdot (V_{ref} - 0V) / I_{CT}$ ($I_{CT} = 23 \mu A$)

(*5) $T_{w2} = G_t \cdot (V_{ref} - 1V) / I_{CT}$

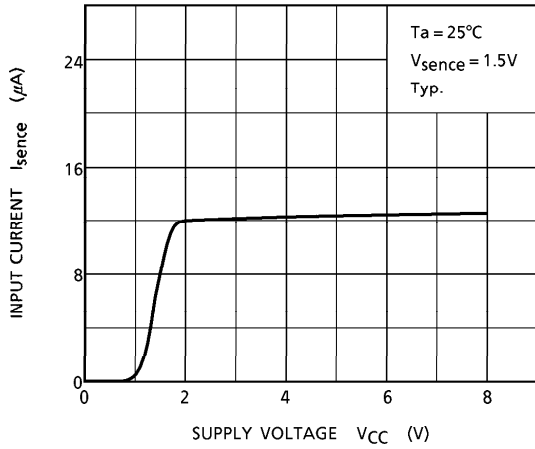
V_{ref} - V_{CC}



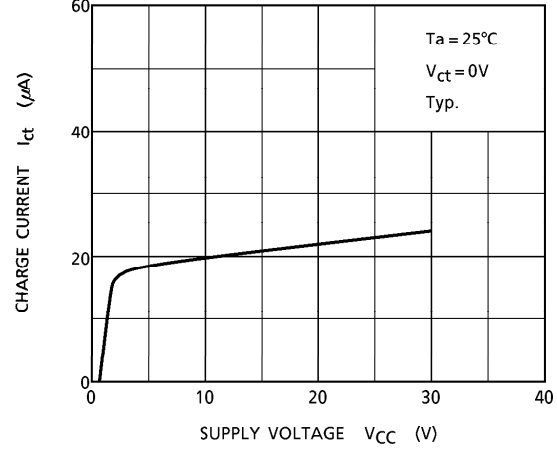
V_{ref} - Ta



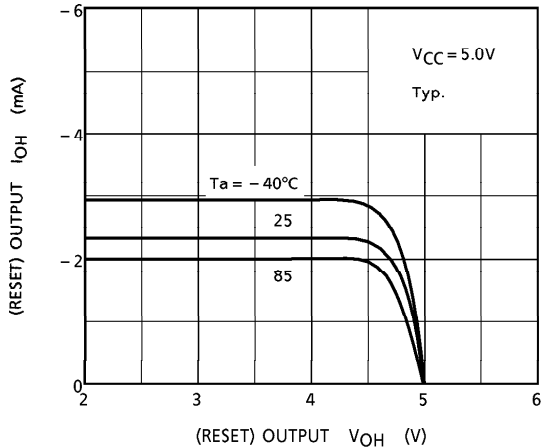
I_{sense} - V_{CC}



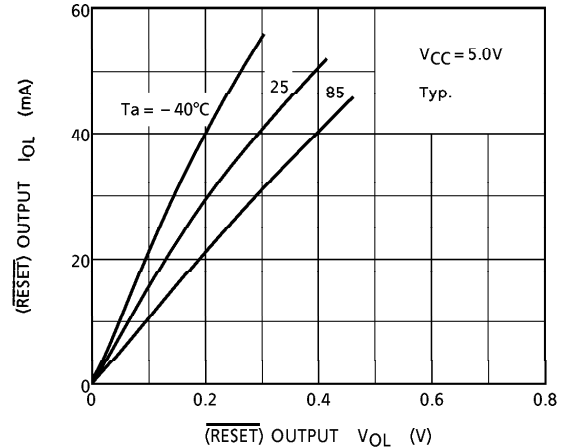
I_{ct} - V_{CC}

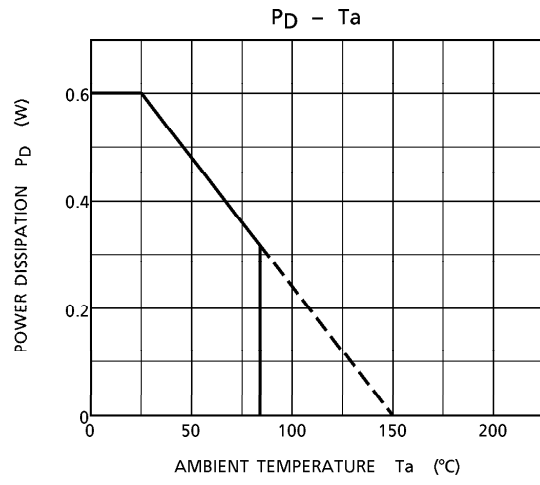
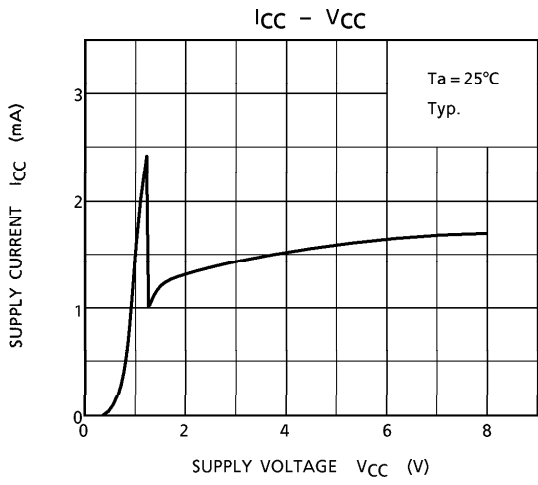


I_{OH} - V_{OH}



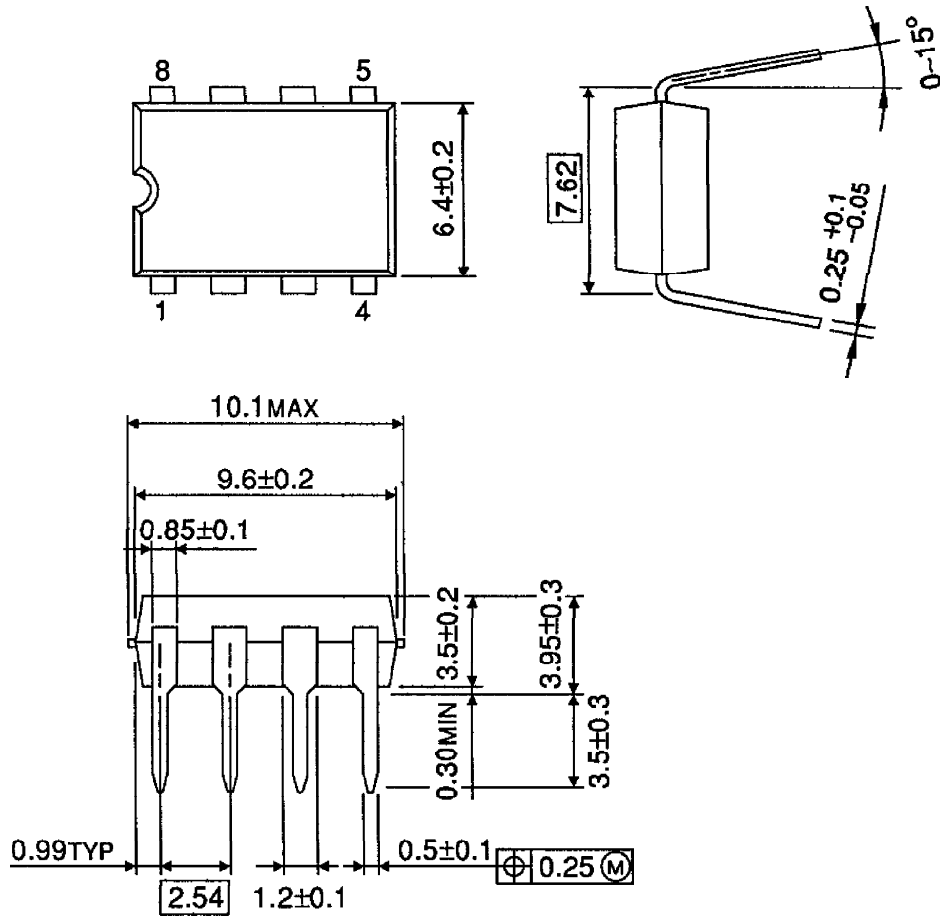
I_{OL} - V_{OL}





OUTLINE DRAWING
DIP8-P-300-2.54A

Unit : mm



Weight : 0.5g (Typ.)