

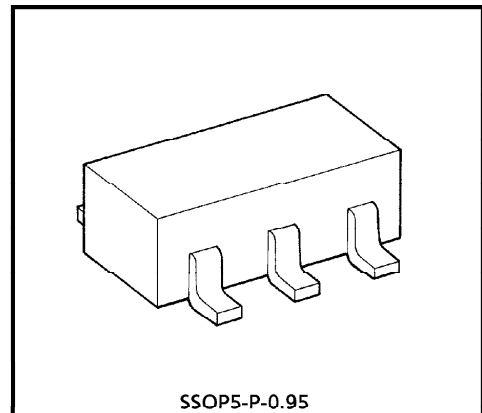
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA75S01F

SINGLE OPERATIONAL AMPLIFIER

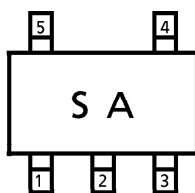
FEATURES

- In the linear mode the input common mode voltage range includes ground.
- The internally compensated Operational Amplifier is small package.
- Low power dissipation and power drain suitable for battery operation.
- Differential input voltage range equal to the power supply voltage.
- Large output voltage swing : $0V_{DC}$ to $3.4V_{DC}$ ($V_{DC} = 5V_{DC}$)
- Wide power supply voltage range and single power supply is possible.
- Single supply $3V_{DC}$ to $12V_{DC}$ or dual supplies $\pm 1.5V_{DC}$ to $\pm 6V_{DC}$.

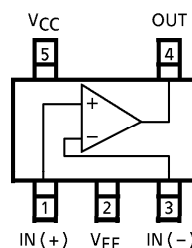


Weight : 0.014g (Typ.)

MARKING (TOP VIEW)



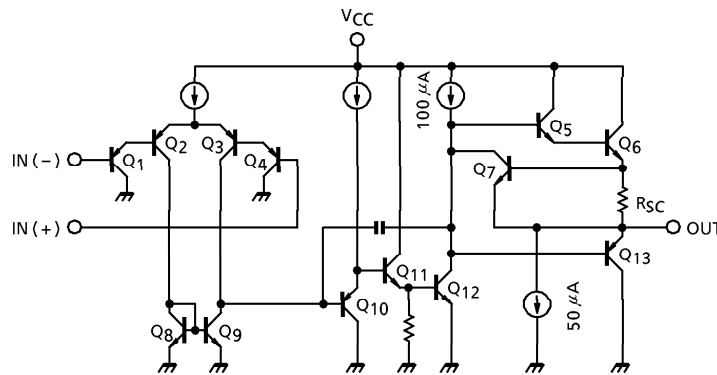
PIN CONNECTION (TOP VIEW)



961001EBA2

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EQUIVALENT CIRCUIT



MAXIMUM RATINGS (Ta = 25°C)

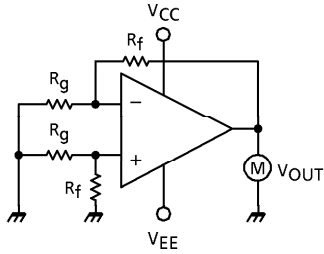
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC} , V _{EE}	± 6 or 12	V
Differential Input Voltage	DV _{IN}	± 12	V
Input Voltage	V _{IN}	- 0.3~V _{CC}	V
Power Dissipation	P _D	200	mW
Operating Temperature	T _{opr}	- 40~85	°C
Storage Temperature	T _{stg}	- 55~125	°C

ELECTRICAL CHARACTERISTICS (V_{CC} = 5V, V_{EE} = GND, Ta = 25°C)

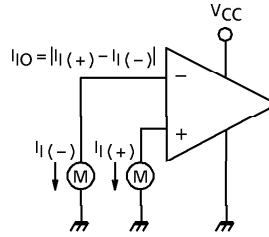
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V _{IO}	1	R _g ≤ 10kΩ	—	2	7	mV
Input Offset Current	I _{IO}	2	—	—	5	50	nA
Input Bias Current	I _I	2	—	—	45	250	nA
Common Mode Input Voltage	CMV _{IN}	3	—	0	—	V _{CC} - 1.5	V
Supply Current	I _{CC}	4	—	—	0.4	0.8	mA
Voltage Gain	G _V	—	R _L ≥ 2kΩ	86	100	—	dB
Maximum Output Voltage Swing	V _{op-p}	5	R _L = 2kΩ	0	—	3.4	V
Common Mode Rejection Ratio	CMRR	3	—	65	85	—	dB
Supply Voltage Rejection Ratio	SVRR	—	R _g = 10kΩ	65	100	—	dB
Source Current	I _{source}	6	IN (-) = 0V, IN (+) = 1V	20	40	—	mA
Sink Current	I _{sink}	7	IN (-) = 1V, IN (+) = 0V	10	20	—	mA
Unity Gain Cross Frequency	f _T	—	—	—	0.3	—	MHz

TEST CIRCUIT

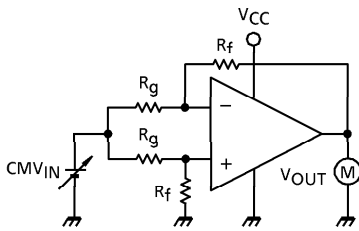
(1) V_{IO}



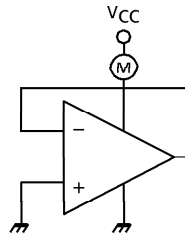
(2) I_I, I_{IO}



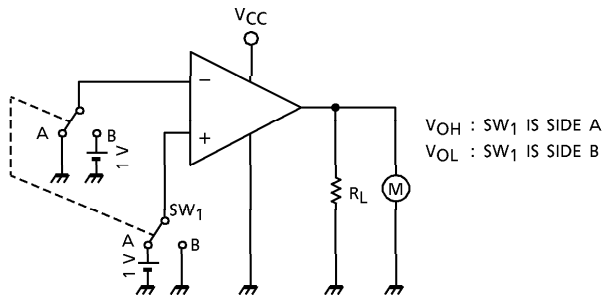
(3) $CMV_{IN}, CMRR$



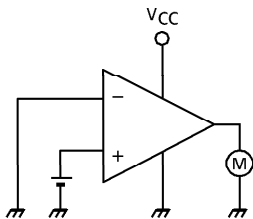
(4) I_{CC}



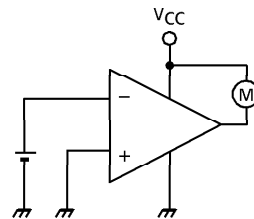
(5) V_{op-p}

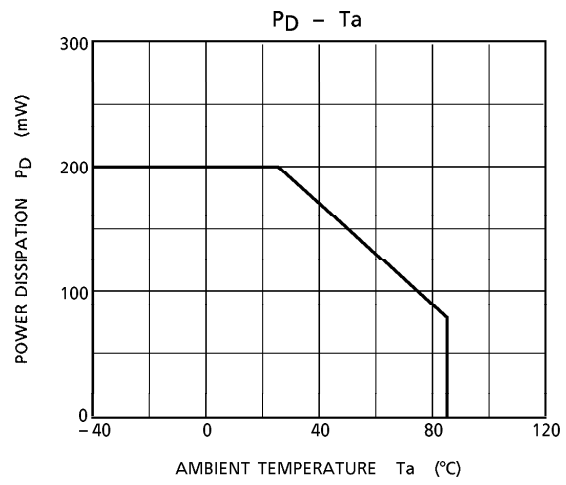
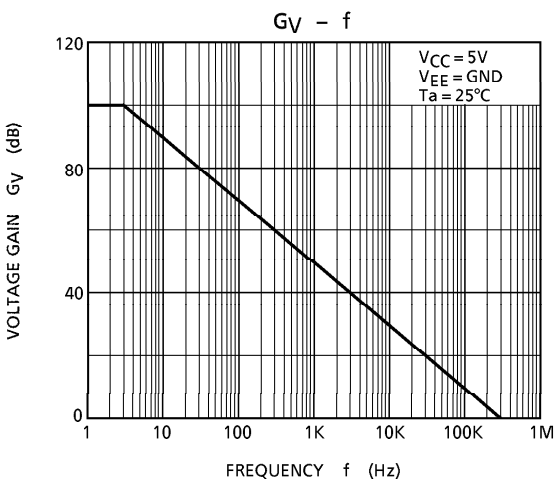
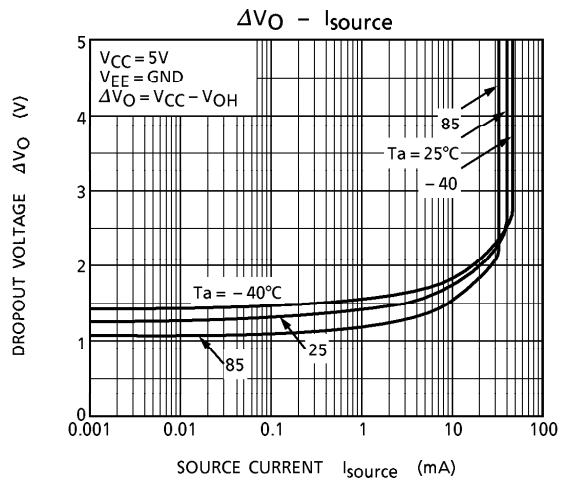
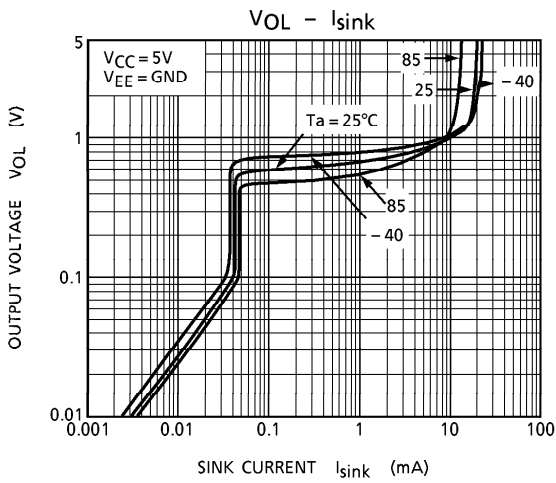
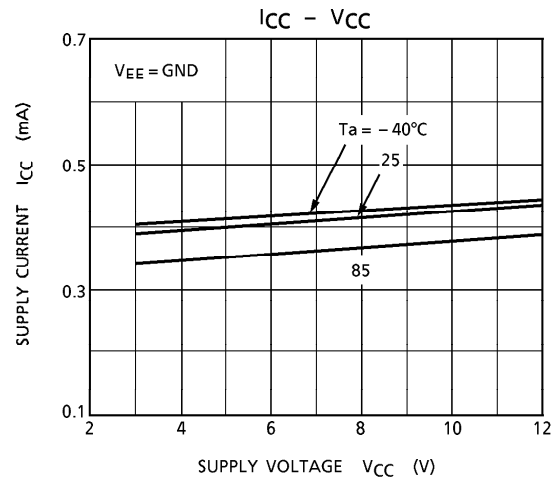
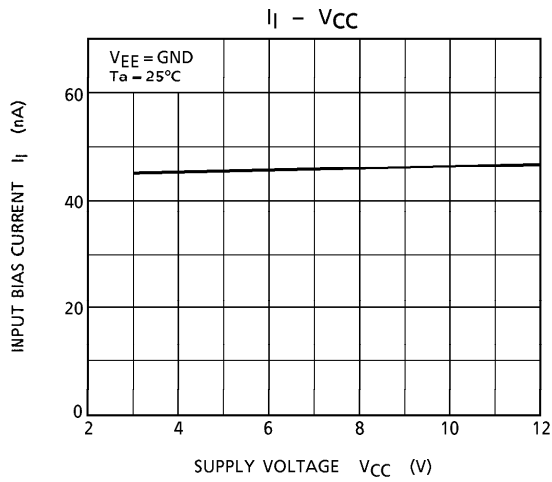


(6) I_{source}



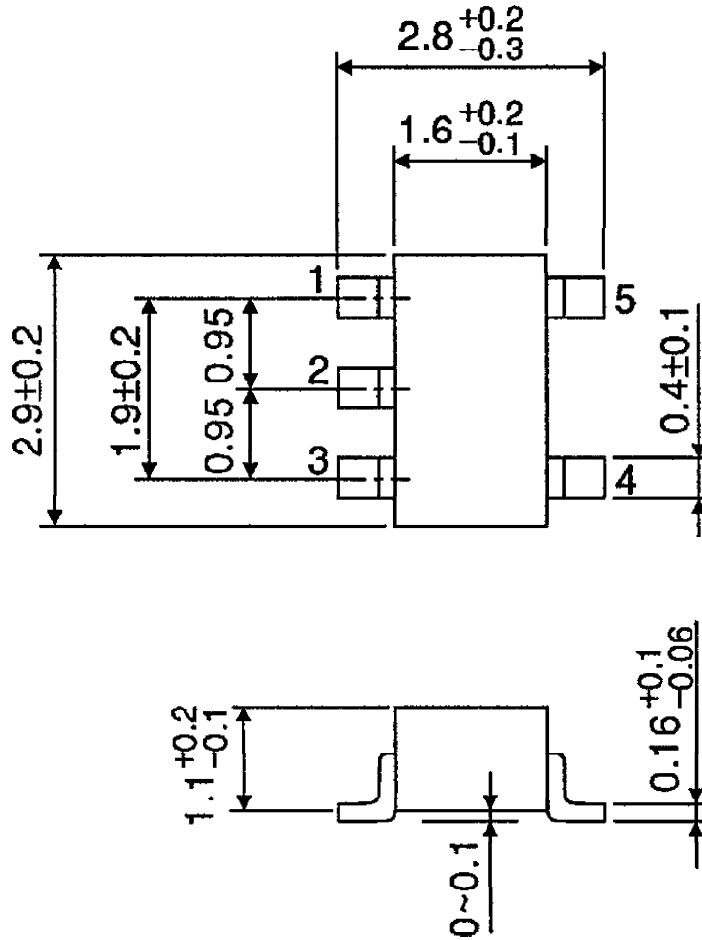
(7) I_{sink}





OUTLINE DRAWING
SSOP5-P-0.95

Unit : mm



Weight : 0.014g (Typ.)