

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA75071P, TA75071S

SINGLE OPERATIONAL AMPLIFIER

The TA75071P and TA75071S are J-FET input low-noise operational amplifiers with low input bias and offset current, fast slew rate and wide bandwidth.

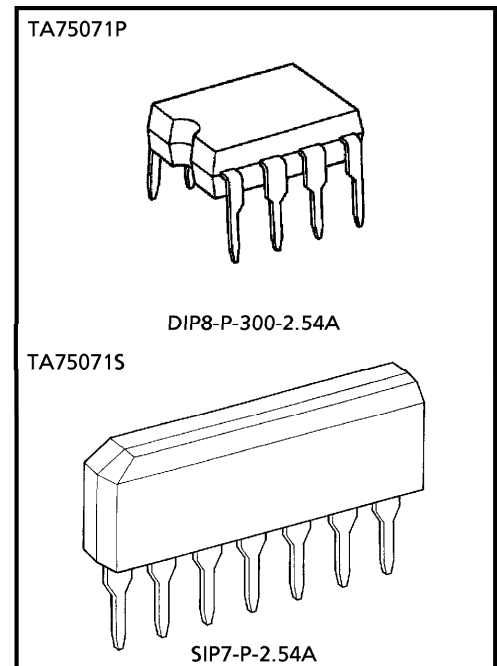
The TA75071P is pin compatible with the TA7504P and 741.

The TA75071S is single-in-line package.

The TA75071P series are excellent choice for active filters, integrators, buffers and sample-and-hold circuits.

FEATURES

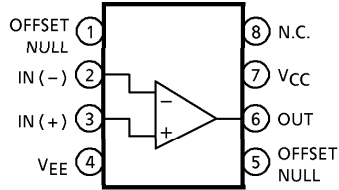
- Low Input Bias Current : 200pA MAX.
- Low Input Offset Current : 50pA MAX.
- High Slew Rate : $13V / \mu s$
- Low Noise : $18nV / \sqrt{Hz}$
- Wide Bandwidth : 3MHz
- Wide Supply Voltage Range : $\pm 4 \sim \pm 18V$
- Internal Frequency Compensation
- Output Short Circuit Protection
- Offset Null Capability



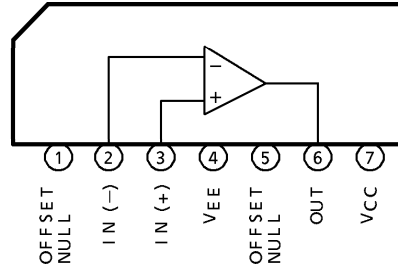
Weight
 DIP8-P-300-2.54A : 0.5g (Typ.)
 SIP7-P-2.54A : 0.7g (Typ.)

PIN CONNECTION (TOP VIEW)

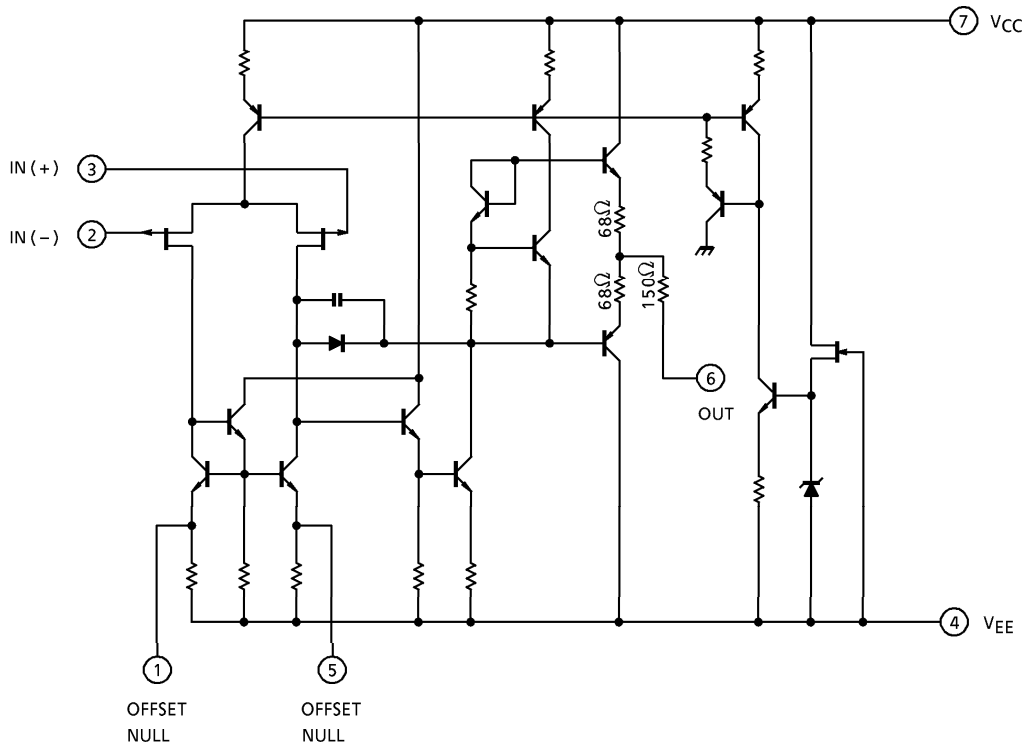
TA75071P



TA75071S



EQUIVALENT CIRCUIT



MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CC}	+ 18	V
	V _{EE}	- 18	
Supply Voltage Surge)	DV _{IN}	± 30	V
Input Voltage	V _{IN}	± 15	V
Power Dissipation	P _D	500	mW
Operating Temperature	T _{opr}	- 40~85	°C
Storage Temperature	T _{stg}	- 50~125	°C

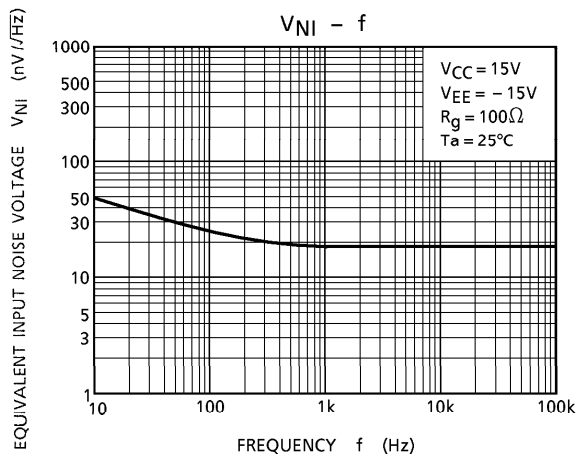
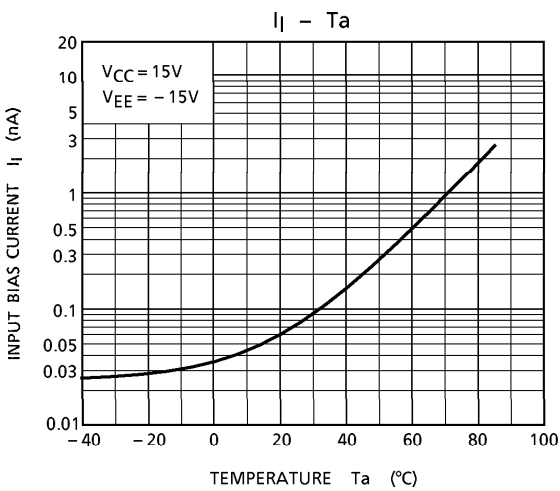
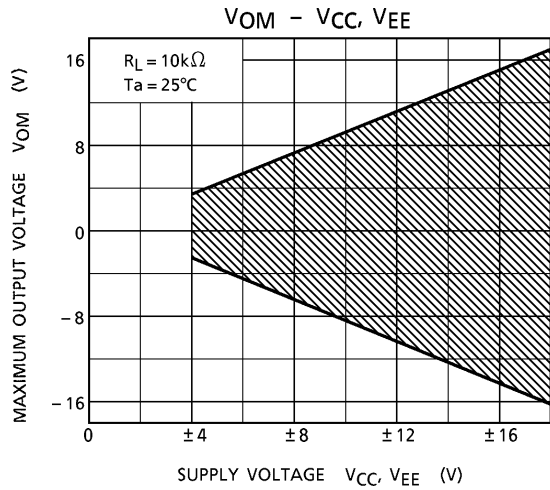
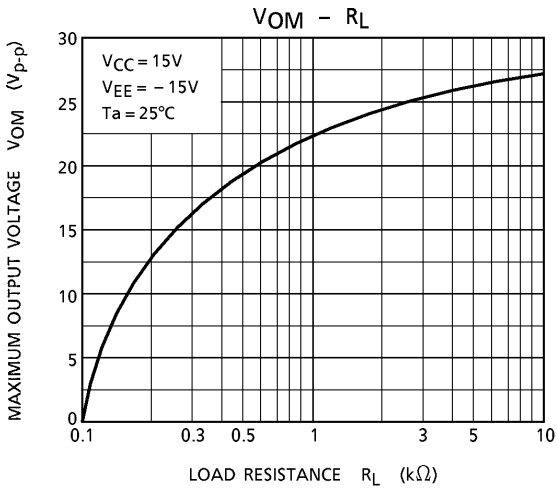
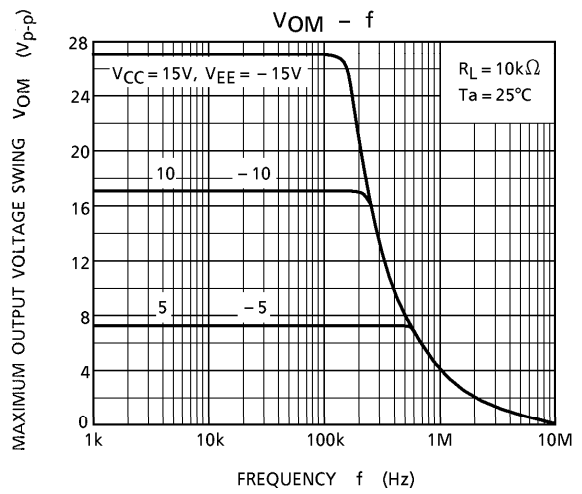
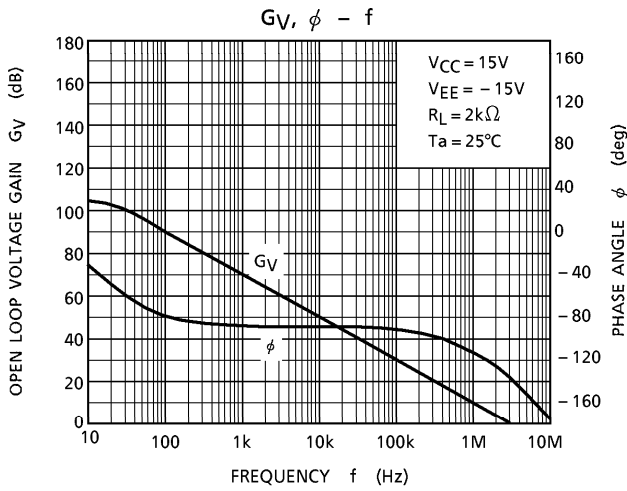
ELECTRICAL CHARACTERISTICS (V_{CC} = 15V, V_{EE} = - 15V, Ta = 25°C)

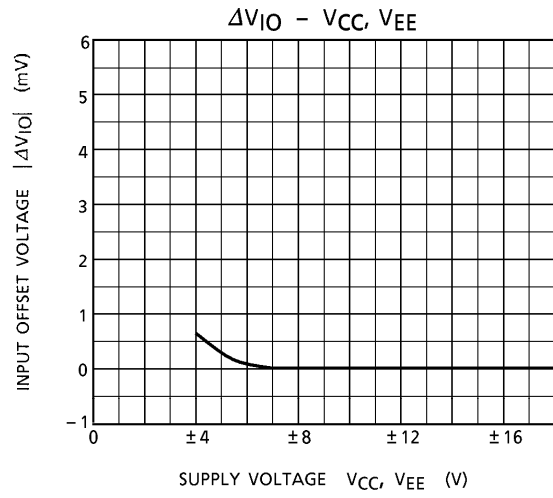
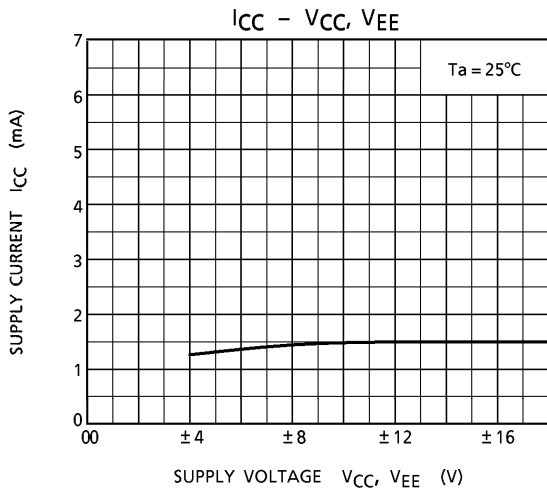
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V _{IO}	—	R _g ≤ 10kΩ	—	3	10	mV
TC Of Input Offset Voltage	TCV _{IO}	—	—	—	10	—	μV/°C
Input Offset Current	I _{IO}	—	—	—	10	50	pA
Input Bias Current	I _I	—	—	—	30	200	pA
Common Mode Input Voltage	CMV _{IN}	—	—	± 11	± 12	—	V
Maximum Output Voltage	V _{OM}	—	R _L = 10kΩ	24	—	—	V _{p-p}
	V _{OMR}	—	R _L = 2kΩ	20	24	—	
Voltage Gain (Open Loop)	G _V	—	V _{OUT} = ± 10V, R _L = 2kΩ	25	200	—	V / mV
Unity Gain Cross Frequency	f _T	—	Open Loop, R _L = 10kΩ	—	3	—	MHz
Input Resistance	R _{IN}	—	—	—	10 ¹²	—	Ω
Common Mode Input Signal Rejection Ratio	CMRR	—	R _g ≤ 10kΩ	70	76	—	dB
Supply Voltage Rejection Ratio	SVRR	—	R _g ≤ 10kΩ	70	76	—	dB
Supply Current	I _{CC} , I _{EE}	—	Non Load	—	1.4	2.5	mA

OPERATING CHARACTERISTICS (V_{CC} = 15V, V_{EE} = - 15V, Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Slew Rate	SR	—	V _{IN} = 10V _{p-p} , R _L = 2kΩ C _L = 100pF	—	13	—	V / μs
Equivalent Input Noise Voltage	V _{NI}	—	R _S = 100Ω	f = 1kHz	—	18	nV / √Hz
				f = 10Hz~10kHz	—	4	μV _{rms}
Equivalent Input Noise Current	I _{NI}	—	R _S = 100Ω, f = 1kHz	—	0.01	—	pA / √Hz
Total Harmonic Distortion	THD	—	V _{OUT} = 10V _{rms} , R _S ≤ 1kΩ R _L ≥ 2kΩ, f = 1kHz	—	0.01	—	%

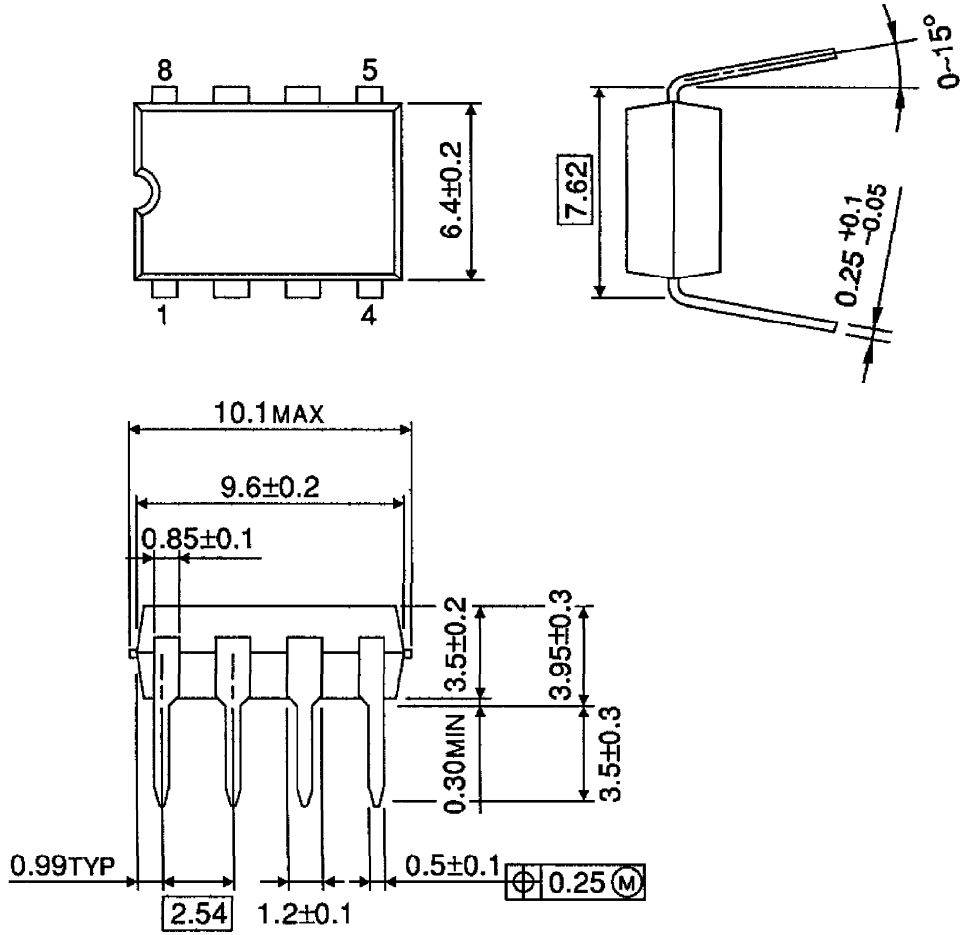
CHARACTERISTICS





PACKAGE DIMENSIONS
DIP8-P-300-2.54A

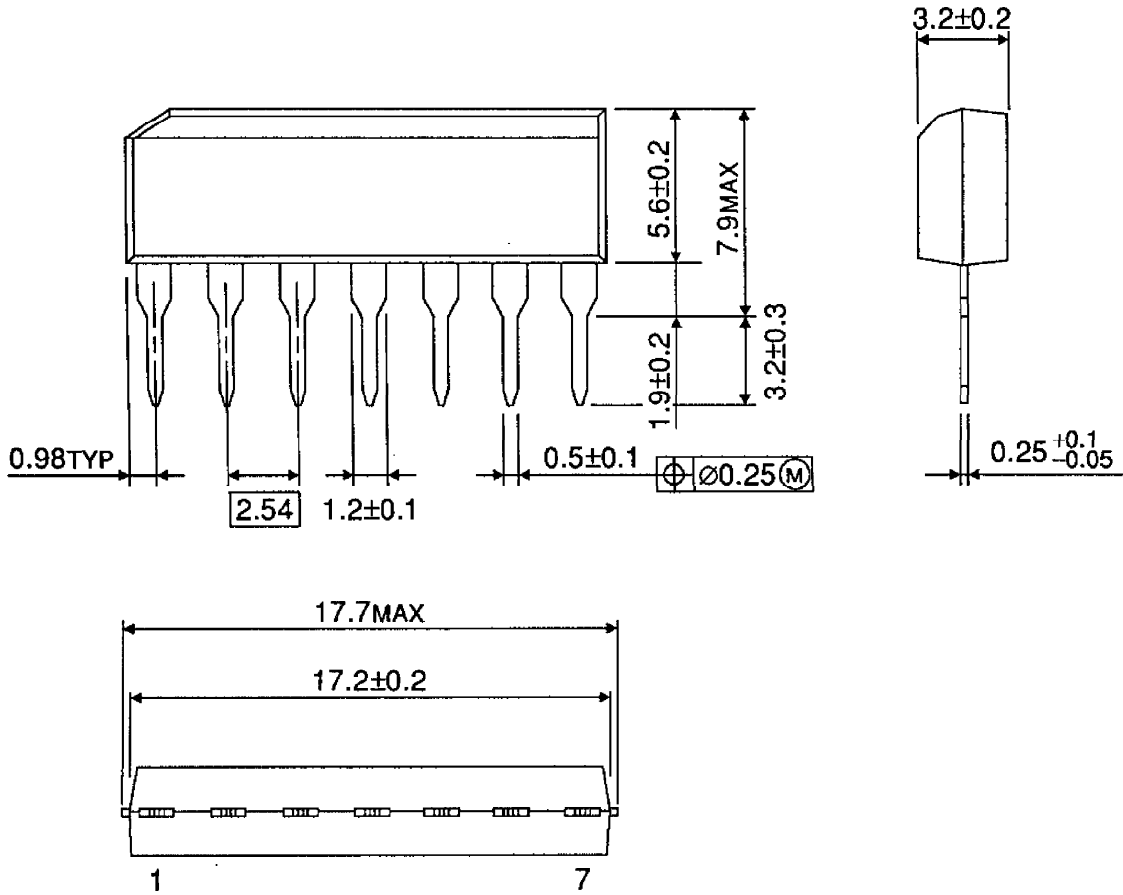
Unit : mm



Weight : 0.5g (Typ.)

PACKAGE DIMENSIONS
SIP7-P-2.54A

Unit : mm



Weight : 0.7g (Typ.)

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000707EBA

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