

TA75074P/F

BIPOLAR LINEAR INTEGRATED CIRCUIT
SILICON MONOLITHIC

J-FET INPUT LOW-NOISE OPERATIONAL AMPLIFIER

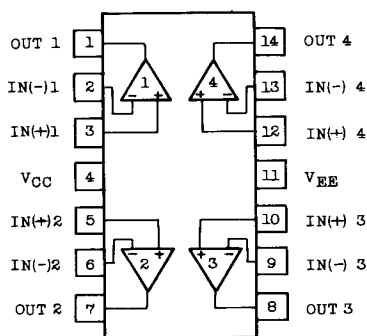
The TA75074P and TA75074F are J-FET input low-noise operational amplifiers with low input bias and offset current, fast slew rate and wide bandwidth.

The TA75074P is pin compatible with the TA75902P and 324. The TA75074F is mini-flat package.

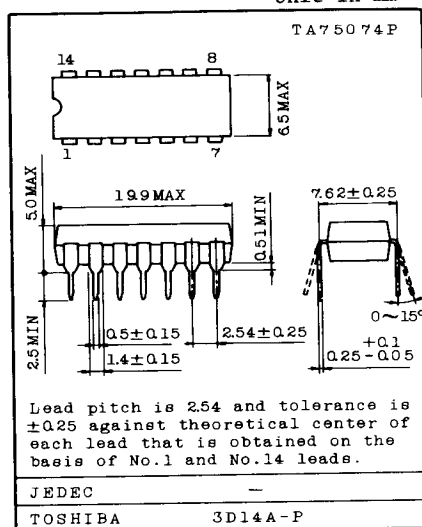
The TA75074P series are excellent choice for active filters, integrators, buffers and sample-and-hold circuits.

- . High Input Impedance
- . Low Input Bias Current : 200pA MAX.
- . Low Input Offset Current : 50pA MAX.
- . Low Noise : $18\text{nV}/\sqrt{\text{Hz}}$
- . High Slew Rate : $13\text{V}/\mu\text{sec}$
- . Wide Bandwidth : 3MHz
- . Internal Frequency Compensation
- . Output Short Circuit Protection

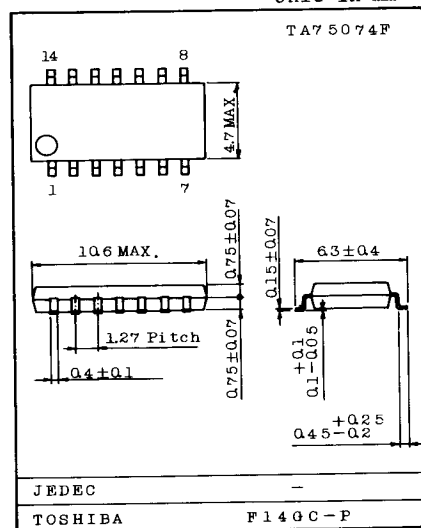
PIN CONNECTION (TOP VIEW)



Unit in mm



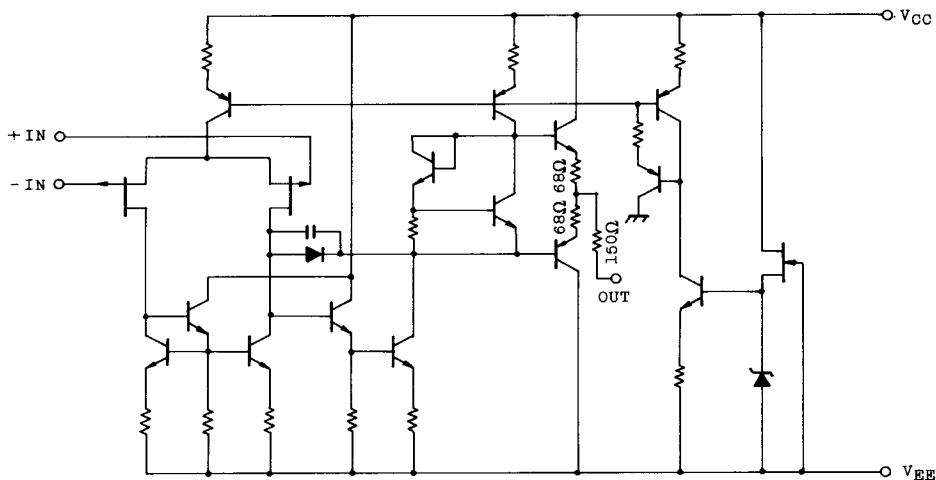
Unit in mm



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Supply Voltage		V_{CC}	+18	V
		V_{EE}	-18	
Differential Input Voltage		DV_{IN}	± 30	V
Input Voltage		V_{IN}	± 15	V
Power Dissipation	TA75074P	P_D	625	mW
	TA75074F		280	
Operating Temperature		T_{opr}	-40~85	$^{\circ}\text{C}$
Storage Temperature		T_{stg}	-55~125	$^{\circ}\text{C}$

EQUIVALENT CIRCUIT



TA75074P/F

ELECTRICAL CHARACTERISTICS ($V_{CC}=15V$, $V_{EE}=-15V$, $T_a=25^{\circ}C$)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	-	$R_g \leq 10k\Omega$	-	3	10	mV
TC of Input Offset Voltage	TCV_{IO}	-	-	-	10	-	$\mu V/^{\circ}C$
Input Bias Current	I_I	-	$T_j=25^{\circ}C$	-	30	200	pA
Input Offset Current	I_{IO}	-	$T_j=25^{\circ}C$	-	5	50	pA
Common Mode Input Voltage	CMV_{IN}	-		± 11	± 12	-	V
Maximum Output Voltage	V_{OM}		$R_L=10k\Omega$	± 12	± 14	-	V
	V_{OMR}	-	$R_L=2k\Omega$	± 10	± 13	-	
Input Resistance	R_{IN}	-	-	-	10 ¹²	-	Ω
Voltage Gain (Open Loop)	G_V	-	$V_{OUT}=\pm 10V$, $R_L=2k\Omega$	86	100	-	dB
Common Mode Input Signal Rejection Ratio	$CMRR$	-	$R_g \leq 10k\Omega$	70	76	-	dB
Supply Voltage Rejection Ratio	$SVRR$	-	$R_g \leq 10k\Omega$	70	76	-	dB
Slew Rate	SR	-	$G_V=1$, $R_L=2k\Omega$, $C_L=100pF$	-	13	-	$V/\mu s$
Unity Gain Cross Frequency	f_T	-	Open Loop	-	3	-	MHz
Supply Current	I_{CC}, I_{EE}	-	-	-	5.6	10.0	mA
Equivalent Input Noise Voltage	V_{NI}	-	$R_S=1k\Omega$, $f=10Hz\sim 10kHz$	-	4	-	μV_{rms}