

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

# TA75064P, TA75064F

## QUAD OPERATIONAL AMPLIFIER

The TA75064P and TA75064F are J-FET input low-power operational amplifiers with low input bias and offset current and fast slew rate.

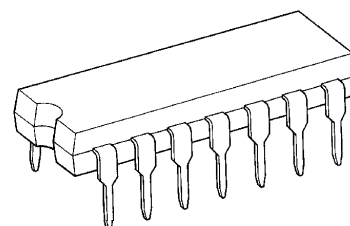
The TA75064P is pin compatible with the TA75902P and 324. The TA75064F is mini-flat package.

The TA75064P series are excellent choice for active filters, integrators, buffers and sample-and-hold circuits.

### FEATURES

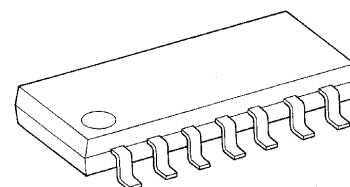
- Low Supply Current : 1.0mA Max.
- Low Input Bias Current : 400pA Max.
- Low Input Offset Current : 200pA Max.
- High Slew Rate : 3.5V /  $\mu$ s
- Wide Supply Voltage Range :  $\pm 2 \sim \pm 18$ V
- Internal Frequency Compensation
- Output Short Circuit Protection

TA75064P



DIP14-P-300-2.54

TA75064F



SOP14-P-225-1.27

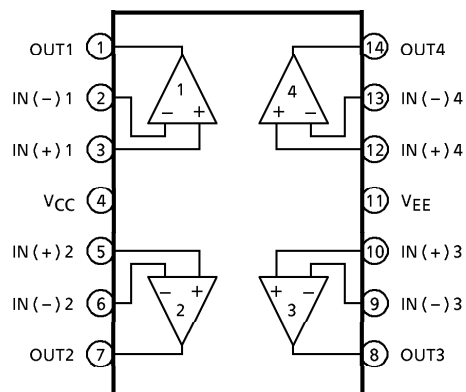
### Weight

DIP14-P-300-2.54 : 1.0g (Typ.)  
SOP14-P-225-1.27 : 0.2g (Typ.)

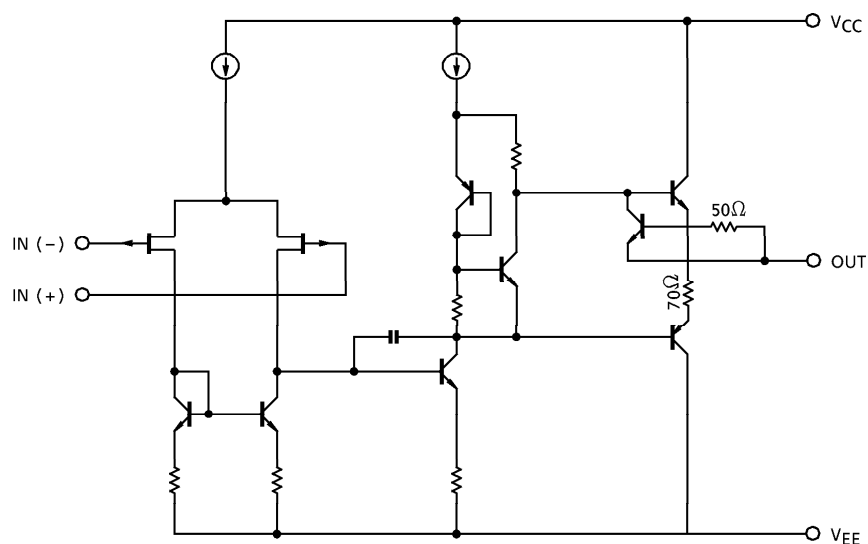
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**PIN CONNECTION (TOP VIEW)**



**EQUIVALENT CIRCUIT**



## MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Supply Voltage		V <sub>CC</sub>	18	V
		V <sub>EE</sub>	− 18	
Differential Input Voltage		DV <sub>IN</sub>	± 30	V
Input Voltage		V <sub>IN</sub>	± 15	V
Power Dissipation	TA75064P	P <sub>D</sub>	625	mW
	TA75064F		280	
Operating Temperature		T <sub>opr</sub>	− 40~85	°C
Storage Temperature		T <sub>sta</sub>	− 55~125	°C

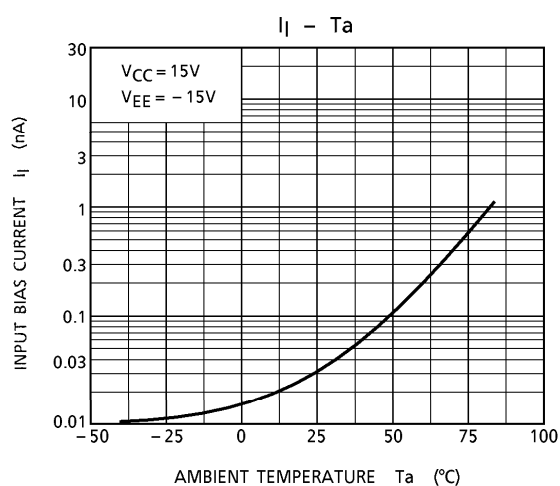
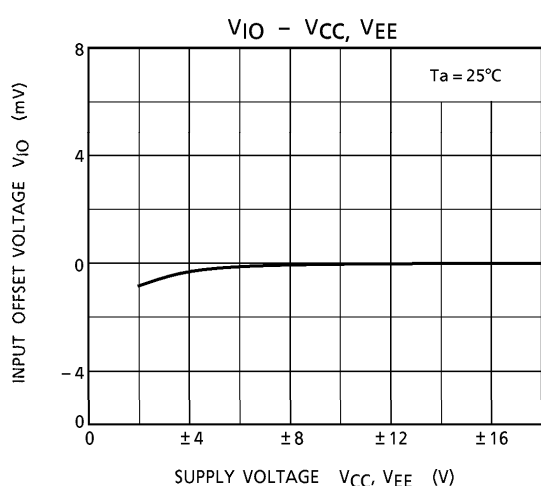
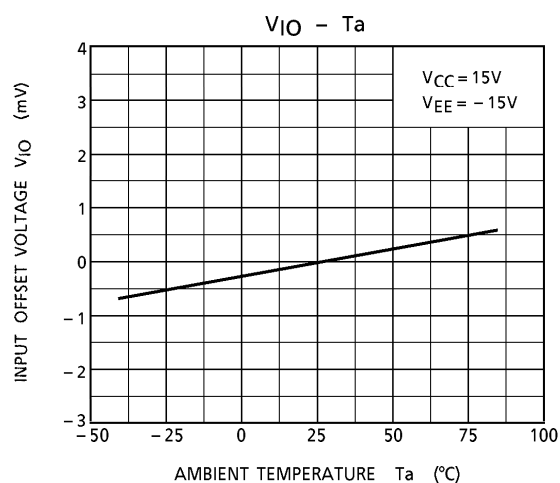
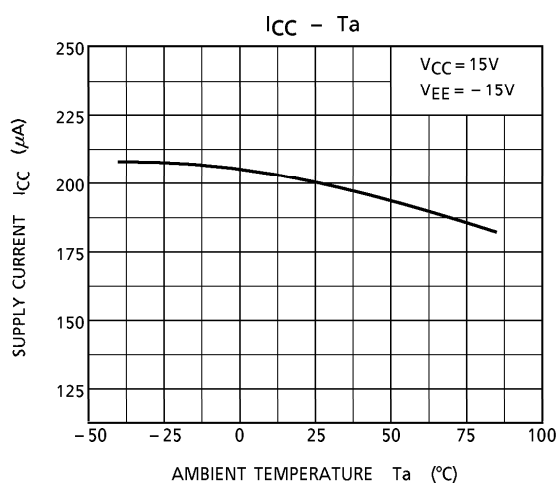
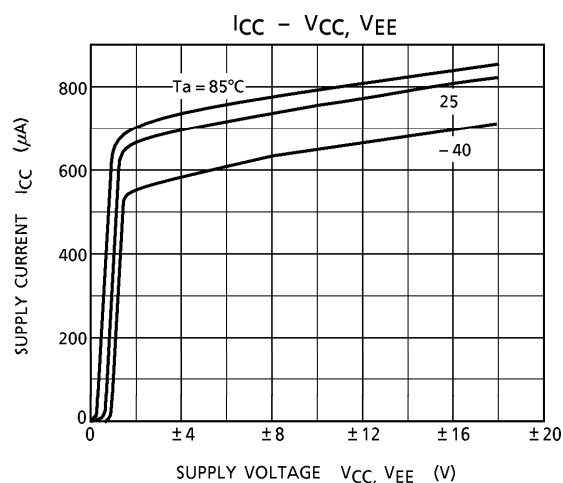
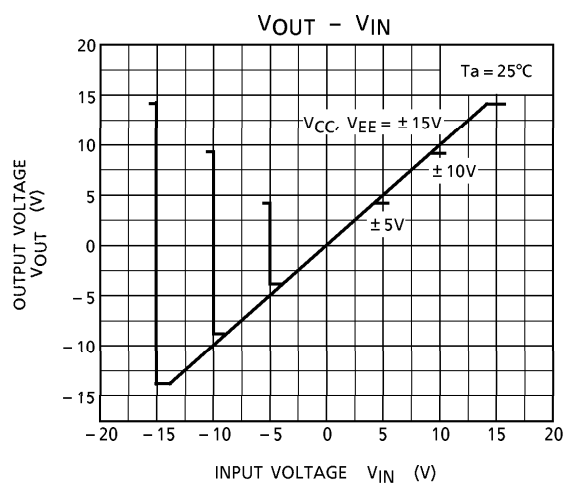
ELECTRICAL CHARACTERISTICS (V<sub>CC</sub> = 15V, V<sub>EE</sub> = − 15V, Ta = 25°C)

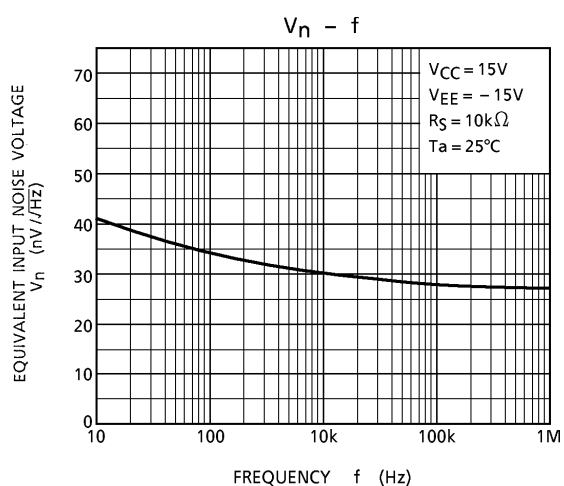
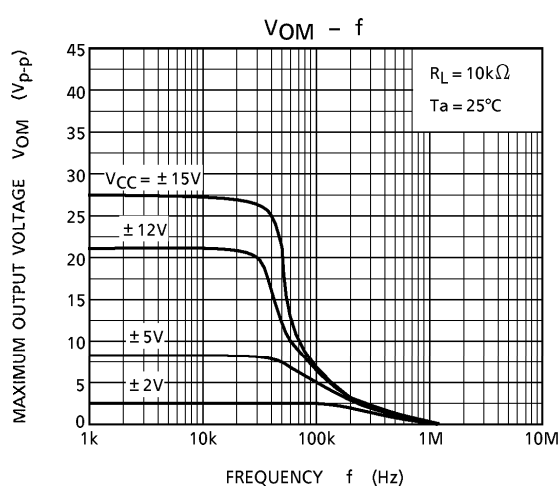
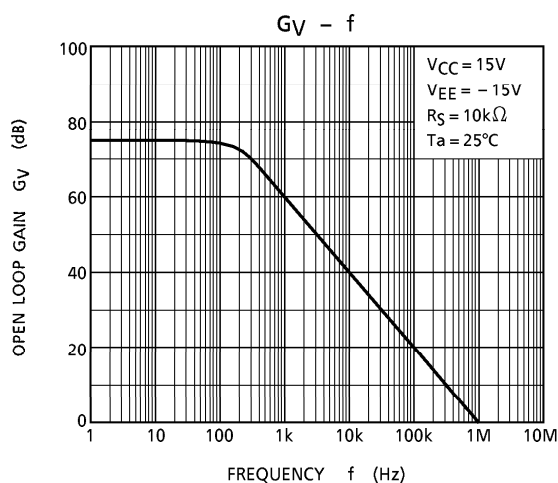
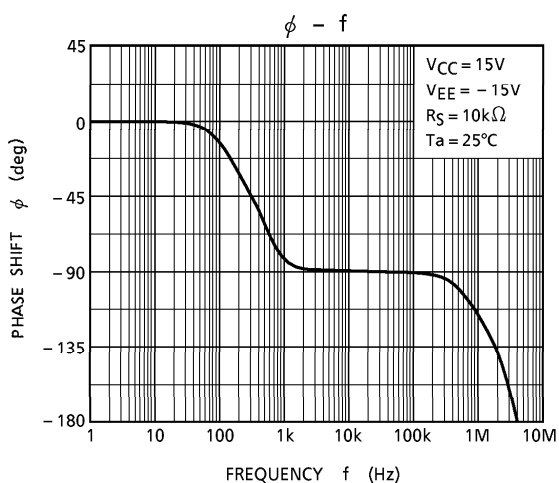
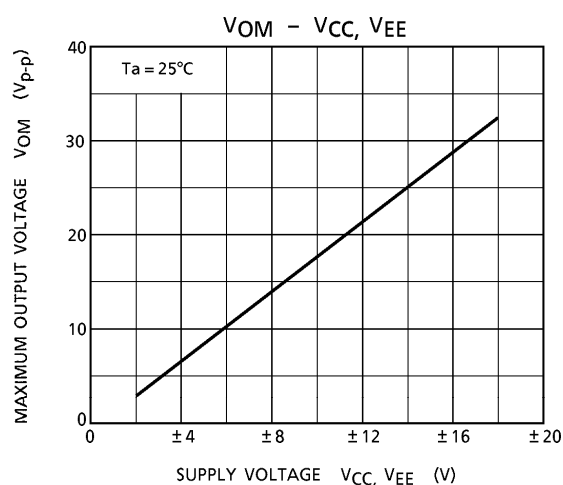
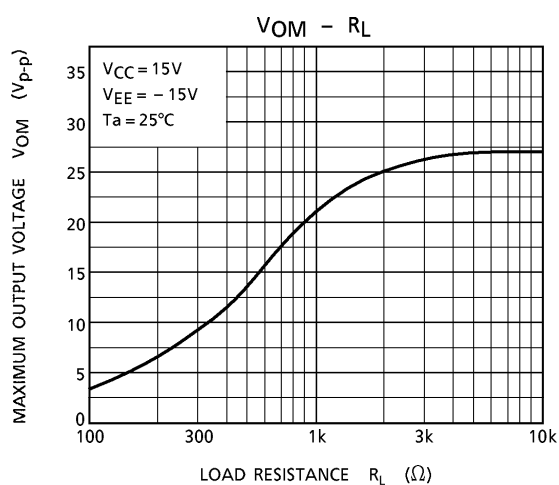
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V <sub>IO</sub>	—	R <sub>g</sub> ≤ 10kΩ	—	3	15	mV
TC of Input Offset Voltage	TCV <sub>IO</sub>	—	—	—	10	—	μV / °C
Input Offset Current	I <sub>IO</sub>	—	—	—	5	200	pA
Input Bias Current	I <sub>I</sub>	—	—	—	30	400	pA
Common Mode Input Voltage	CMV <sub>IN</sub>	—	—	± 11.5	± 12	—	V
Maximum Output Voltage	V <sub>OM</sub>	—	R <sub>L</sub> = 10kΩ	20	27	—	V <sub>p-p</sub>
Voltage Gain (Open Loop)	G <sub>V</sub>	—	V <sub>OUT</sub> = ± 10V, R <sub>L</sub> = 10kΩ	3	6	—	V / mV
Unity Gain Cross Frequency	f <sub>T</sub>	—	Open Loop, R <sub>L</sub> = 10kΩ	—	1	—	MHz
Input Resistance	R <sub>IN</sub>	—	—	—	10 <sup>12</sup>	—	Ω
Common Mode Input Signal Rejection Ratio	CMRR	—	R <sub>g</sub> ≤ 10kΩ	70	76	—	dB
Supply Voltage Rejection Ratio	SVRR	—	R <sub>g</sub> ≤ 10kΩ	70	76	—	dB
Supply Current	I <sub>CC</sub> , I <sub>EE</sub>	—	Non load	—	800	1000	μA
Cross Talk		—	—	—	− 120	—	dB

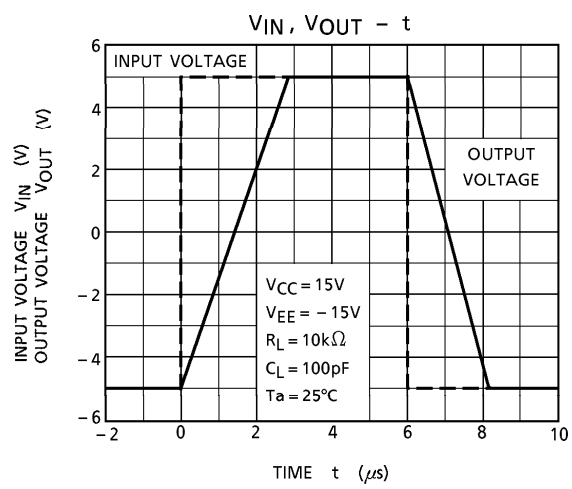
OPERATING CHARACTERISTICS (V<sub>CC</sub> = 15V, V<sub>EE</sub> = − 15V, Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Slew Rate	SR	—	V <sub>IN</sub> = 10V <sub>p-p</sub> , R <sub>L</sub> = 10kΩ C <sub>L</sub> = 100pF	—	3.5	—	V / μs
Equivalent Input Noise Voltage	V <sub>n</sub>	—	R <sub>S</sub> = 100Ω, f = 1kHz	—	42	—	nV / √Hz

## CHARACTERISTIC

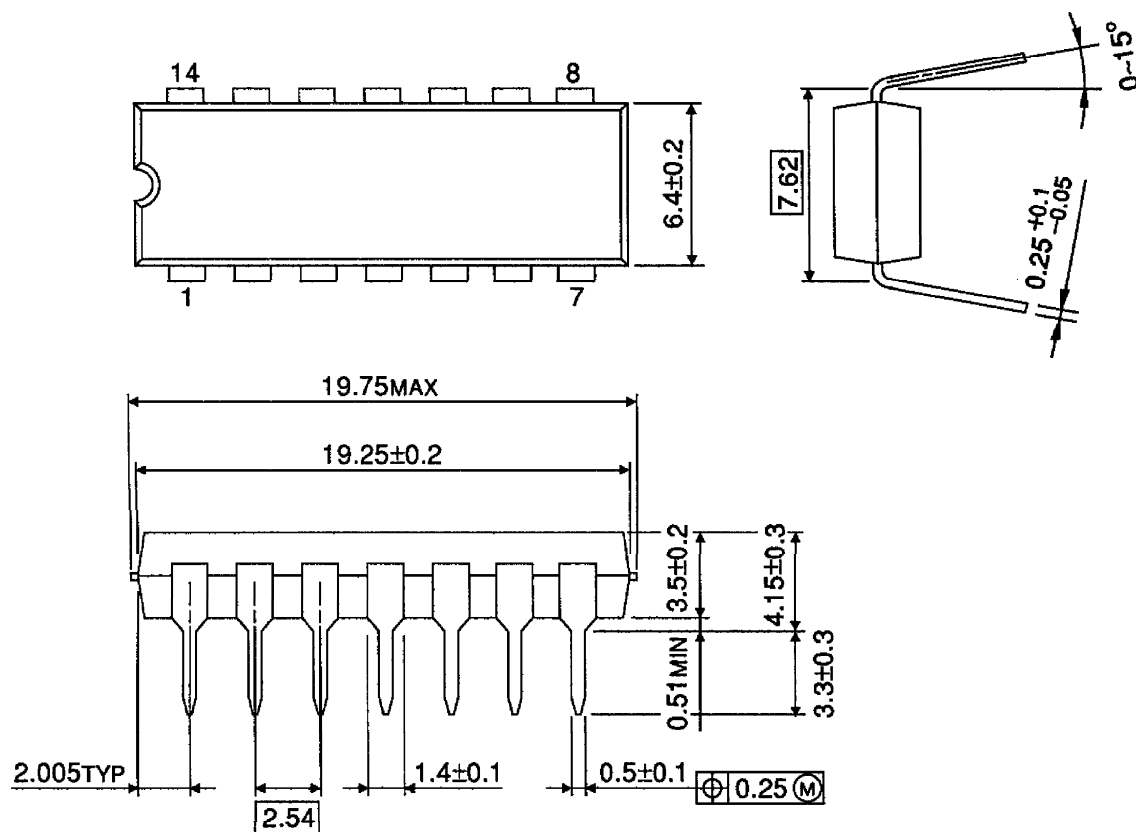






**OUTLINE DRAWING**  
DIP14-P-300-2.54

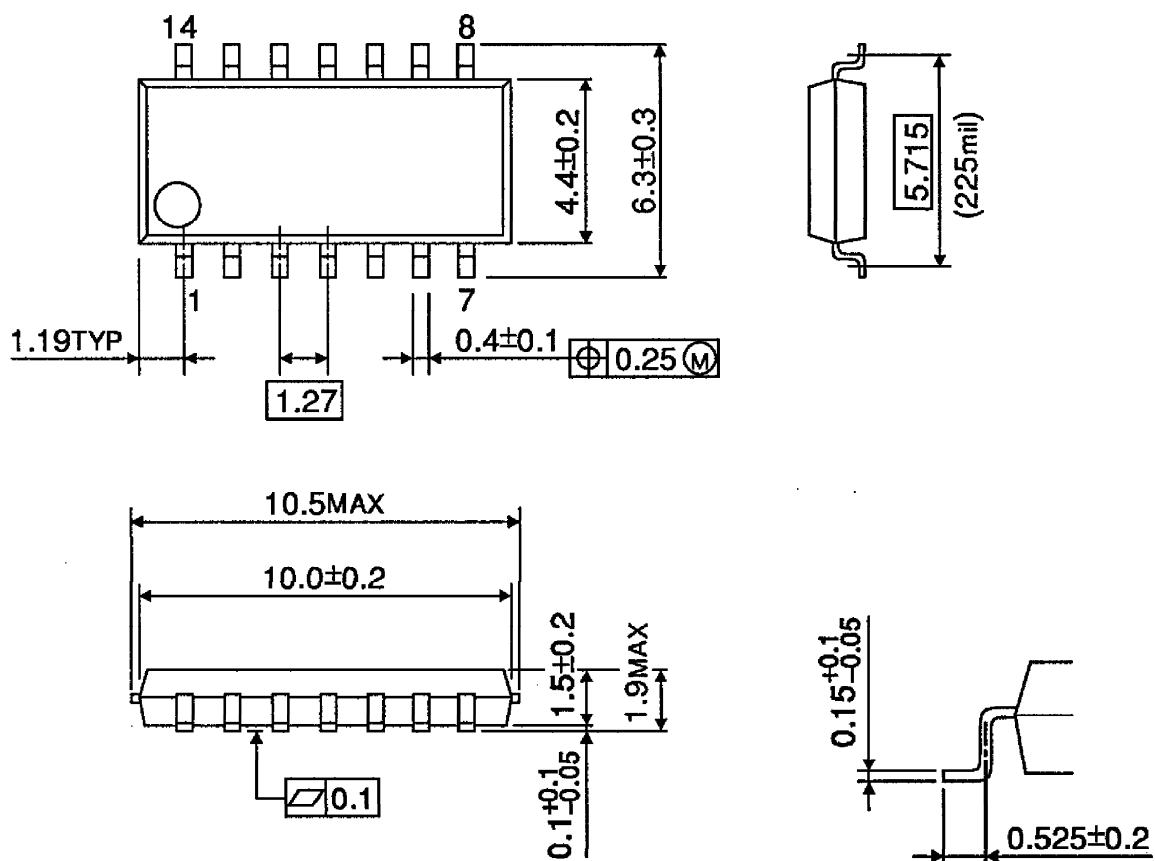
Unit : mm



Weight : 1.0g (Typ.)

**OUTLINE DRAWING**  
SOP14-P-225-1.27

Unit : mm



Weight : 0.2g (Typ.)