

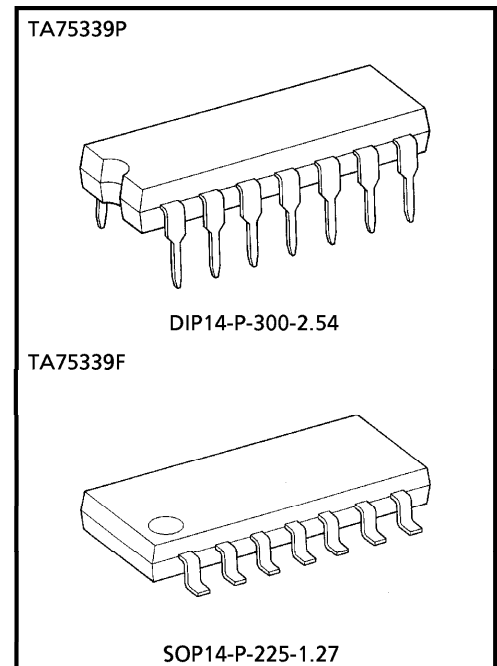
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

**TA75339P, TA75339F****QUAD COMPARATOR**

This device consist of four independent voltage comparators that designed to operate from a single power supply over a wide range of voltage. Normal Operation from dual supplies is also to be guaranteed on voltage range from 2V to 36V.  $V_{CC}$  is necessary at least more 1.5 volts than the input common mode voltage. The output can be connected to other open collector outputs to achieve Wired-OR relation ship.

**FEATURES**

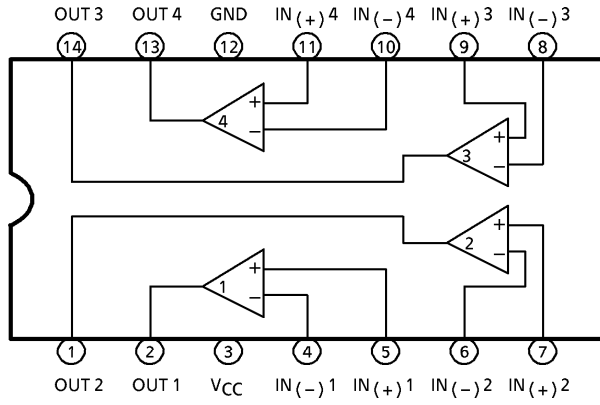
- Single Supply Voltage Range or Dual Supplies : 2V~36V or  $\pm 1V\sim 18V$
- Low Supply Current : 0.8mA (Typ.)
- Low Input Offset Voltage :  $\pm 2mA$  (Typ.)
- Wide Input Common Mode Voltage Range :  $0V\sim V_{CC} - 1.5V$
- Output Compatible with TTL, DTL, MOS and CMOS Logic System.
- The Output Can be Connected to Achieve Wired-OR Relation.



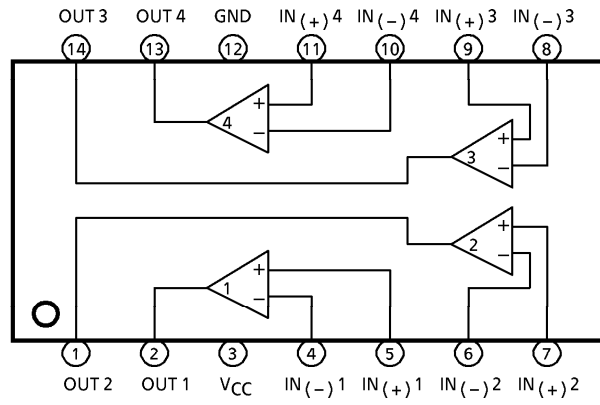
Weight  
 DIP14-P-300-2.54 : 1.0g (Typ.)  
 SOP14-P-225-1.27 : 0.2g (Typ.)

**PIN CONNECTION (TOP VIEW)**

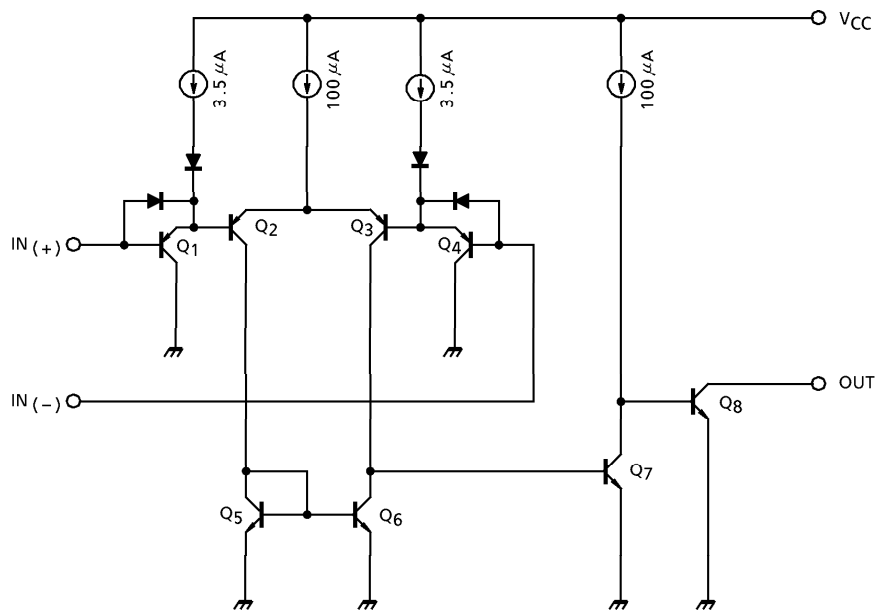
TA75339P



TA75339F



**EQUIVALENT CIRCUIT**



## MAXIMUM RATINGS (Ta = 25°C)

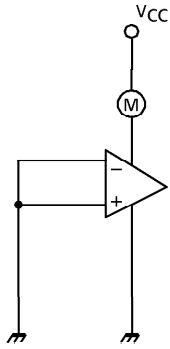
CHARACTERISTIC	SYMBOL	TA75339P	TA75339F	UNIT
Supply Voltage	V <sub>CC</sub>	± 18 OR 36	± 18 OR 36	V
Differential Input Voltage	DV <sub>IN</sub>	± 36	± 36	V
Common Mode Input Voltage	CMV <sub>IN</sub>	- 0.3~V <sub>CC</sub>	- 0.3~V <sub>CC</sub>	V
Power Dissipation	P <sub>D</sub>	625	280	mW
Operating Temperature	T <sub>opr</sub>	- 40~85	- 40~85	°C
Storage Temperature	T <sub>stg</sub>	- 55~125	- 55~125	°C

ELECTRICAL CHARACTERISTICS (V<sub>CC</sub> = 5V, Ta = 25°C)

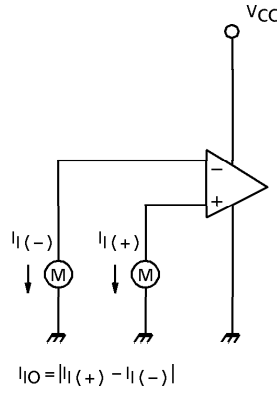
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V <sub>IO</sub>	4	—	—	2	5	mV
Input Offset Current	I <sub>I</sub>	2	—	—	25	250	nA
Input Bias Current	I <sub>IO</sub>	2	—	—	5	50	nA
Common Mode Input Voltage	CMV <sub>IN</sub>	4	—	0	—	V <sub>CC</sub> - 1.5	V
Voltage Gain	G <sub>V</sub>	—	R <sub>L</sub> = 15kΩ	—	200	—	V / mV
Supply Current	I <sub>CC</sub>	1	no load	—	0.8	2	mA
Sink Current	I <sub>SINK</sub>	5	IN (+) = 0V, IN (-) = 1V, V <sub>OL</sub> = 1.5V	6	16	—	mA
Output Voltage ("L" level)	V <sub>OL</sub>	5	IN (+) = 0V, IN (-) = 1V, I <sub>SINK</sub> = 3mA	—	0.2	0.4	V
Output Leak Current	I <sub>LEAK</sub>	3	IN (+) = 1V, IN (-) = 0V, V <sub>O</sub> = 5V	—	0.1	—	nA
Response Time	t <sub>rsp</sub>	6	R <sub>L</sub> = 5.1kΩ, C <sub>L</sub> = 15pF	—	1.3	—	μs

TEST CIRCUIT

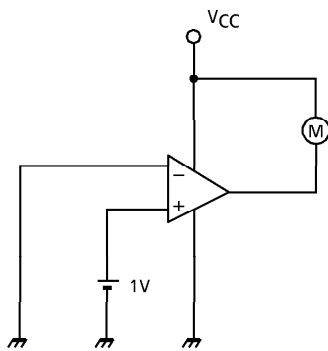
(1)  $I_{CC}$



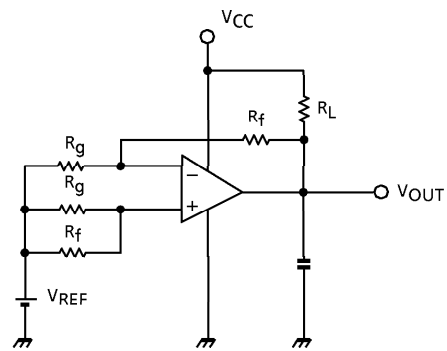
(2)  $I_I, I_{IO}$



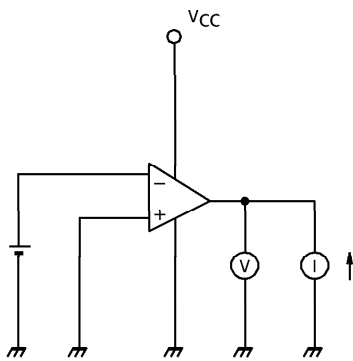
(3)  $I_{LEAK}$



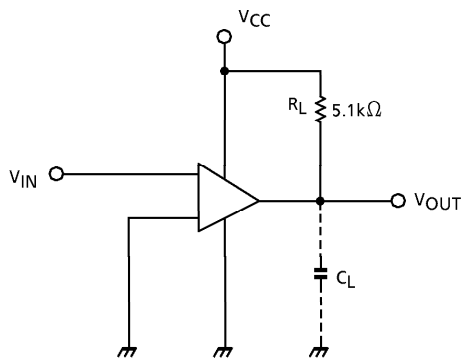
(4)  $V_{IO}, CMV_{IN}$



(5)  $I_{SINK}, V_{OL}$

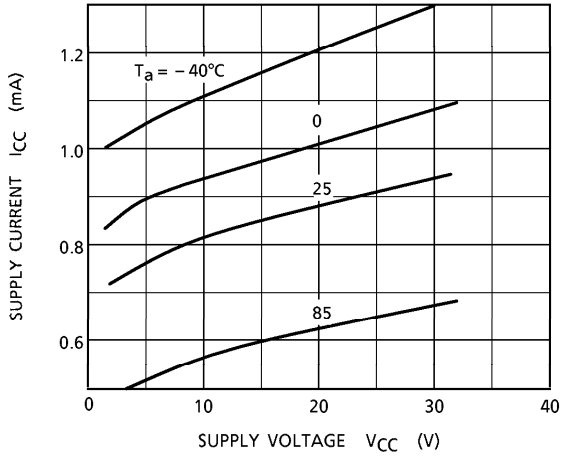


(6)  $t_{rsp}$

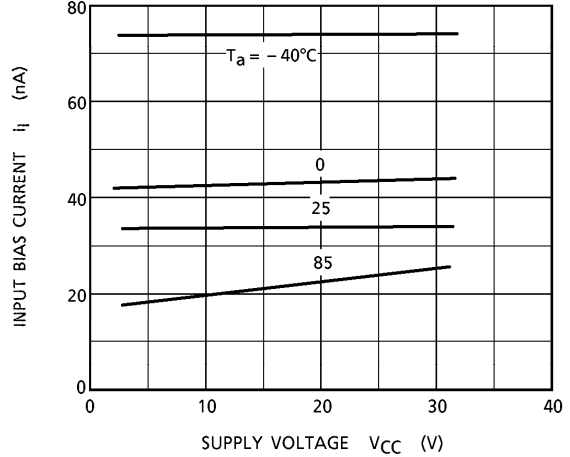


CHARACTERISTICS

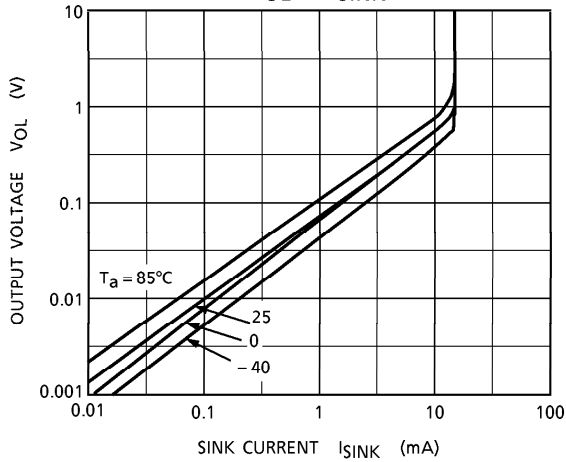
$V_{CC} - I_{CC}$



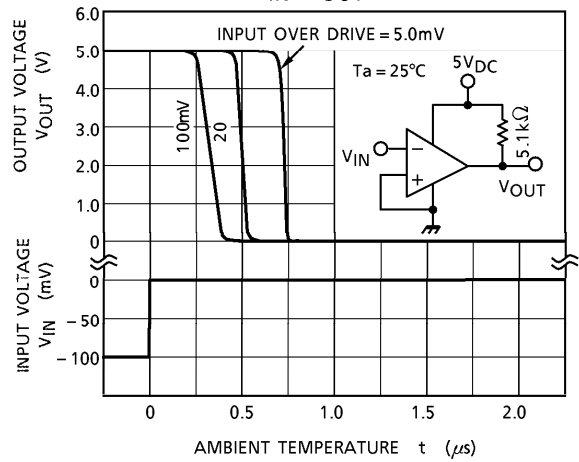
$V_{CC} - I_i$



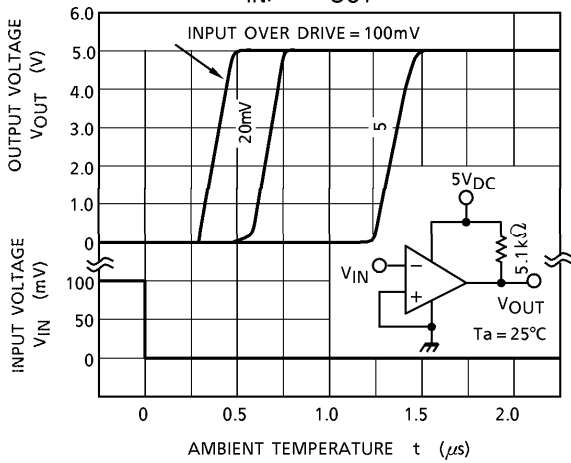
$V_{OL} - I_{SINK}$



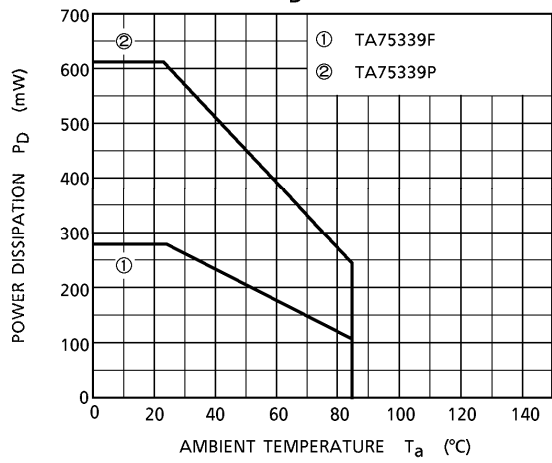
$V_{IN}, V_{OUT} - t$



$V_{IN}, - V_{OUT} - t$

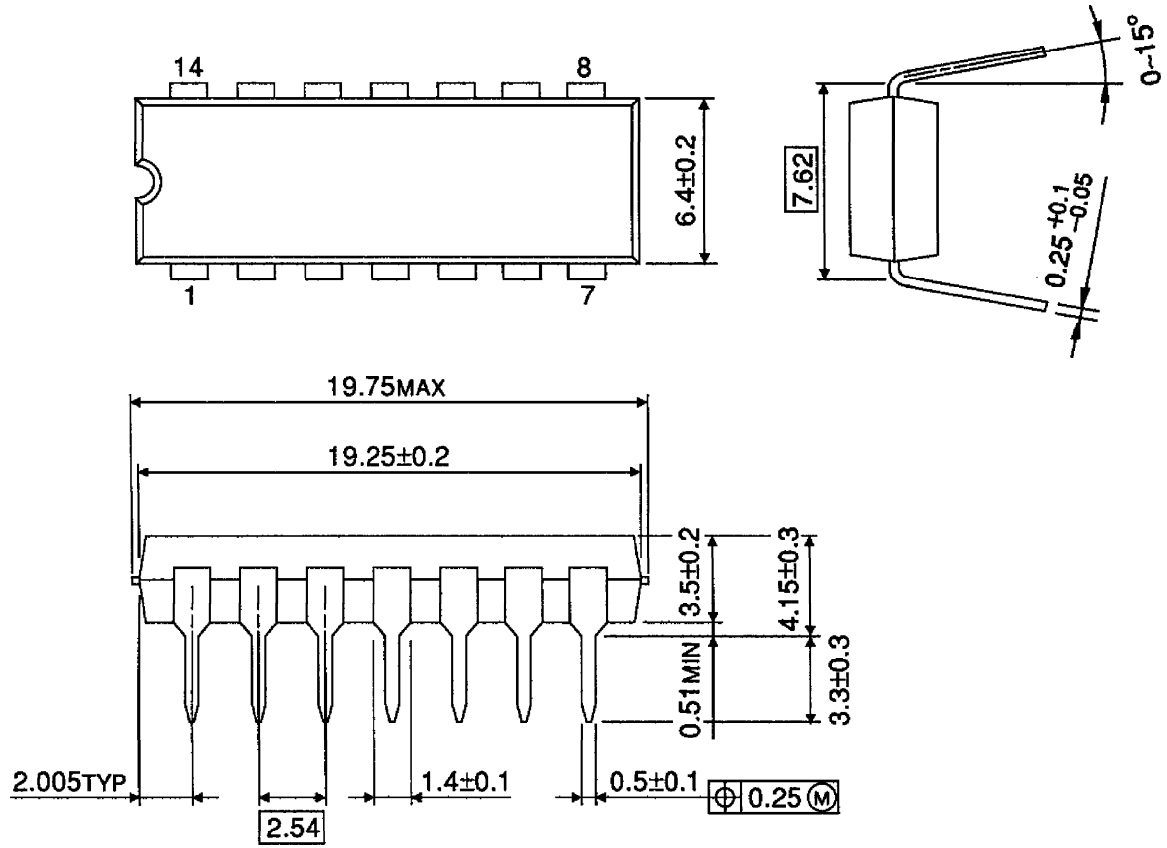


$P_D - T_a$



**PACKAGE DIMENSIONS**  
DIP14-P-300-2.54

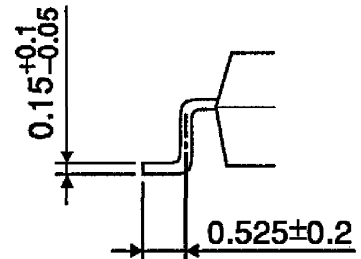
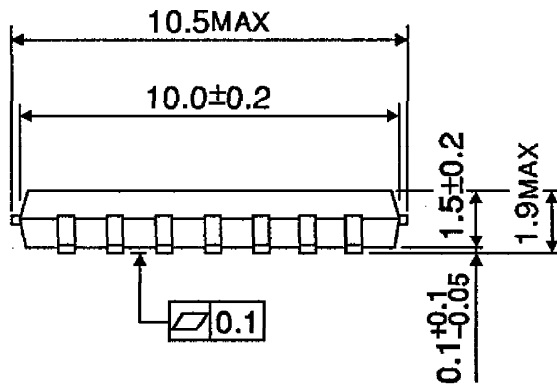
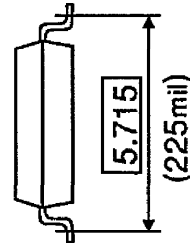
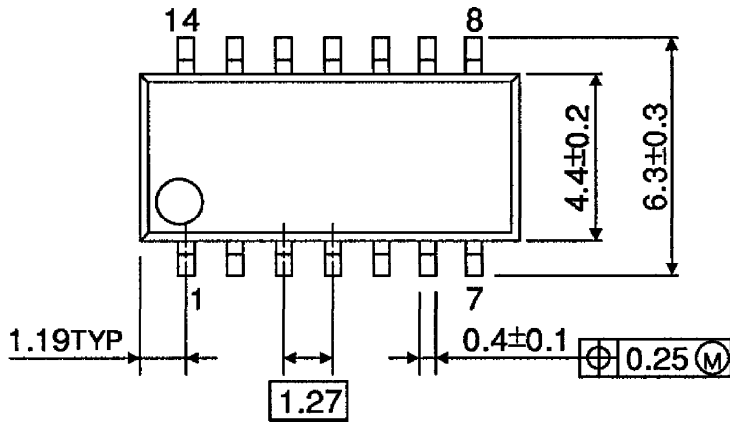
Unit : mm



Weight : 1.0g (Typ.)

**PACKAGE DIMENSIONS**  
SOP14-P-225-1.27

Unit : mm



Weight : 0.2g (Typ.)

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000707EBA

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