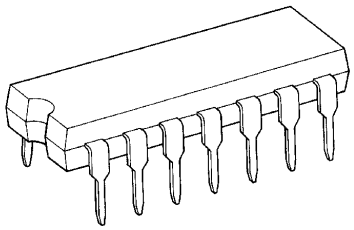
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA75339AP

QUAD COMPARATOR

The TA75339AP consists of four independent voltage comparators with an output sink current specification as low as 60mA Min. for all four comparators.
These were 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 1.5V than the input common mode voltage.
The output can be connected to other open collector outputs to achieve Wired-OR relation ship and it can drive relays or lamps.



DIP14-P-300-2.54

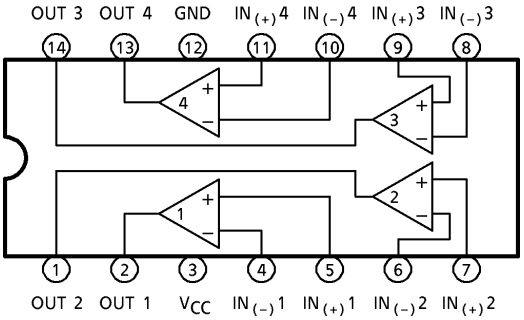
Weight : 1.0g (Typ.)

FEATURES

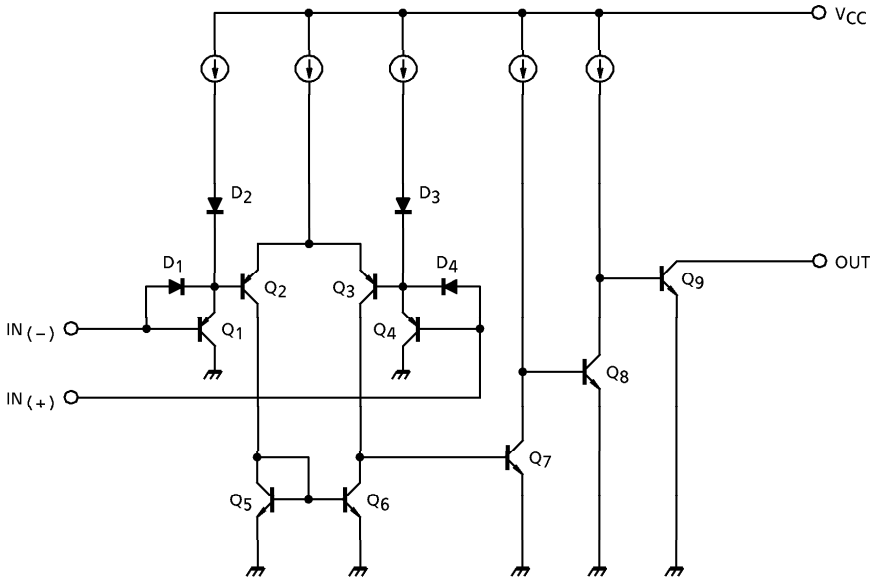
- Single Supply Voltage Range or Dual Supplies : 2V~36V or ±1V~±18V
- Output Sink Current : 100mA (Typ.)
- Low Input Offset Voltage : ±2mV (Typ.)
- Wide Input Common Mode Voltage Range : 0V~V_{CC} – 1.5V
- Output Compatible with TTL, DTL, MOS and CMOS Logic System.
- The Output can be Connected to Achieve Wired-OR Relation.

PIN CONNECTION (TOP VIEW)

TA75339AP



EQUIVALENT CIRCUIT



MAXIMUM RATINGS (Ta = 25°C)

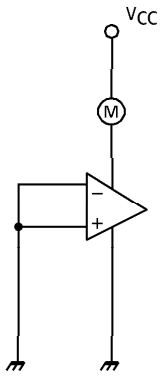
CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	± 18~36	V
Differential Input Voltage	DV_{IN}	± 36	V
Common Mode Input Voltage	CMV_{IN}	− 0.3~V_{CC}	V
Power Dissipation	P_D	625	mW
Operating Temperature	T_{opr}	− 40~85	°C
Storage Temperature	T_{stg}	− 55~125	°C

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

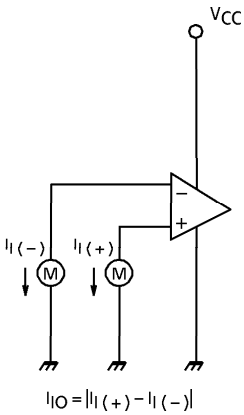
CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	—	—	—	2	10	mV
Input Bias Current	I_I	—	—	—	25	250	nA
Input Offset Current	I_{IO}	—	—	—	5	70	nA
Common Mode Input Voltage	CMV_{IN}	—	—	0	—	V_{CC} − 1.5	V
Voltage Gain	G_V	—	R_L = 15kΩ	—	200	—	V / mV
Supply Current	I_{CC}	—	no load	—	11	22	mA
Sink Current	I_{SINK}	—	IN (+) = 0V, IN (−) = 1V, V_{OL} = 1.5V	—	100	—	mA
Output Voltage ("L" level)	V_{OL}	—	IN (+) = 0V, IN (−) = 1V, I_{SINK} = 60mA	—	0.2	0.6	V
Output Leak Current	I_{LEAK}	—	IN (+) = 1V, IN (−) = 0V, V_O = 5V	—	0.1	—	nA
Response Time	t_{rsp}	—	R_L = 82Ω, C_L = 15pF	—	1.0	—	μs

TEST CIRCUIT

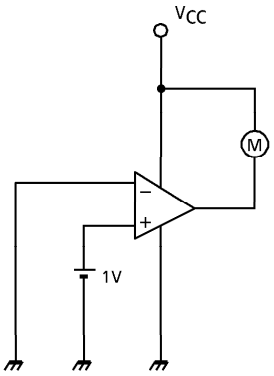
(1) I_{CC}



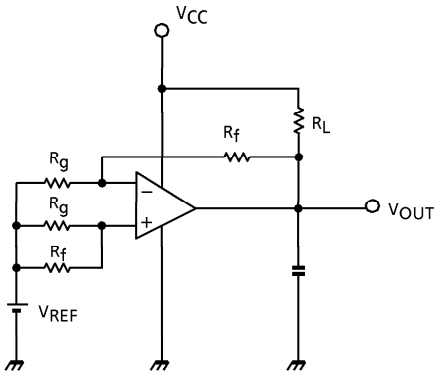
(2) I_I, I_{IO}



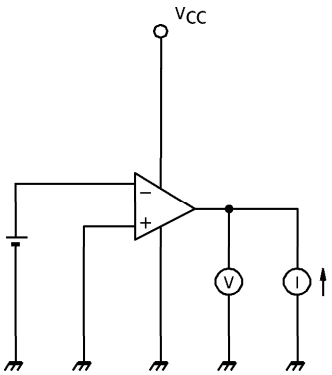
(3) I_{LEAK}



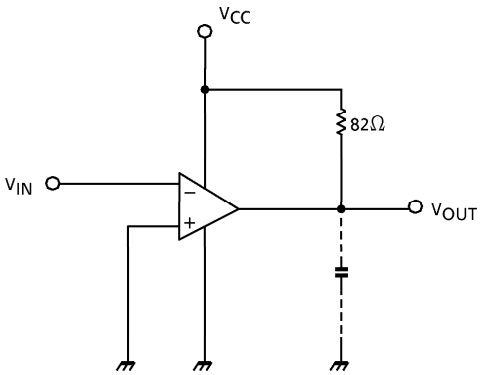
(4) V_{IO}, CMV_{IN}



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

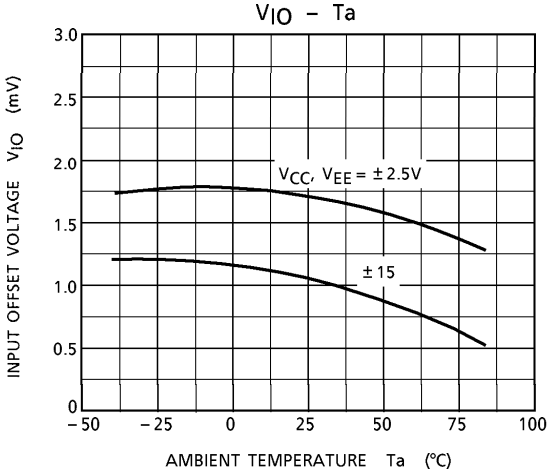


(6) t_{rsp}

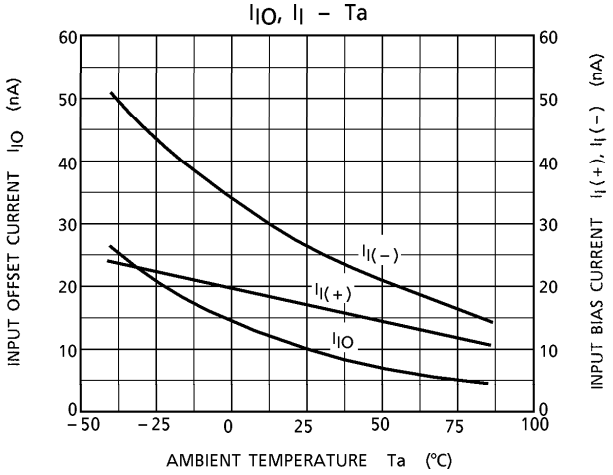


CHARACTERISTICS

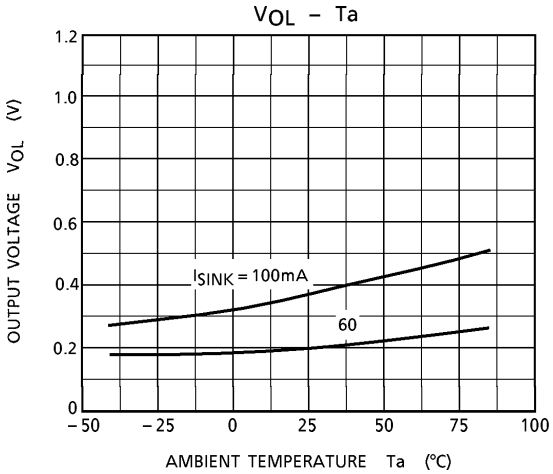
V_{IO} – Ta



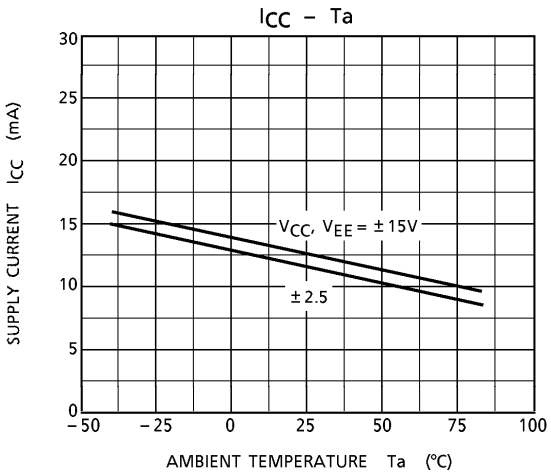
I_{IO}, I_I – Ta



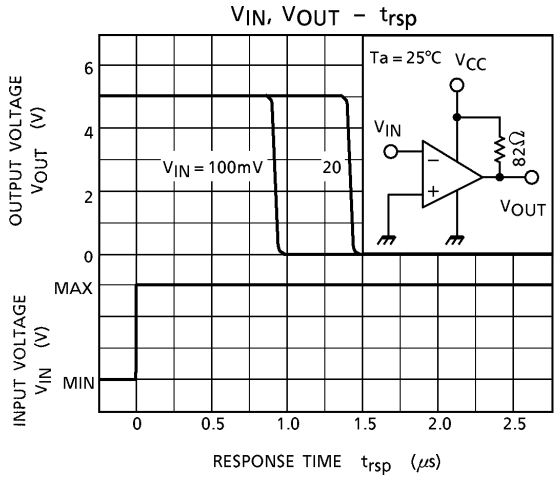
V_{OL} – Ta



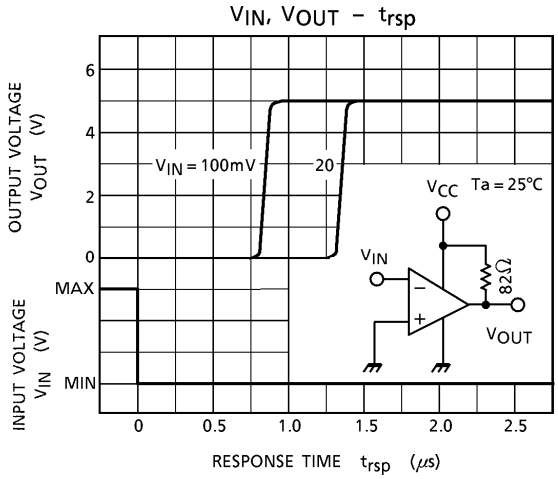
I_{CC} – Ta



V_{IN}, V_{OUT} – t_{rsp}

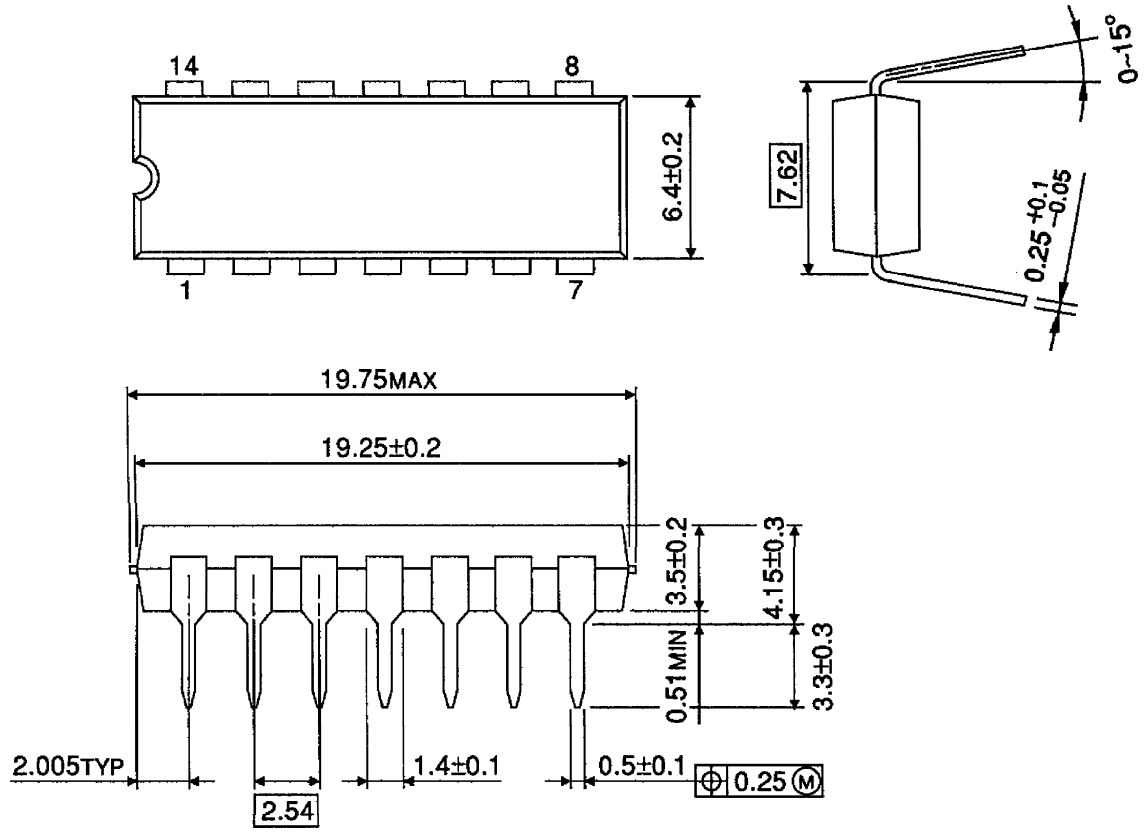


V_{IN}, V_{OUT} – t_{rsp}



OUTLINE DRAWING

DIP14-P-300-2.54 Unit : mm



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