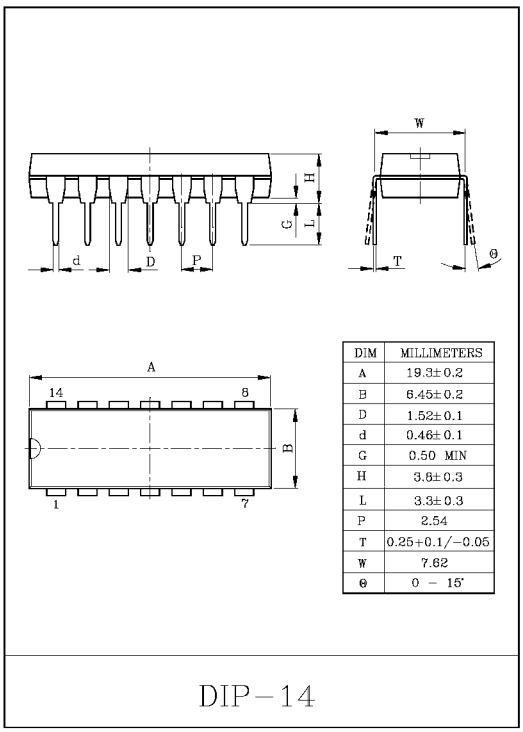
QUAD VOLTAGE COMPARATORS

This device consist of for independent voltage comparators that designed to operated from a single power supply over a wide range of voltage. Normal operation from dual supplies are 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.

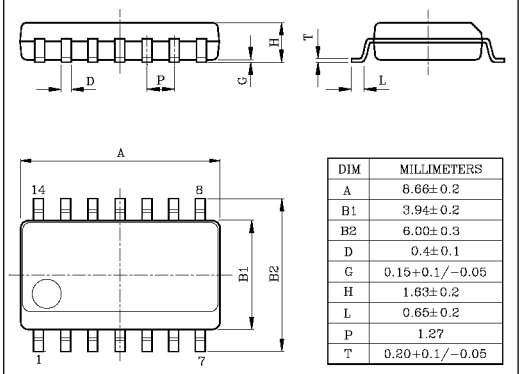
The output can be connected to other open collector outputs to achieve Wired-OR relation ship.

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



DIM	MILLIMETERS
A	19.3±0.2
B	6.45±0.2
D	1.52±0.1
d	0.46±0.1
G	0.50 MIN
H	3.8±0.3
L	3.3±0.3
P	2.54
T	0.25+0.1/−0.05
W	7.62
θ	0 ~ 15°

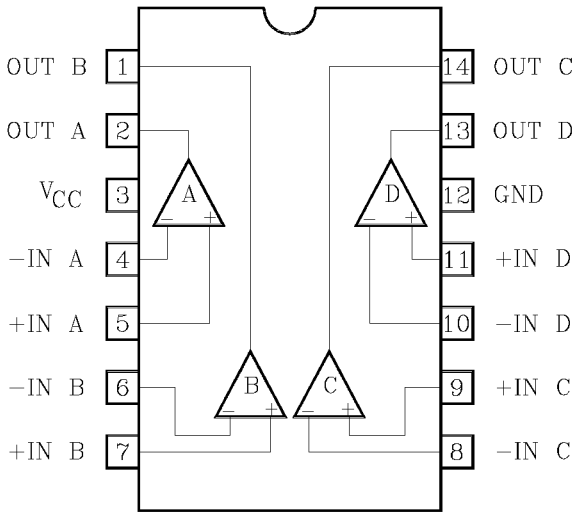
DIP-14



DIM	MILLIMETERS
A	8.66±0.2
B1	3.94±0.2
B2	6.00±0.3
D	0.4±0.1
G	0.15+0.1/−0.05
H	1.63±0.2
L	0.65±0.2
P	1.27
T	0.20+0.1/−0.05

FLP-14

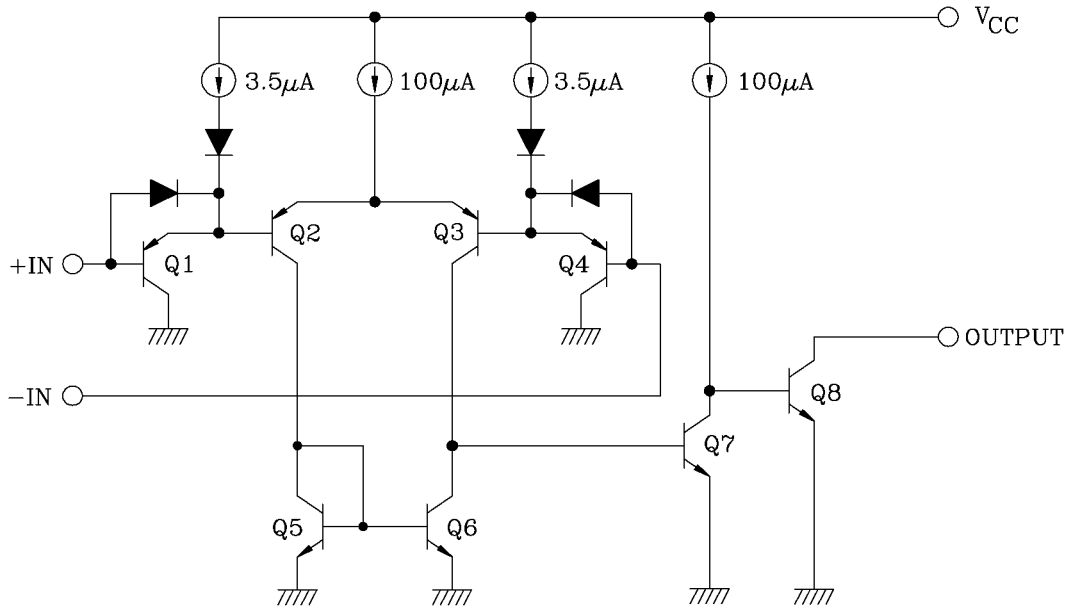
PIN CONNECTION (TOP VIEW)



MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Supply Voltage		V_{CC}	±18, 36	V
Differential Input Voltage		DV_{IN}	±18, 36	V
Common Mode Input Voltage		CMV_{IN}	−0.3∼V_{CC}	V
Power Dissipation	KIA339P	P_D	625	mW
	KIA339F		280	
Operating Temperature		T_{opr}	-40∼85	℃
Storage Temperature		T_{stg}	−55∼125	℃

EQUIVALENT CIRCUIT

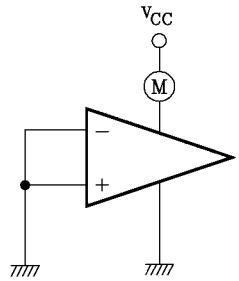


ELECTRICAL CHARACTERISTICS (V_{CC}=5V, V_{EE}=GND, Ta=25℃)

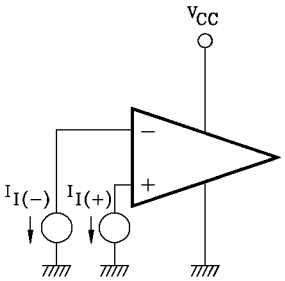
CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Offset Voltage	V_{IO}	4	V_O=1.4V	-	2	5	mV
Input Offset Current	I_{IO}	2	-	-	5	50	nA
Input Bias Current	I_I	2	-	-	25	250	nA
Common Mode Input Voltage	CMV_{IN}	4	-	0	V_{CC}-1.5	-	V
Voltage Gain	G_V	-	R_L=15kΩ	-	200	-	V/mV
Supply Current	I_{CC}	1	No load	-	0.8	2	mA
Sink Current	I_{sink}	5	+IN=0V, -IN=1V V_{OL}=1.5V	6	16	-	mA
Output Voltage ("L" Level)	V_{OL}	5	+IN=0V, -IN=1V I_{sink}=3mA	-	0.2	0.4	V
Output Leak Current	I_{LEAK}	3	+IN=1V, -IN=0V V_O=5V	-	0.1	-	nA
Response Time	t_{rsp}	6	R_L=5.1kΩ, C_L=15pF	-	1.3	-	μS

TEST CIRCUIT

(1) I_{CC}

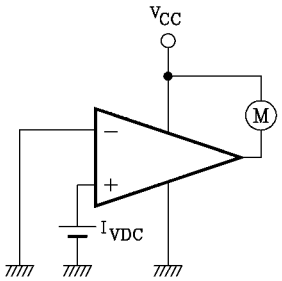


(2) I_I , I_{IO}

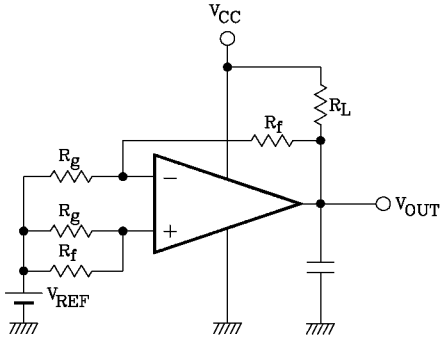


$I_{Io}=|I_{I(+)} - I_{I(-)}|$

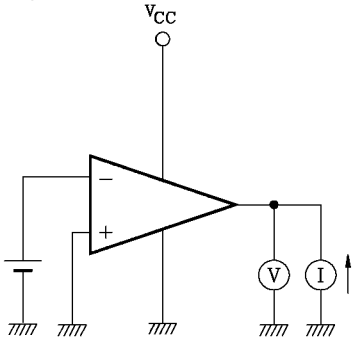
(3) I_{LEAK}



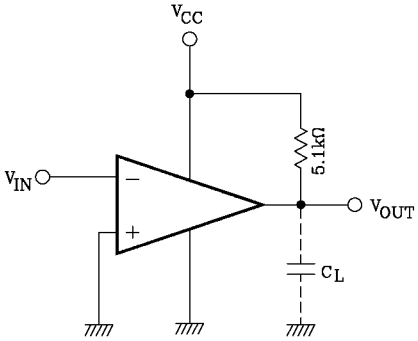
(4) V_{IO}, CMV_{IN}



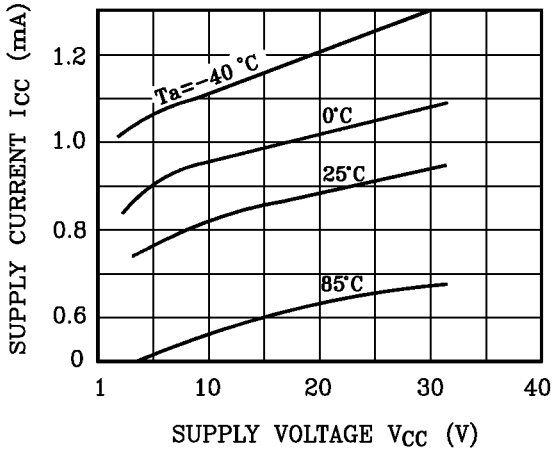
(5) I_{SINK}, V_{OL}



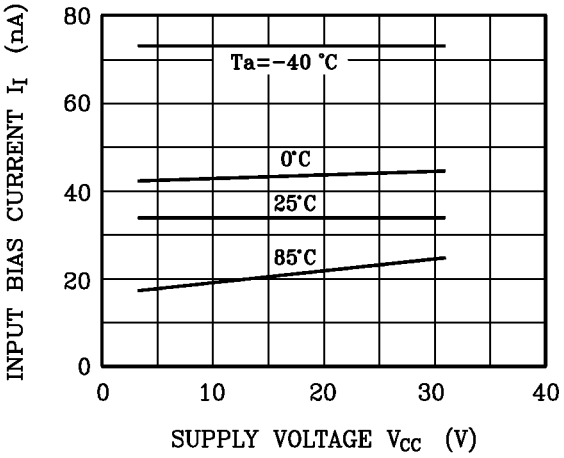
(6) t_{rsp}



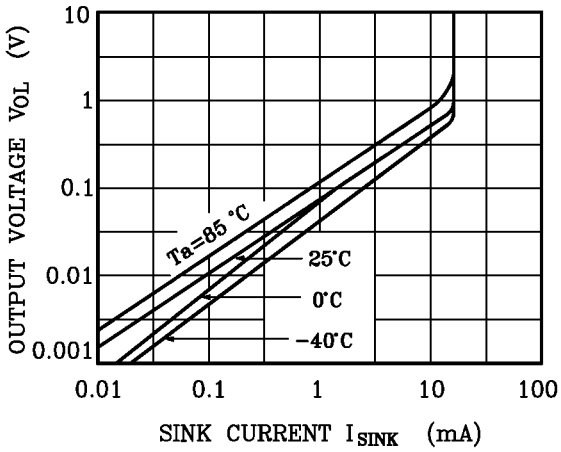
V_{CC} – I_{CC}



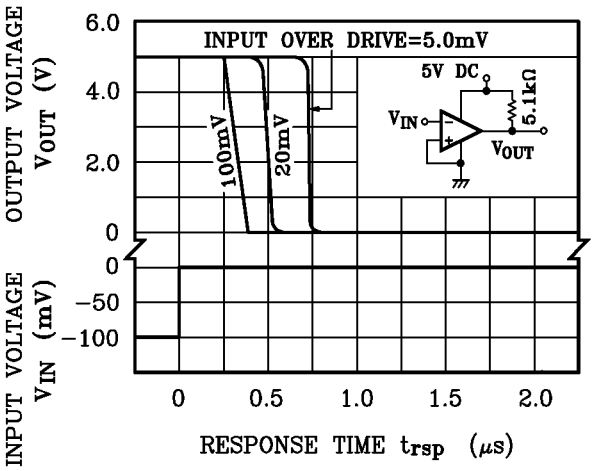
V_{CC} – I_I



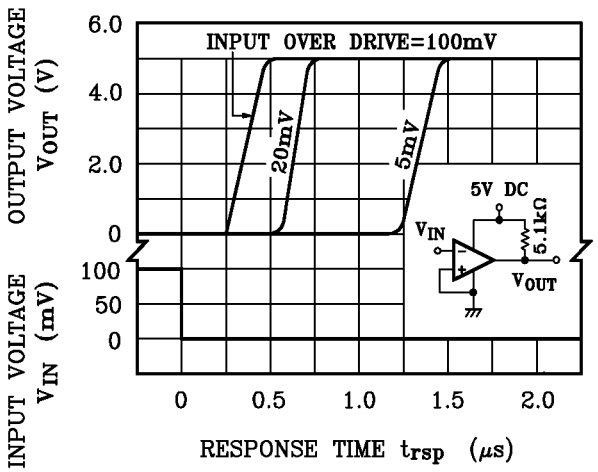
V_{OL} – I_{SINK}



V_{IN} , V_{OUT} – t_{rsp}



V_{IN} , V_{OUT} – t_{rsp}



P_D – Ta