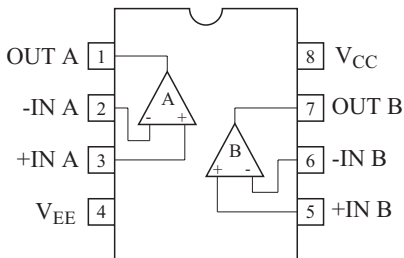


## DUAL COMPARATOR

### FEATURES

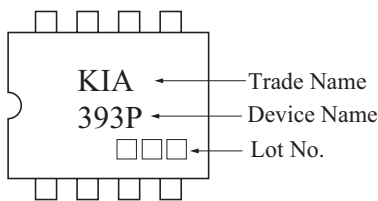
- Be Possible to Operate at the Wide Range Single or Two Supply Voltage.
- Low Supply Current :  $I_{CC}=0.8mA(Typ.)$ .
- Low Input Offset Voltage :  $V_{IO}=2mV(Typ.)$ .
- Wide Common Mode Input Voltage :  $0V_{DC}$  to  $V_{CC}-1.5V_{DC}$ .
- Output is Compatible with TTL, DTL, MOS and C-MOS.
- Output is Open Collector and Wired-OR Possible.
- ESD Protection (JEDEC-JESD22).
  - 2000V Human Body Model (A114, CLASS 1).
  - 200V Machine Model (A115, CLASS B).
- Suffix U : Qualified to AEC-Q100 (Grade 1)
  - ex) KIA393F-EL/PU

### PIN CONNECTION(TOP VIEW)

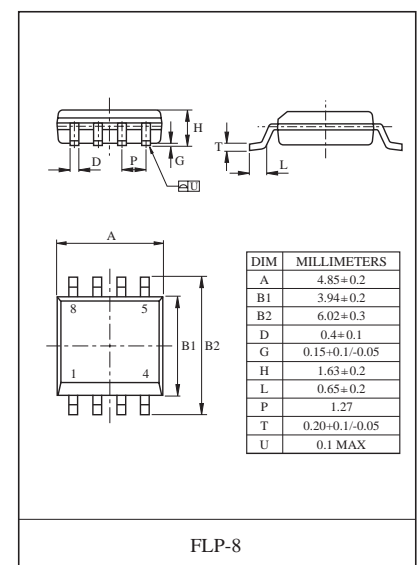
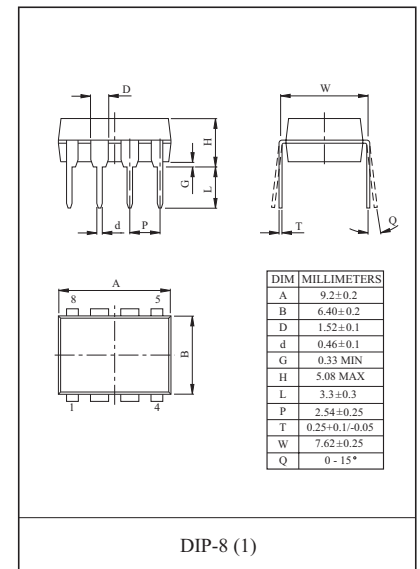
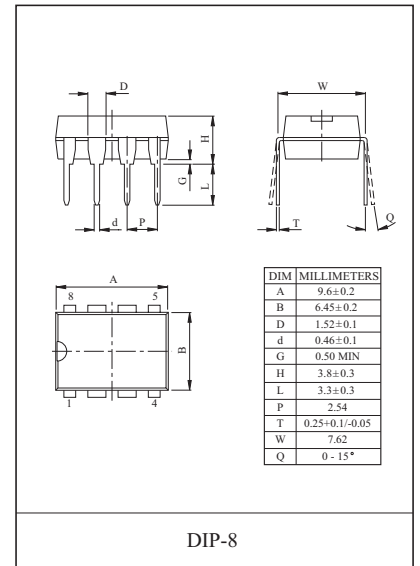
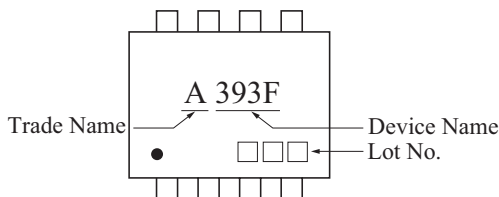


### MARKING

KIA393P

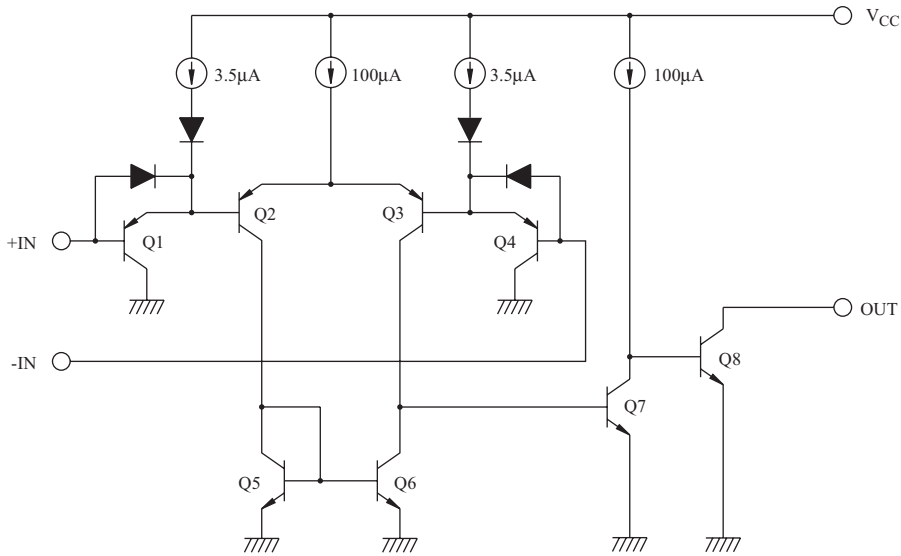


KIA393F



# KIA393P/F

## EQUIVALENT CIRCUIT



## MAXIMUM RATINGS (Ta=25 °C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	$V_{CC}$	$\pm 18, 36$	V
Differential Input Voltage	$DV_{IN}$	$\pm 18, 36$	V
Common Mode Input Voltage	$CMV_{IN}$	$-0.3 \sim V_{CC}$	V
Power Dissipation	KIA393P	500	mW
	KIA393F	240	
Junction Temperature	$T_j$	150	
Operating Temperature	$T_{opr}$	-40 ~ 125	
Storage Temperature	$T_{stg}$	-55 ~ 150	

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

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

Fig. 1  $V_{CC} - I_{CC}$

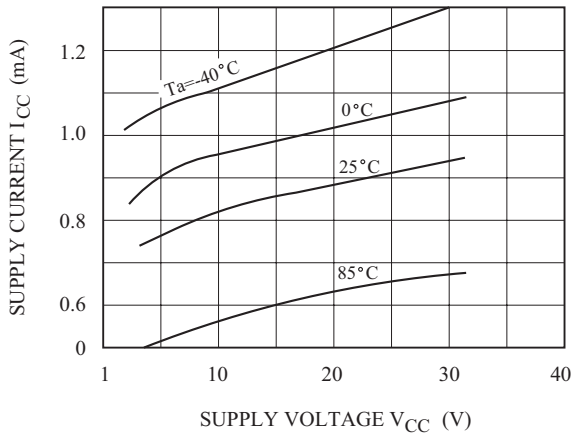


Fig. 2  $V_{CC} - I_I$

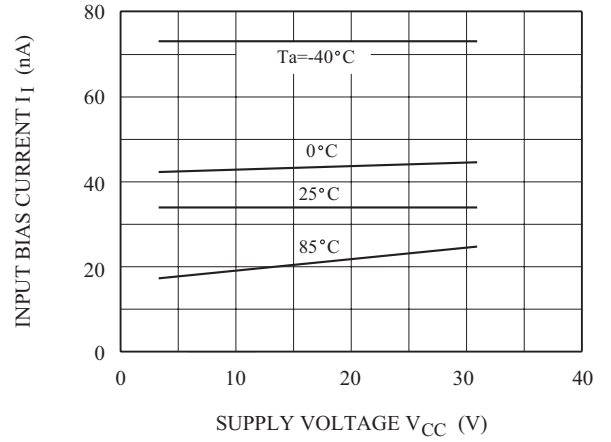


Fig. 3  $V_{OL} - I_{SINK}$

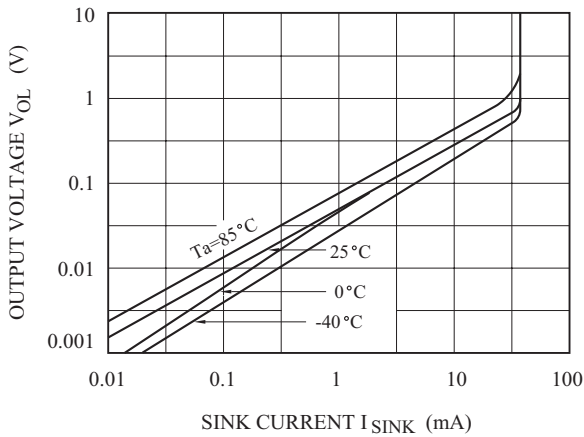


Fig. 4  $V_{IN}, V_{OUT} - t_{rsp}$

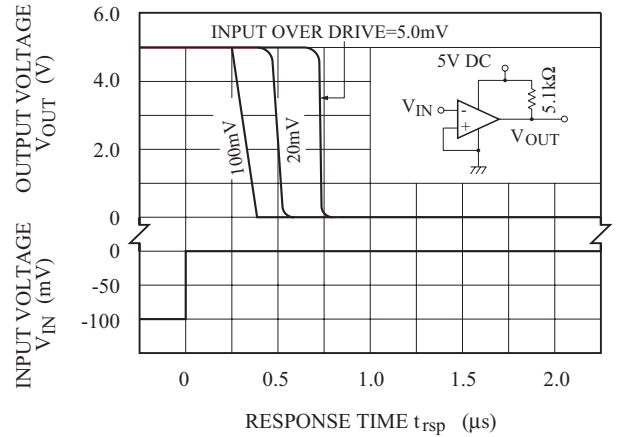


Fig. 5  $V_{IN}, V_{OUT} - t_{rsp}$

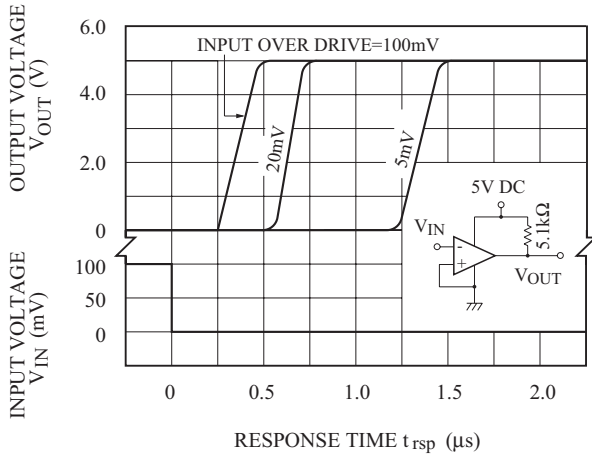


Fig. 6  $P_D - T_a$

