

QUAD DIFFERENTIAL COMPARATOR—YD393

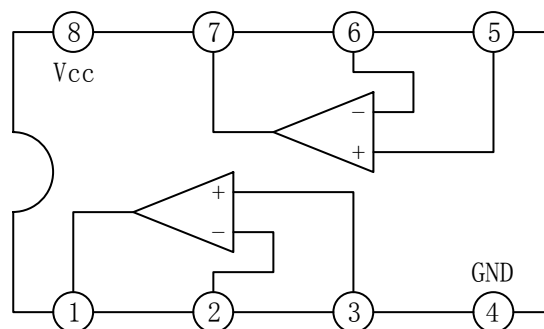
DESCRIPTION

The YD393 consists of two independent voltage comparators designed specifically to operate from a single power supply over a wide voltage range

FEATURES

- *Single or dual supply operation;
- *Wide operating supply range;
($V_{CC}=2V\sim 36V$ or $\pm 1\sim \pm 18V$)
- *Input common-mode voltage includes ground;
- *Low supply current drain: $I_{CC}=0.8mA$ (Typical);
- *Low input bias current $I_{bias}=25nA$ (Typical);
- *Output compatible with TTL, DTL, and CMOS logic system;
- *Package Outline : DIP8, SOP8.

BLOCK DIAGRAM



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ABSOLUTE MAXIMUM RATINGS (Tamb=25°C)

characteristic	symbol	value	Unit
Supply Voltage	V _{CC}	±18 or 36	V
Differential input voltage	V _{ID}	36	V
Input Voltage	V _I	-0.3~36V	V
Power Dissipation	P _d	570	mW
Operating Temperature	T _{opr}	0 to +70	°C
Storage Temperature	T _{stg}	-55 to 150	°C

ELECTRICAL CHARACTERISTICS

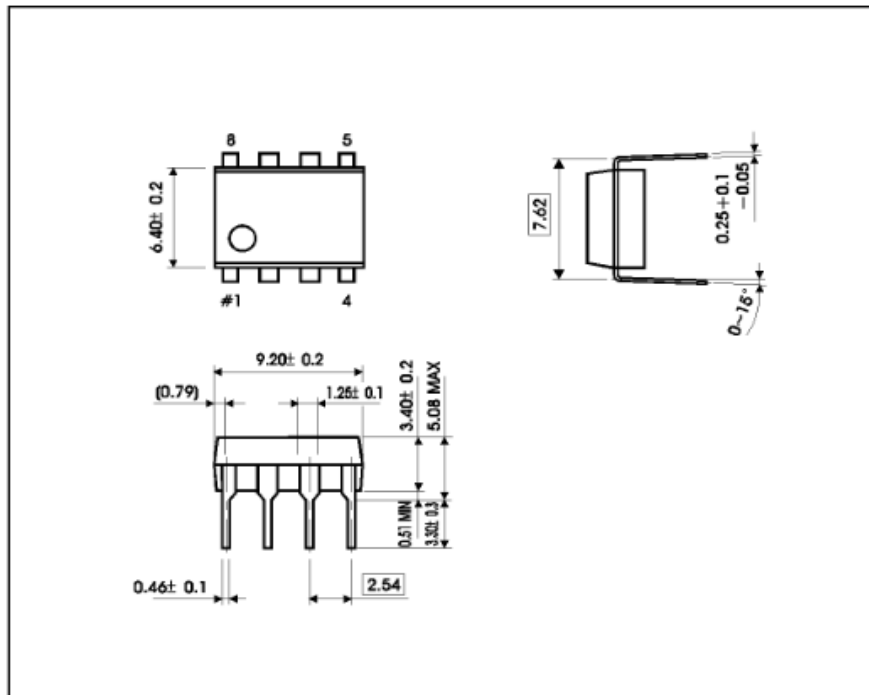
(V_{CC}=5.0V, Tamb=25°C, All voltage referenced to GND unless otherwise specified)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Input offset voltage	V _{IO}	V _{CM} =0 to V _{CC} -1.5 V _{O(p)} =1.4V, R _S =0		±1.0	±5.0	mV
Input offset current	I _{IO}			±5	±50	nA
Input Bias current	I _b			65	250	nA
Input Common-mode voltage	V _{I(R)}		0		V _{CC} -1.5	V
Supply Current	I _{CC}	R _L =∞		0.6	1.0	mA
		R _L =∞, V _{CC} =30V		0.8	2.5	mA
Large signal Voltage gain	G _v	V _{CC} =15V, R _L >15kΩ	50	200		V/mV
Large signal response time	t _{res}	V _i =TTL logic wing V _{ref} =1.4V, V _{RL} =5V, R _L =5.1kΩ		350		ns
Response time	t _{res}	V _{RL} =5V, R _L =5.1kΩ		1400		ns
Output sink current	I _{sink}	V _{i(-)} >1V, V _{i(+)} =0V, V _{o(p)} <1.5V	6	18		mA
Output saturation voltage	V _{sat}	V _{i(-)} >1V, V _{i(+)} =0V, I _{sink} =4mA	160			mV
Output leakage current	I _{leakage}	V _{i(+)} =1V, V _{i(-)} =0, V _{o(p)} =5V	0.10			nA

OUTLINE DRAWING

DIP-8

unit:mm



SOP-8

unit:mm

