

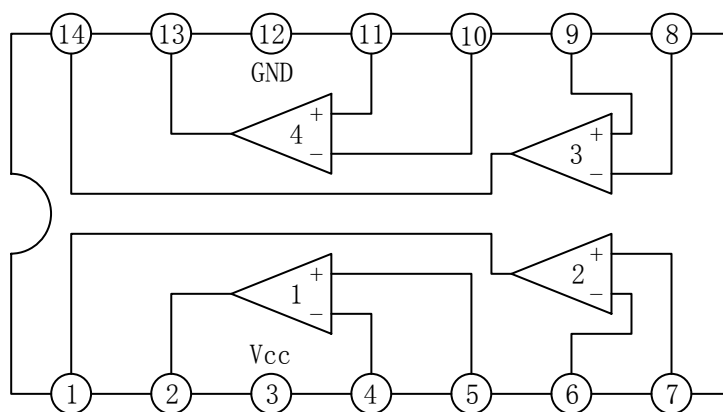
QUAD DIFFERENTIAL COMPARATOR—YD339

DESCRIPTION AND FEATURES

The YD339 consists of four independent voltage comparators designed specifically to operate from a single power supply over a wide voltage range;

- *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);
- *Open collector output for wired and connection;
- *Low input bias current $I_{bias}=25nA$ (Typical);
- *Low output saturation voltage;
- *Output compatible with TTL, DTL, and CMOS logic system.

BLOCK DIAGRAM



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ABSOLUTE MAXIMUM RATINGS ($T_{amb}=25^{\circ}\text{C}$)

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V_{CC}	± 18 or 36	V
Differential Input Voltage	V_{ID}	± 36	V
Input Voltage	V_I	$-0.3 \sim 36\text{V}$	V
Power Dissipation(DIP14)	P_{D1}	625	mW
Power Dissipation(SOP14)	P_{D2}	300	mW
Operating Temperature	T_{opr}	$-40 \sim +85$	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	$-55 \sim +125$	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS

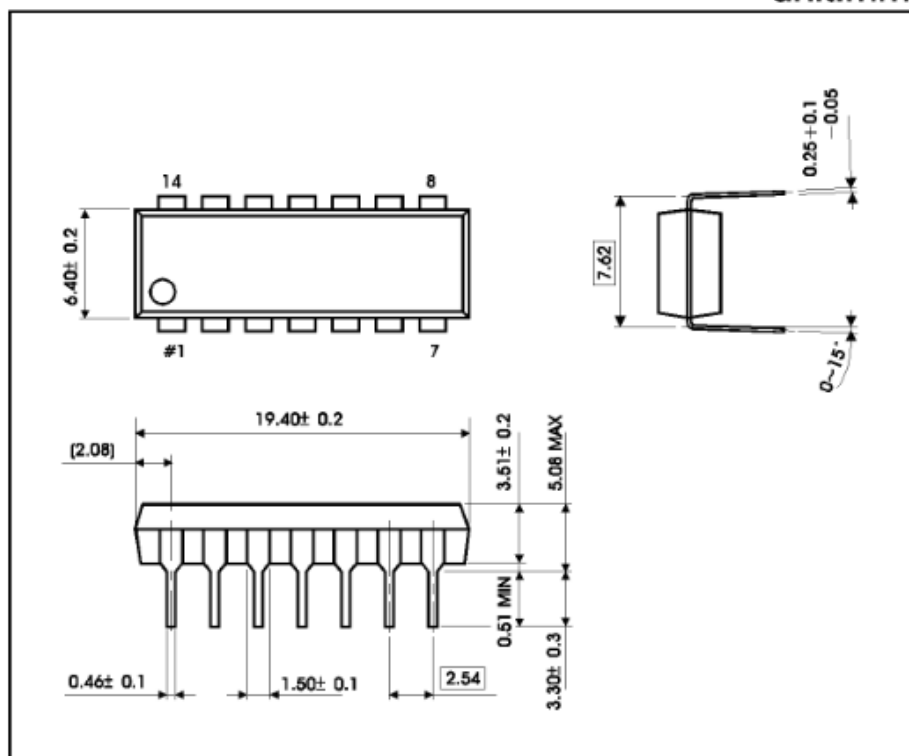
($V_{CC}=5.0\text{V}$, $T_{amb}=25^{\circ}\text{C}$, All voltage referenced to GND unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Offset Voltage	V_{IO}	$V_{CM}=0$ to $V_{CC}-1.5$ $V_{O(P)}=1.4\text{V}$, $R_S=0$		± 1.5	± 5.0	mV
Input Offset Current	I_{IO}			± 2.3	± 50	nA
Input Bias Current	I_b			57	250	nA
Input Common-mode Voltage	$V_{I(R)}$		0		$V_{CC}-1.5$	V
Supply Current	I_{CC}	$R_L=\infty$		1.1	2.0	mA
Large Signal Voltage Gain	G_v	$V_{CC}=15\text{V}$, $R_L > 15\text{k}$		200		V/mV
Large Signal Response Time	t_{res}	$V_i=\text{TTL logic wing}$ $V_{ref}=1.4\text{V}$, $V_{RL}=5\text{V}$, $R_L=5.1\text{k}$		350		ns
Response Time	t_{res}	$V_{RL}=5\text{V}$, $R_L=5.1\text{k}\Omega$		1400		ns
Output Sink Current	I_{sink}	$V_i(-) > 1\text{V}$, $V_i(+)=0\text{V}$, $V_o(p) < 1.5\text{V}$	6	18		mA

OUTLINE DRAWING

DIP-14

unit:mm



SOP-14

unit:mm

