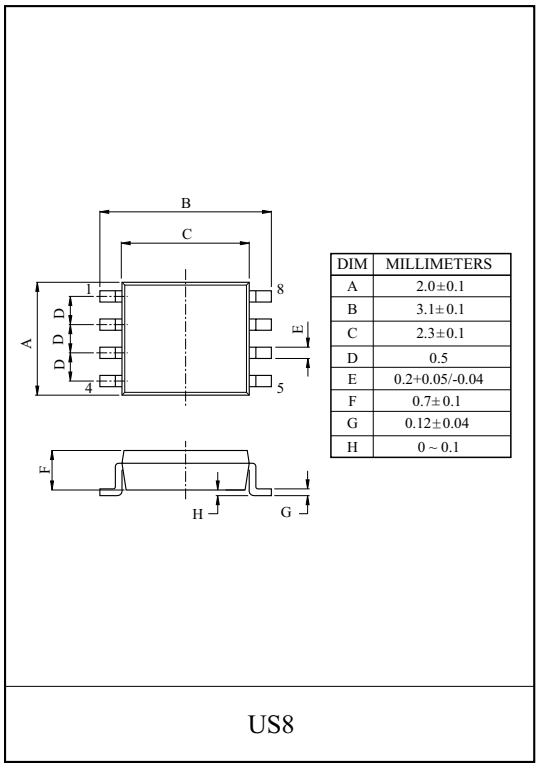
KIC7WZ34FK

SILICON MONOLITHIC CMOS DIGITAL INTEGRATED CIRCUIT

TRIPLE NON INVERTER

FEATURES

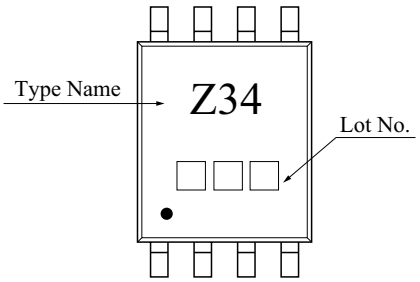
- High output drive : ±24mA(min.) @V_{CC}=3V.
- Super high speed operation : tpd 2.4ns(typ.) @V_{CC}=5V, 50pF.
- Operation voltage range : $V_{CC(opr)}$=1.65~5.5V.
- Latch-up performance : ±500mA or more
- ESD performance : ±200V or more (EIAJ)
  ±2000V or more (MIL)



DIM	MILLIMETERS
A	2.0±0.1
B	3.1±0.1
C	2.3±0.1
D	0.5
E	0.2+0.05/-0.04
F	0.7±0.1
G	0.12±0.04
H	0 ~ 0.1

US8

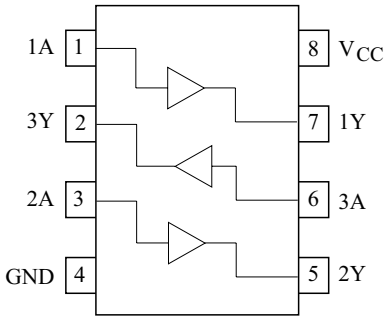
MARKING



MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Supply Voltage	V_{CC}	-0.5~6	V
DC Input Voltage	V_{IN}	-0.5~6	V
DC Output Voltage	V_{OUT}	-0.5~6	V
Input Diode Current	I_{IK}	-20	mA
Output Diode Current	I_{OK}	-20	mA
DC Output Current	I_{OUT}	±50	mA
DC V_{CC}/ground Current	I_{CC}	±50	mA
Power Dissipation	P_D	200	mW
Storage Temperature Range	T_{stg}	-65 ~150	℃
Lead Temperature (10s)	T_L	260	℃

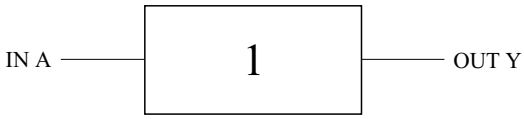
PIN CONNECTION(TOP VIEW)



Truth Table

A	Y
L	L
H	H

Logic Diagram



Recommended Operating Conditions

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	1.65~5.5	V
		1.5~5.5 (Note1)	
Input Voltage	V_{IN}	0~5.5	V
Output Voltage	V_{OUT}	0~5.5 (Note2)	V
		0~V_{CC} (Note3)	
Operating Temperature	T_{opr}	-40~85	℃
Input Rise and Fall Time	d_t/d_v	0~20 (V_{CC}=1.8V ±0.15V, 2.5V ±0.2V)	ns/V
		0~10 (V_{CC}=3.3V ±0.3V)	
		0~5 (V_{CC}=5.5V ±0.5V)	

Note1 : Data retention only.

Note2 : V_{CC}=0V.

Note3 : High or low state

ELECTRICAL CHARACTERISTICS

DC Characteristics

CHARACTERISTIC		SYMBOL	TEST CONDITION		Ta=25℃			Ta=-40~85℃		UNIT
				V_{CC}(V)	MIN.	TYP.	MAX.	MIN.	MAX.	
Input Voltage	High Level	V_{IH}	-	1.65~1.95	0.75 × V_{CC}	-	-	0.75 × V_{CC}	-	V
				2.3~5.5	0.7 × V_{CC}	-	-	0.7 × V_{CC}	-	
	Low Level	V_{IL}	-	1.65~1.95	-	-	0.25 × V_{CC}	-	0.25 × V_{CC}	
				2.3~5.5	-	-	0.3 × V_{CC}	-	0.3 × V_{CC}	
Output Voltage	High Level	V_{OH}	V_{IN}=V_{IH}	I_{OH}=-100㎂ 1.65	1.55	1.65	-	1.55	-	V
				I_{OH}=-100㎂ 2.3	2.2	2.3	-	2.2	-	
				I_{OH}=-100㎂ 3.0	2.9	3.0	-	2.9	-	
				I_{OH}=-100㎂ 4.5	4.4	4.5	-	4.4	-	
				I_{OH}=-4mA 1.65	1.29	1.52	-	1.29	-	
				I_{OH}=-8mA 2.3	1.9	2.14	-	1.9	-	
				I_{OH}=-16mA 3.0	2.4	2.75	-	2.4	-	
				I_{OH}=-24mA 3.0	2.3	2.62	-	2.3	-	
				I_{OH}=-32mA 4.5	3.8	4.13	-	3.8	-	
	Low Level	V_{OL}	V_{IN}=V_{IL}	I_{OH}=100㎂ 1.65	-	0	0.1	-	0.1	V
				I_{OH}=100㎂ 2.3	-	0	0.1	-	0.1	
				I_{OH}=100㎂ 3.0	-	0	0.1	-	0.1	
				I_{OH}=100㎂ 4.5	-	0	0.1	-	0.1	
				I_{OH}=4mA 1.65	-	0.08	0.24	-	0.24	
				I_{OH}=8mA 2.3	-	0.1	0.3	-	0.3	
				I_{OH}=16mA 3.0	-	0.16	0.4	-	0.4	
				I_{OH}=24mA 3.0	-	0.24	0.55	-	0.55	
				I_{OH}=32mA 4.5	-	0.25	0.55	-	0.55	
Input Leakage Current		I_{IN}	V_{IN}=5.5V or GND	0~5.5	-	-	±1	-	±10	㎂
Quiescent Supply Current		I_{CC}	V_{IN}=5.5V or GND	1.65~5.5	-	-	1	-	10	㎂

AC Characteristics (unless otherwise specified, Input : t_r=t_f=3ns)

CHARACTERISTIC	SYMBOL	TEST CONDITION	V_{CC}(V)	Ta=25℃ MIN.	TYP.	MAX.	Ta=-40~85℃ MIN.	MAX.	UNIT
Propagation delay time	t_{PLH} t_{PHL}	C_L=15pF, R_L=1MΩ	1.8 ±0.15	2.0	4.4	9.5	2.0	10.0	ns
			2.5 ±0.2	1.0	3.0	5.2	1.0	5.8	
			3.3 ±0.3	0.8	2.3	3.6	0.8	4.0	
			5.0 ±0.5	0.5	1.8	2.9	0.5	3.2	
		C_L=50pF, R_L=500Ω	3.3 ±0.3	1.2	3.0	4.6	1.2	5.1	ns
			5.0 ±0.5	0.8	2.4	3.8	0.8	4.2	
Input Capacitance	C_{IN}	-	0~5.5	-	3.0	-	-	-	pF
Power Dissipation Capacitance	C_{PD}	(Note)	3.3	-	24	-	-	-	pF
			5.5	-	34	-	-	-	

Note : C_{PD} is defined as the value of the internal equivalent capacitance which is calculated from the operating current consumption without load. Average operating current can be obtained by the equation : $I_{CC(opr)}$=C_{PD} · V_{CC} · f_{IN}+I_{CC}/3