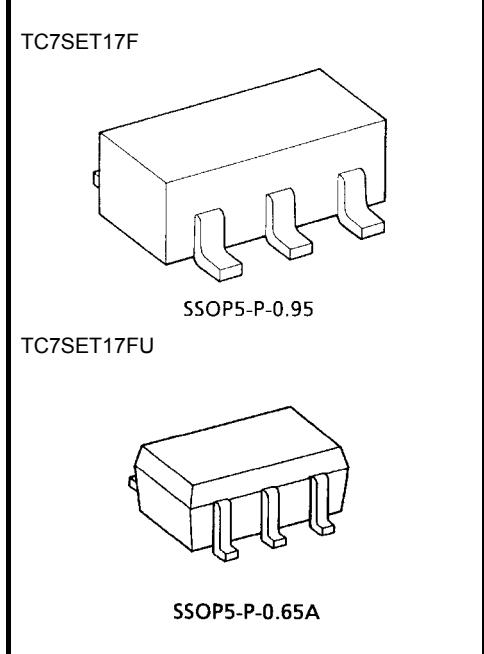


TC7SET17F, TC7SET17FU

Schmitt Non-Inverter

Features

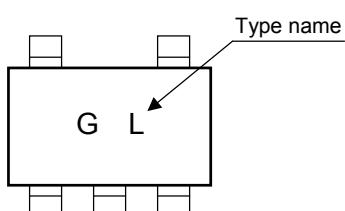
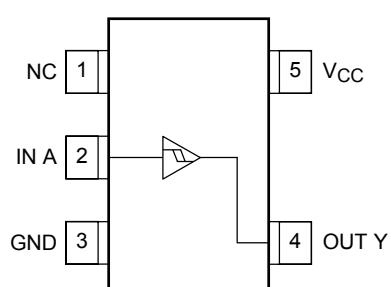
- High speed $t_{pd} = 5.0$ ns (typ.)
at $V_{CC} = 5$ V
- Low power dissipation $I_{CC} = 2 \mu A$ (max)
at $T_a = 25^\circ C$
- Compatible with TTL outputs... $V_{IL} = 0.8$ V (max.)
 $V_{IH} = 2.0$ V (min.)
- 5.5V tolerant input.

Wide operation voltage range : V_{CC} (opr) = 2~5.5 V

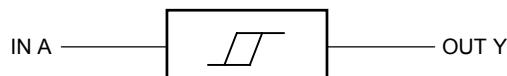
Weight
 SSOP5-P-0.95 : 0.016 g (typ.)
 SSOP5-P-0.65A : 0.006 g (typ.)

Maximum Ratings ($T_a = 25^\circ C$)

Characteristics	Symbol	Rating	Unit
Supply voltage range	V_{CC}	-0.5~7.0	V
DC input voltage	V_{IN}	-0.5~7.0	V
DC output voltage	V_{OUT}	-0.5~ $V_{CC} + 0.5$	V
Input diode current	I_{IK}	-20	mA
Output diode current	I_{OK}	± 20	mA
DC output current	I_{OUT}	± 25	mA
DC V_{CC} /ground current	I_{CC}	± 50	mA
Power dissipation	P_D	200	mW
Storage temperature	T_{stg}	-65~150	°C
Lead temperature (10 s)	T_L	260	°C

Marking**Pin Assignment (top view)**

Logic Diagram



Truth Table

INPUT	OUTPUT
A	Y
L	L
H	H

Recommended Operating Conditions

Characteristics	Symbol	Rating			Unit	
Supply voltage	V_{CC}	4.5~5.5			V	
Input voltage	V_{IN}	0~5.5			V	
Output voltage	V_{OUT}	0~ V_{CC}			V	
Operating temperature	T_{opr}	-40~85			°C	
Input rise and fall time	dt/dv	0~20			ns/V	

DC Electrical Characteristics

Characteristics	Symbol	Test Condition	V_{CC} (V)	Ta = 25°C			Ta = -40~85°C		Unit
				Min	Typ.	Max	Min	Max	
Positive Threshold Voltage	V_P	—	4.5	—	—	1.90	—	1.90	V
			5.5	—	—	2.10	—	2.10	
Negative Threshold Voltage	V_N	—	4.5	0.50	—	—	0.50	—	V
			5.5	0.60	—	—	0.60	—	
Hysteresis Voltage	V_H	—	4.5	0.40	—	1.40	0.40	1.40	V
			5.5	0.40	—	1.50	0.40	1.50	
High-level output voltage	V_{OH}	$V_{IN} = V_{IL}$	$I_{OH} = -50 \mu A$	4.5	4.4	4.5	—	4.4	V
			$I_{OH} = -8 mA$	4.5	3.94	—	—	3.80	
Low-level output voltage	V_{OL}	$V_{IN} = V_{IH}$	$I_{OL} = 50 \mu A$	4.5	—	0.0	0.10	—	V
			$I_{OL} = 8 mA$	4.5	—	—	0.36	—	
Input leakage current	I_{IN}	$V_{IN} = 5.5 V$ or GND	0~5.5	—	—	—	± 0.1	—	μA
Quiescent supply current	I_{CC}	$V_{IN} = V_{CC}$ or GND	5.5	—	—	2.0	—	20.0	μA
	I_{CCT}	Per Input : $V_{IN} = 3.4 V$ Other Input : V_{CC} or GND	5.5	—	—	1.35	—	1.50	mA

AC Characteristics (input: $t_r = t_f = 3$ ns)

Characteristics	Symbol	Test Condition		Ta = 25°C			Ta = -40~85°C		Unit		
		V _{CC} (V)	C _L (pF)	Min	Typ.	Max	Min	Max			
Propagation delay time	t_{PLH} t_{PHL}		5.0 ± 0.5	15	—	5.0	7.6	1.0	9.0	ns	
				50	—	6.5	10.8	1.0	12.4		
Input capacitance	C _{IN}				—	4	10	—	10	pF	
Power dissipation capacitance	C _{PD}				(Note)	—	18	—	—	pF	

Note: C_{PD} is defined as the value of the internal equivalent capacitance which is calculated from the operating current consumption without load.

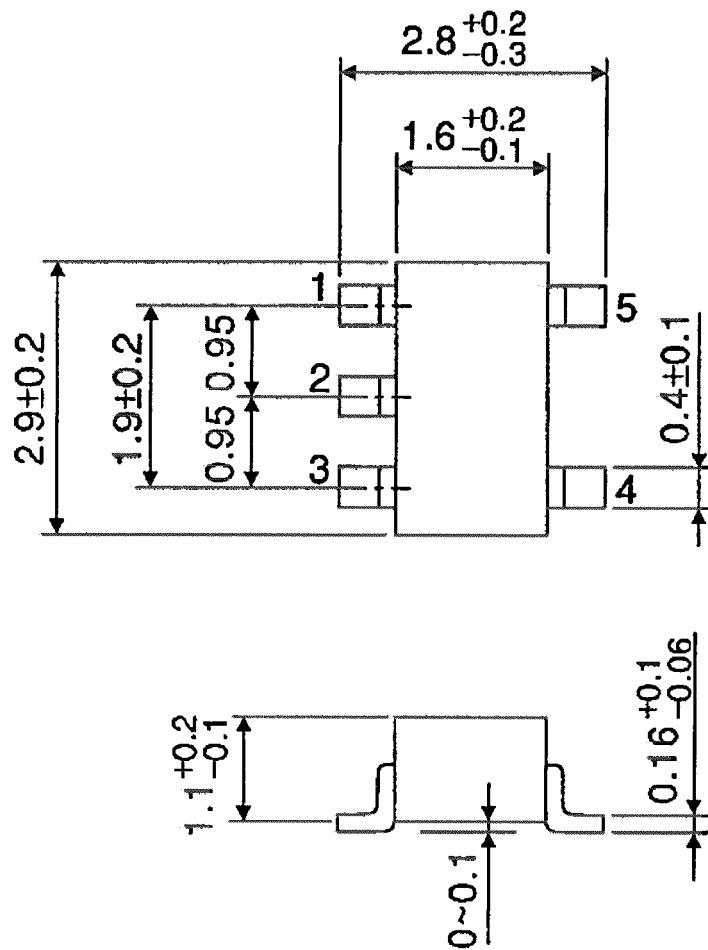
Average operating current can be obtained by the equation:

$$I_{CC\ (opr)} = C_{PD} \cdot V_{CC} \cdot f_{IN} + I_{CC}$$

Package Dimensions

SSOP5-P-0.95

Unit : mm

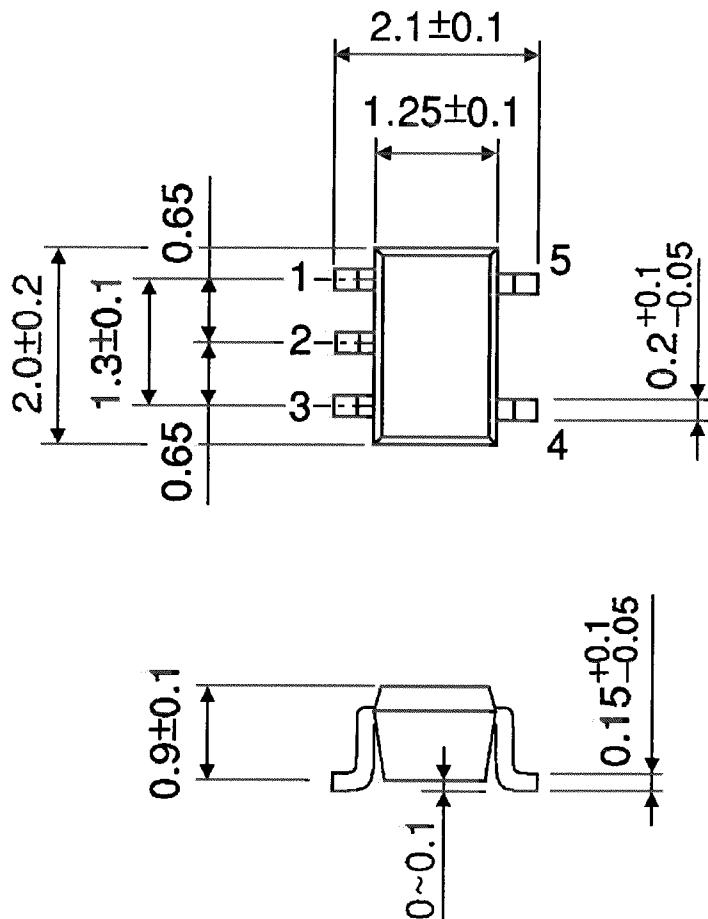


Weight: 0.016 g (typ.)

Package Dimensions

SSOP5-P-0.65A

Unit : mm



Weight: 0.006 g (typ.)

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