

**[BU2099FV]**

**●Switching characteristics (Unless otherwise specified, V<sub>DD</sub>=5V, V<sub>SS</sub>=0V, T<sub>a</sub>=25°C)**

Parameter	Symbol	Limit			Unit	V <sub>DD</sub> (V)	Condition
		Min.	Typ.	Max.			
Minimum Clock Pulse Width (CLOCK)	t <sub>w</sub>	1000	-	-	ns	3	-
		500	-	-	ns	5	
Minimum Latch Pulse Width (LCK)	t <sub>w</sub> (LCK)	1000	-	-	ns	3	-
		500	-	-	ns	5	
Setup Time (LCK→CLOCK)	t <sub>s</sub>	400	-	-	ns	3	-
		200	-	-	ns	5	
Setup Time (DATA→CLOCK)	t <sub>su</sub>	400	-	-	ns	3	-
		200	-	-	ns	5	
Hole Time (CLOCK→DATA)	t <sub>H</sub>	400	-	-	ns	3	-
		200	-	-	ns	5	
Propagation (SO)	t <sub>PLH</sub> t <sub>PHL</sub>	-	-	500	ns	3	-
		-	-	250	ns	5	
Propagation (LCK→QX) *	t <sub>PLZ</sub> (LCK)	-	360	-	ns	3	R <sub>L</sub> =5kΩ C <sub>L</sub> =10pF
		-	170	-	ns	5	
	t <sub>PZL</sub> (LCK)	-	260	-	ns	3	R <sub>L</sub> =5kΩ C <sub>L</sub> =10pF
		-	175	-	ns	5	
Propagation (QE→QX) *	t <sub>PLZ</sub>	-	115	-	ns	3	R <sub>L</sub> =5kΩ C <sub>L</sub> =10pF
		-	85	-	ns	5	
	t <sub>PZL</sub>	-	175	-	ns	3	R <sub>L</sub> =5kΩ C <sub>L</sub> =10pF
		-	65	-	ns	5	
Noise Pulse Suppression Time (LCK) *	t <sub>i</sub>	-	30	-	ns	-	-
		-	20	-	ns	-	

\*Reference value

**●Input Voltage Test Circuit**

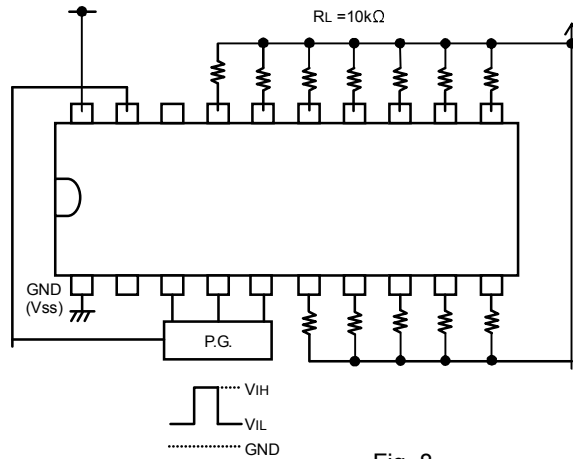


Fig. 8

**●Switching Time Test Circuit**

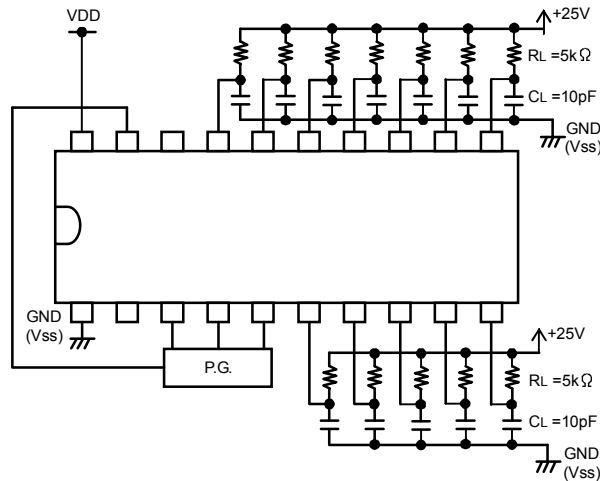


Fig. 9