Recommended SMBus Timing Parameters

Date: March 2013

Device ID – DS100RT410, DS100DF410, DS110RT410, DS110DF410, DS125RT410, DS125DF410

Objective:

The datasheet for the devices do not include SMBus timing parameters, so this document provides the information. The SMBus timing parameters are not tested in production. However, the same design is used on other high speed signal conditioning products and there are no known issues. The table and figure below is the timing parameters for the SMBus interface.

TABLE: SERIAL MANAGEMENT BUS INTERFACE AC TIMING SPECIFICATIONS						
Symbol	**Parameter**	**Condition**	**Min**	**Typ**	**Max**	**Units**
FSMB	Bus Operating Frequency	ENSMB = VDD (Slave Mode)	100		400	kHz
		ENSMB = FLOAT (Master Mode)	280	400	520	kHz
TBUF	Bus Free Time Between Stop and Start Condition		1.3			µs
THD:STA	Hold time after (Repeated) Start Condition. After this period, the first clock is generated.		0.6			µs
TSU:STA	Repeated Start Condition Setup Time		0.6			µs
TSU:STO	Stop Condition Setup Time		0.6			µs
THD:DAT	Data Hold Time		0			ns
TSU:DAT	Data Setup Time		100			ns
T_{LOW}	Clock Low Period		1.3			µs
T_{HIGH}	Clock High Period		0.6		50	µs
t_F	Clock/Data Fall Time				300	ns
t_R	Clock/Data Rise Time				300	ns

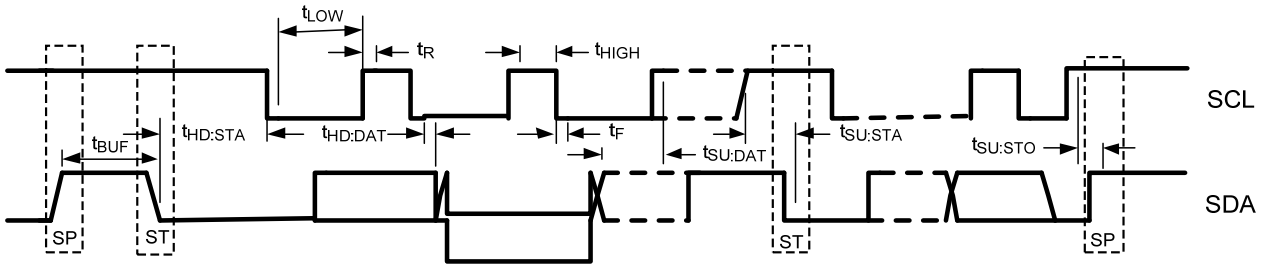

Figure: SMBUS Timing Parameters