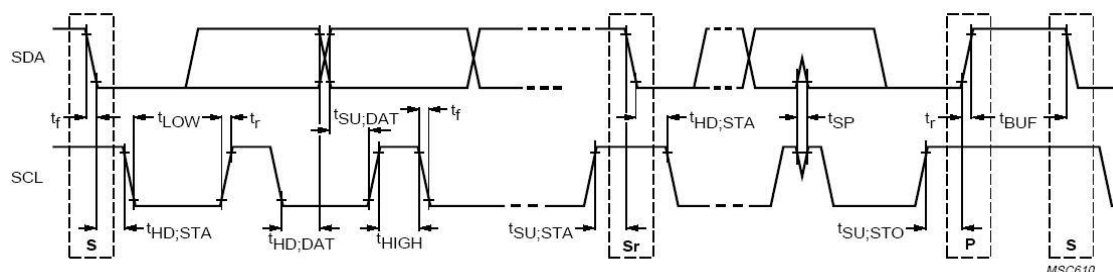


# **LTR-578ALS**

## **Appendix A (I2C specifications)**

## I2C specifications

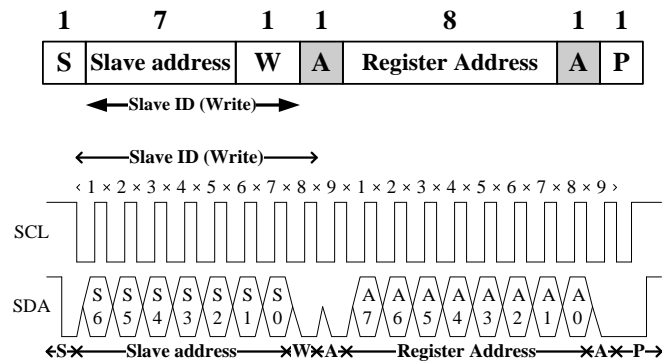


### Definition of timing for I<sup>2</sup>C bus

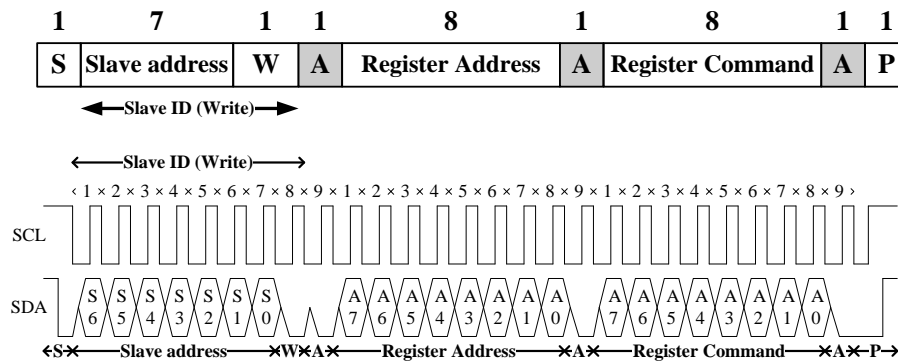
Parameter	Symbol	Standard mode		Fast mode		Unit
		Min.	Max.	Min.	Max.	
SCL clock frequency	$f_{SCL}$	100		400		kHz
Bus free time between a STOP and START condition	$t_{BUF}$	4.7	-	1.3	-	us
Hold time (repeated) START condition. After this period, the first clock pulse is generated	$t_{HD,STA}$	4.0	-	0.6	-	us
LOW period of the SCL clock	$t_{LOW}$	4.7	-	1.3	-	us
HIGH period of the SCL clock	$t_{HIGH}$	4.0	-	0.6	-	us
Set-up time for a repeated START condition	$t_{SU,STA}$	4.7	-	0.6	-	us
Set-up time for STOP condition	$t_{SU,STO}$	4.0	-	0.6	-	us
Rise time of both SDA and SCL signals	$t_r$	-	1000	-	300	ns
Fall time of both SDA and SCL signals	$t_f$	-	300	-	300	ns
Data hold time	$t_{HD,DAT}$	0	-	0	-	us
Data setup time	$t_{SU,DAT}$	250	-	100	-	ns

All specifications are at VBus = 1.7V, T<sub>ope</sub> = 25°C, unless otherwise noted.

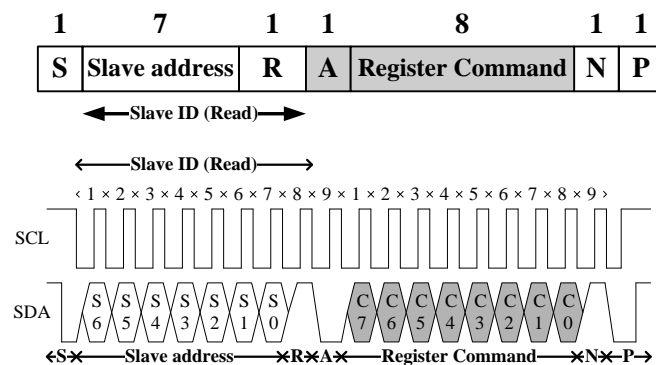
• I<sup>2</sup>C Write Protocol (type 1):



• I<sup>2</sup>C Write Protocol (type 2):



• I<sup>2</sup>C Read Protocol:



• I<sup>2</sup>C Read (Combined format) Protocol:

