



BASIC CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply voltage		V_{DD}	2.6	3.0	3.6	V
Supply current ⁽¹⁾		I_{DD}	500	580	1000	μA
I ² C signal input ⁽¹⁾	Logic high	V_{IH}	1.2	-	-	V
	Logic low	V_{IL}	-	-	0.4	
Peak sensitivity wavelength		λ_{PC}	-	590	-	nm
		λ_{PR}	-	610	-	
		λ_{PG}	-	560	-	
		λ_{PB}	-	470	-	
		λ_{PIR}	-	825	-	
Irradiance responsivity	520 nm LED ⁽¹⁾⁽²⁾	C	-	57	-	counts/ $(\mu\text{W}/\text{cm}^2)$
	850 nm LED ⁽¹⁾⁽²⁾	IR	-	25	-	
	643 nm LED ⁽¹⁾⁽²⁾	R	-	41	-	
	520 nm LED ⁽¹⁾⁽²⁾	G	-	39	-	
	460 nm LED ⁽¹⁾⁽²⁾	B	-	34	-	
Sensitivity	5000 K WLED ⁽¹⁾⁽³⁾	G	-	0.003	-	lx/count
Dark offset ⁽¹⁾⁽³⁾		R, G, B, C, IR	0	-	3	counts
Operating temperature range		T_{amb}	-40	-	+85	$^{\circ}\text{C}$
Shutdown current ⁽¹⁾	Light condition = dark	I_{DD}	0	800	1000	nA

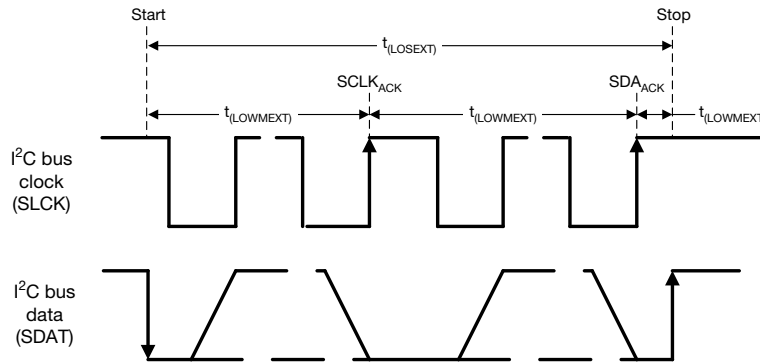
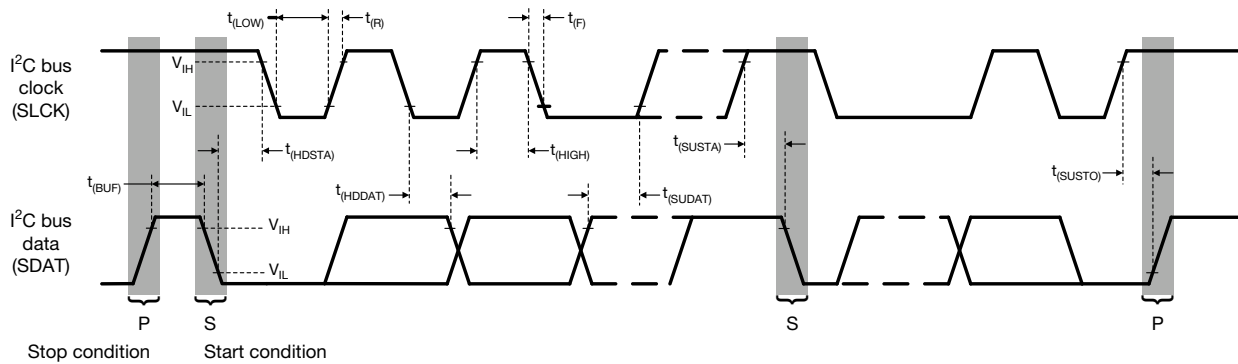
Notes

⁽¹⁾ Test condition: $V_{DD} = 3\text{ V}$, temperature: $25\text{ }^{\circ}\text{C}$

⁽²⁾ IT: 100 ms, SENS = (0) = x 1, DG = (0 : 0) = x 1, GAIN = (0 : 0) = x 1

⁽³⁾ IT: 400 ms, SENS = (0) = x 1, DG = (1 : 0) = x 4, GAIN = (0 : 0) = x 4

I²C BUS TIMING CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)						
PARAMETER	SYMBOL	STANDARD MODE		FAST MODE		UNIT
		MIN.	MAX.	MIN.	MAX.	
Clock frequency	$f_{(I2CCLK)}$	10	100	10	400	kHz
Bus free time between start and stop condition	$t_{(BUF)}$	4.7	-	1.3	-	μs
Hold time after (repeated) start condition; after this period, the first clock is generated	$t_{(HDSTA)}$	4.0	-	0.6	-	μs
Repeated start condition setup time	$t_{(SUSTA)}$	4.7	-	0.6	-	μs
Stop condition setup time	$t_{(SUSTO)}$	4.0	-	0.6	-	μs
Data hold time	$t_{(HDDAT)}$	-	3450	-	900	ns
Data setup time	$t_{(SUDAT)}$	250	-	100	-	ns
I ² C clock (SCK) low period	$t_{(LOW)}$	4.7	-	1.3	-	μs
I ² C clock (SCK) high period	$t_{(HIGH)}$	4.0	-	0.6	-	μs
Clock / data fall time	t_f	-	300	-	300	ns
Clock / data rise time	t_r	-	1000	-	300	ns


 Fig. 1 - I²C Bus Timing Diagram