

Reference	Value	Spec	Purpose
R1	10k [1k – 100k] *1	1/8W or Over ±5%	Convert photocurrent to voltage
R2	47 [33 – 220] *1	1/4W or Over ±5%	IR LED Brightness
R3	47 [33 – 220] *1	1/2W *2 or Over ±5%	RED LED Brightness
R4	1k	1/8W or Over ±5%	Limit base current
R5	1k	1/8W or Over ±5%	Limit base current
C1	470u	16V or Over, ±20%	Reduce LED drive noise
PTr1	NPN Photo Tr.	3mm Clear Package	Photo detector
D1	IR	5mm, Peak Wavelength:940nm	Infrared light source
D2	RED	5mm, Peak Wavelength:660nm, Super Bright	Red light source
Q1	NPN	hFE > 150	LED Driver
Q2	NPN	hFE > 150	LED Driver
Q3 *3	NMOS	Vth < 2.5V	Level shift I2C SDA
Q4*3	NMOS	Vth < 2.5V	Level shift I2C SCL

\*1 Cut & Try

\*2 1/4W for 47Ω and above

\*3 Not required for 3.3V LCD.