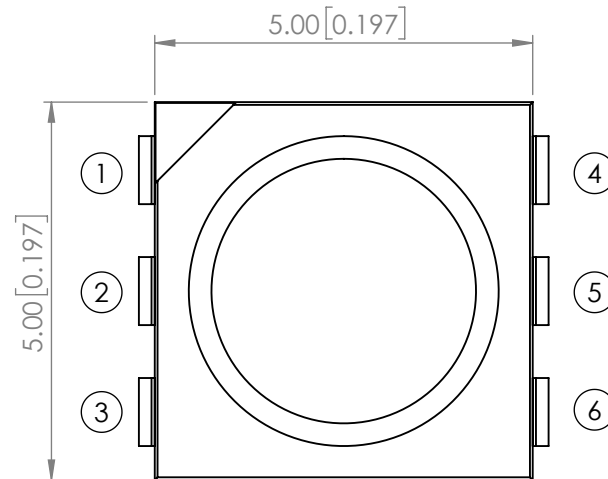
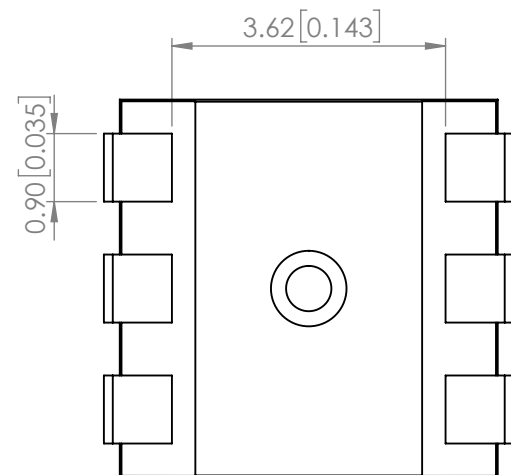
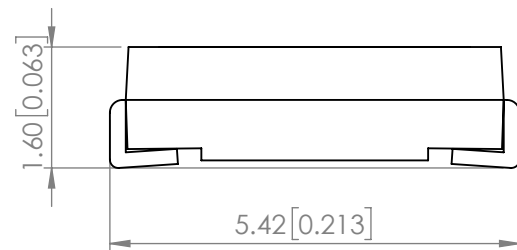
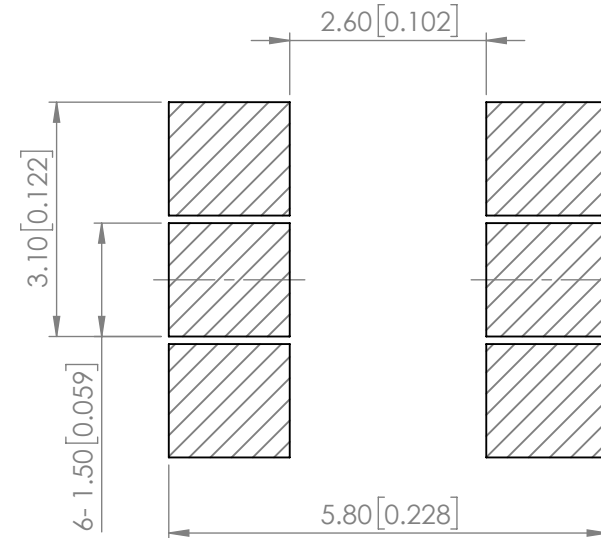


PART NUMBER		SMD-LX5050RGB-TR	REV	B
REV	E.C.N. NUMBER AND REVISION COMMENTS			DATE
A	ECN-Lumex201800183			11.27.18
B	ECN-Lumex202000060			08.21.20



RECOMMENDED SOLDER PAD LAYOUT



ELECTRO-OPTICAL CHARACTERISTIC TA=25°C

PARAMETER		MIN	TYP	MAX	UNITS	TEST COND
SUPPLY VOLTAGE	V _{DD}	-	5	-	V	-
INPUT VOLTAGE	V _{IH}	3.3	-	-	V	DIN, SET
	V _{IL}	-	-	0.3V _{DD}		
DOMINANT WAVELENGTH	R	-	625	-	nm	I _f =5mA
	G	-	530	-		
	B	-	470	-		
LUMINOUS INTENSITY	R	-	185	-	mcd	I _f =5mA
	G	-	590	-		
	B	-	150	-		
VIEWING ANGLE		-	120	-	2x theta1/2	I _f =5mA
EPOXY LENS FINISH	WATER CLEAR					

ABSOLUTE MAXIMUM RATINGS TA=25°C

PARAMETER		MIN	TYP	MAX	UNITS
SUPPLY VOLTAGE	V _{DD}	4.2	-	5.5	V
OUTPUT VOLTAGE	V _{out}	-	-	17	V
INPUT VOLTAGE	V _{in}	-0.5	-	V _{DD} +0.5	V
STORAGE TEMPERATURE		-40 TO +90			°C
OPERATING TEMPERATURE		-25 TO +85			°C
SOLDERING TEMPERATURE		3 SEC. MAX. @260			°C

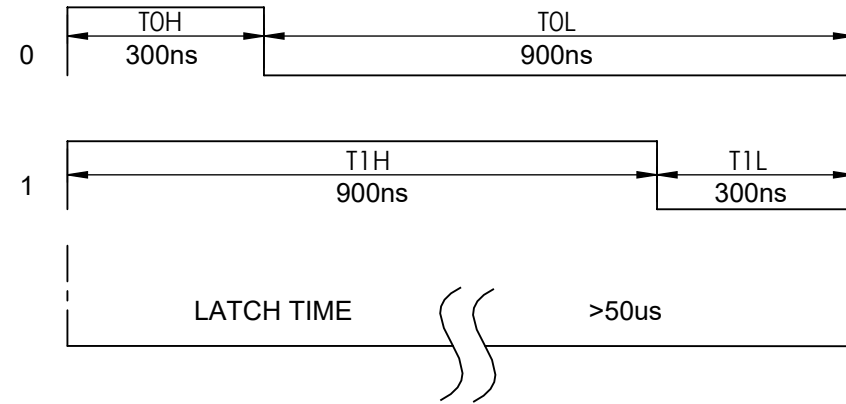
PIN ASSIMENT

PIN	SYMBOL	DESCRIPTION
1	VSS	GROUND
2	NA	NA
3	DIN	SIGNAL INPUT
4	DOUT	SIGNAL OUTPUT
5	NA	NA
6	VDD	POWER SUPPLY

**MOISTURE SENSITIVE DEVICE
PER JEDEC LEVEL 3 STANDARDS**

*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN= ^{+DECIMAL PRECISION}/_{-0.00} MAX= ^{+0.00}/_{-DECIMAL PRECISION}

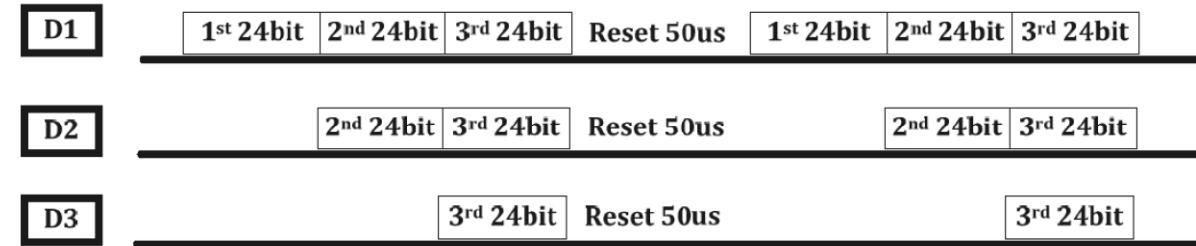
TIMING WAVE FORM



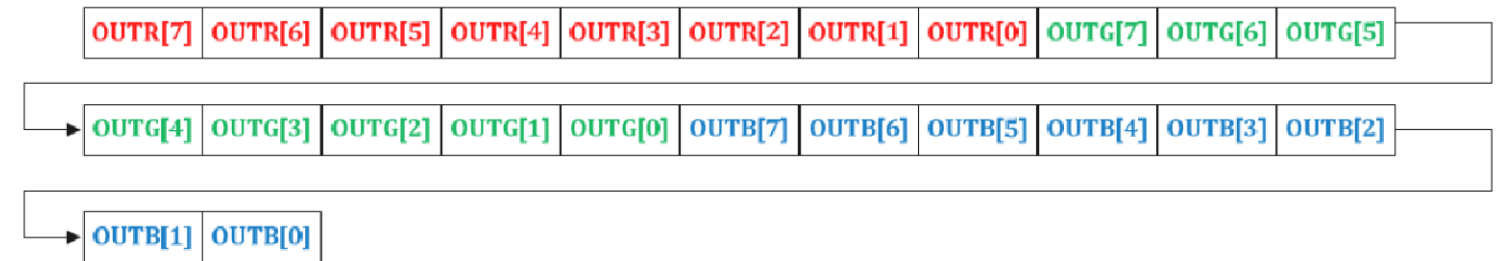
DATA TRANSFER TIME

ITEM	DESCRIPTION	TYP.	ALLOWANCE
T0H	0 CODE, HIGH VOLTAGE TIME	0.3us	±80ns
T1H	1 CODE, HIGH VOLTAGE TIME	0.9us	±80ns
T0L	0 CODE, LOW VOLTAGE TIME	0.9us	±80ns
T1L	1 CODE, LOW VOLTAGE TIME	0.3us	±80ns
RES	LOW VOLTAGE TIME	ABOVE 50us	-

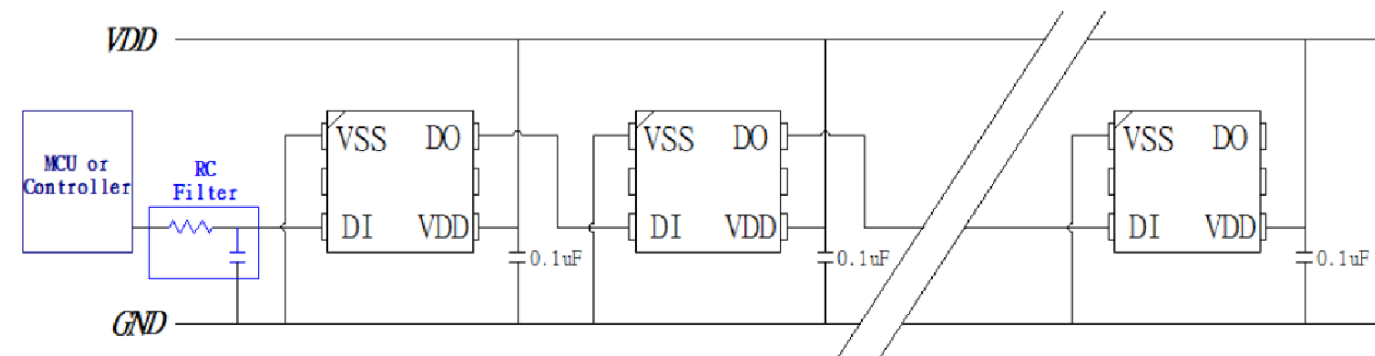
DATA COMMUNICATION



SINGLE DATA IN 24BIT FOR RGB

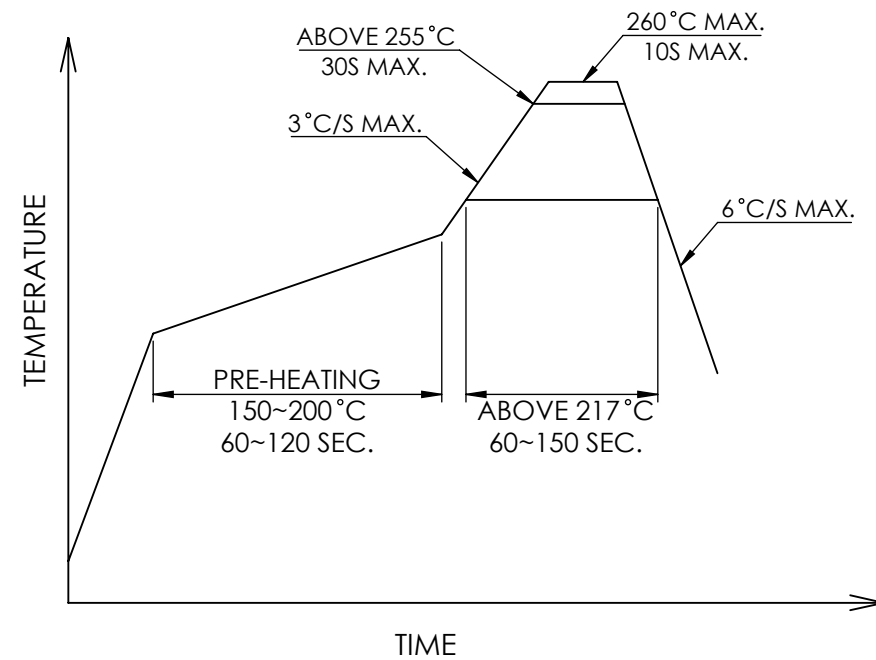


5V APPLICATION CIRCUIT

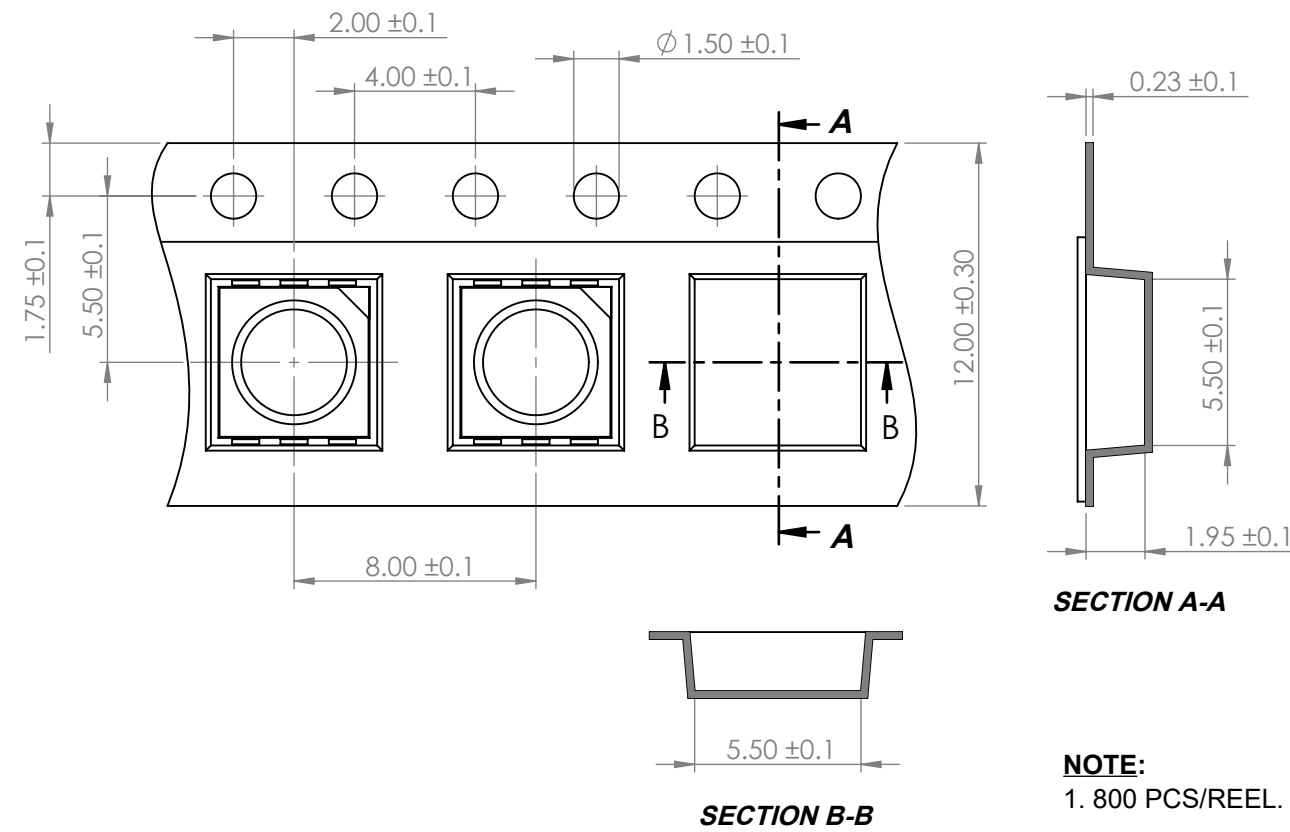


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PROFILE



CARRIER TAPE DIMENSION



SECTION A-A

SECTION B-B

NOTE:
1. 800 PCS/REEL.

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FAX : 630-315-2150
WEB : WWW.LUMEX.COM

5.0(L)*5.0(W)*1.6(H)mm, SURFACE MOUNT LED, RGB FULL COLOR, 3-CHANNELs LED DRIVER WITH 8 bit PWM LINEAR CONTROL, WATER CLEAR LENS,TAPE & REEL

****THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE.****

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PAGE : 3 OF 4

CHKD BY : E.C.

SCALE : NTF

APRVD BY : G.Y.

UNIT : mm [INCH]

(Pb)

EXAMPLE OF USING STM32F030C8T6 TO DISPLAY RED, GREEN AND BLUE IN SEQUENCE

```

/*****/
uint32_t color;
void Display_One_Dot(uint32_t color);
void Send_Hi(void);
void Send_Lo(void);
void Init_GPIOs(void);
void main(void)
{
  Init_GPIOs();
  while (1)
  {
    color = 0xFF0000;
    Display_One_Dot(color);
    delay_ms(1000);
    color = 0x00FF00;
    Display_One_Dot(color);
    delay_ms(1000);
    color = 0x0000FF;
    Display_One_Dot(color);
    delay_ms(1000);
  }
}
/*****/
void Display_One_Dot(uint32_t color)
{
  uint8_t j=0;
  uint32_t x,y;
  y = color;
  for (j=0;j<24;j++)
  {
    x = (y & 0x800000);
    if (x>0)
      Send_Hi();
    else
      Send_Lo();
    y = y << 1;
  }
}

```

```

/*****/
void Send_Lo(void)
{
  GPIO_SetBits(GPIOB,GPIO_Pin_8);
  GPIO_ResetBits(GPIOB,GPIO_Pin_8);
  GPIO_ResetBits(GPIOB,GPIO_Pin_8);
  GPIO_ResetBits(GPIOB,GPIO_Pin_8);
}
/*****/
void Send_Hi(void)
{
  GPIO_SetBits(GPIOB,GPIO_Pin_8);
  GPIO_SetBits(GPIOB,GPIO_Pin_8);
  GPIO_SetBits(GPIOB,GPIO_Pin_8);
  GPIO_ResetBits(GPIOB,GPIO_Pin_8);
}
/*****/
void Init_GPIOs(void)
{
  GPIO_InitTypeDef GPIO_InitStructure;
  RCC_AHBPeriphClockCmd(RCC_AHBPeriph_GPIOB,ENABLE);
  GPIO_InitStructure.GPIO_Pin = GPIO_Pin_8 ;
  GPIO_InitStructure.GPIO_Mode = GPIO_Mode_OUT;
  GPIO_InitStructure.GPIO_OType = GPIO_OType_PP;
  GPIO_InitStructure.GPIO_PuPd = GPIO_PuPd_UP;
  GPIO_InitStructure.GPIO_Speed = GPIO_Speed_50MHz;
  GPIO_Init(GPIOB, &GPIO_InitStructure);
}

```

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