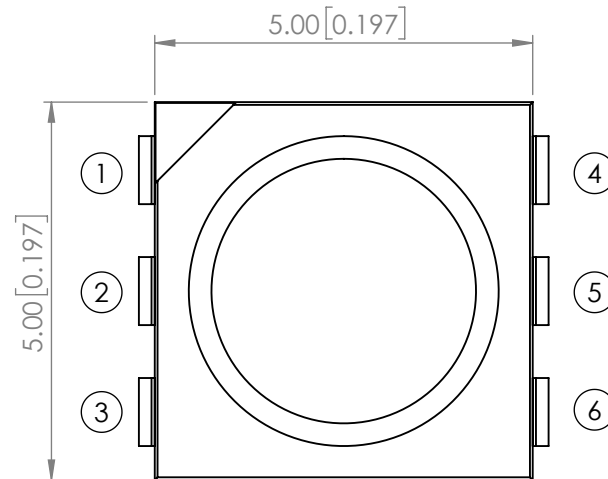
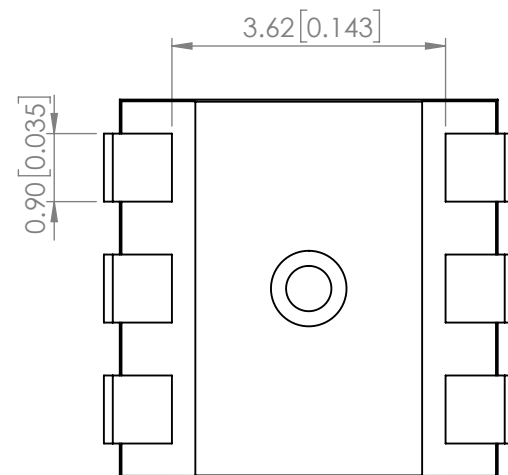
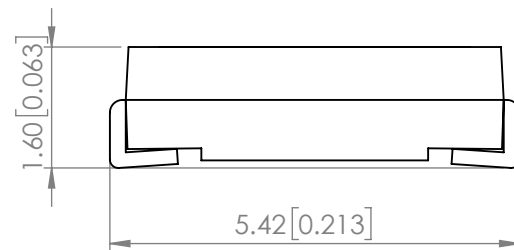
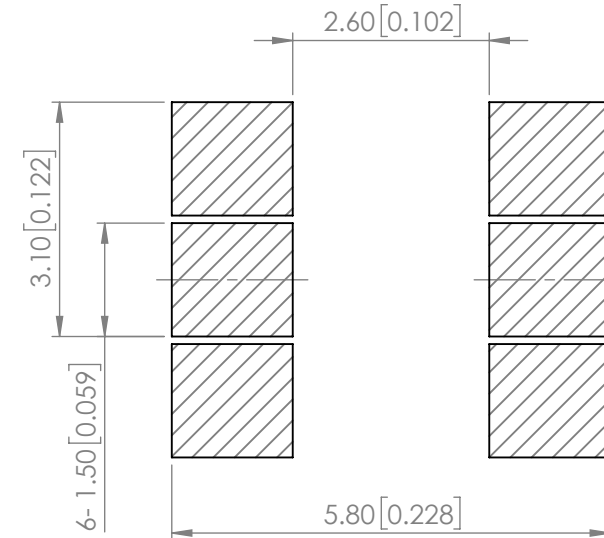


PART NUMBER		SMD-LX5050RGB-TR	REV	C
REV	E.C.N. NUMBER AND REVISION COMMENTS			DATE
A	ECN-Lumex201800183			11.27.18
B	ECN-Lumex202000060			08.21.20
C	ECN-Lumex202000069			10.15.20



RECOMMENDED SOLDER PAD LAYOUT



ELECTRO-OPTICAL CHARACTERISTIC TA=25°C

PARAMETER		MIN	TYP	MAX	UNITS	TEST COND
SUPPLY VOLTAGE	VDD	-	5	-	V	-
INPUT VOLTAGE	VIH	3.3	-	-	V	DIN, SET
	VIL	-	-	0.3VDD		
DOMINANT WAVELENGTH	R	-	625	-	nm	If=5mA
	G	-	530	-		
	B	-	470	-		
LUMINOUS INTENSITY	R	-	185	-	mcd	If=5mA
	G	-	590	-		
	B	-	150	-		
VIEWING ANGLE		-	120	-	2x theta1/2	If=5mA
EPOXY LENS FINISH	WATER CLEAR					

ABSOLUTE MAXIMUM RATINGS TA=25°C

PARAMETER		MIN	TYP	MAX	UNITS
SUPPLY VOLTAGE	VDD	4.2	-	5.5	V
OUTPUT VOLTAGE	Vout	-	-	17	V
INPUT VOLTAGE	Vin	-0.5	-	VDD+0.5	V
STORAGE TEMPERATURE		-40 TO +90			°C
OPERATING TEMPERATURE		-25 TO +85			°C
SOLDERING TEMPERATURE		3 SEC. MAX. @260			°C

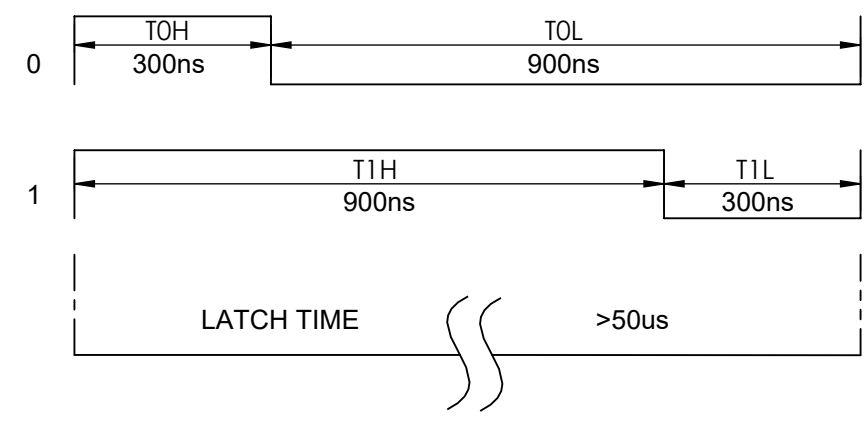
PIN ASSIMENT

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**

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TIMING WAVE FORM



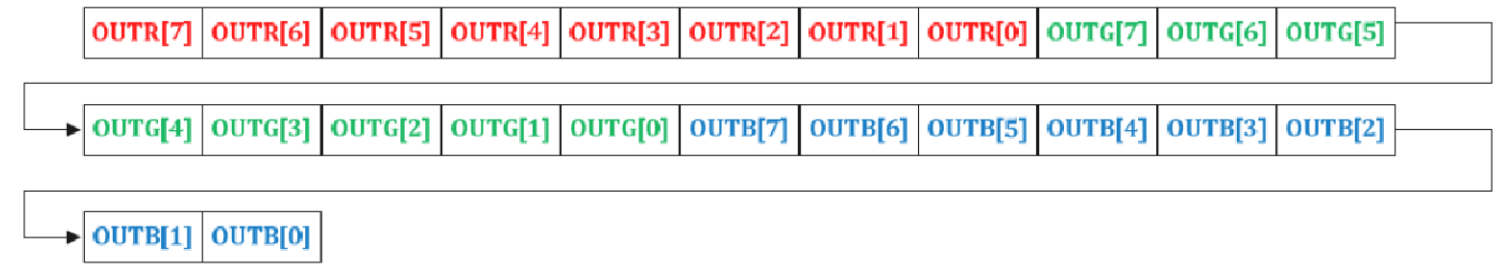
DATA TRANSFER TIME

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	-

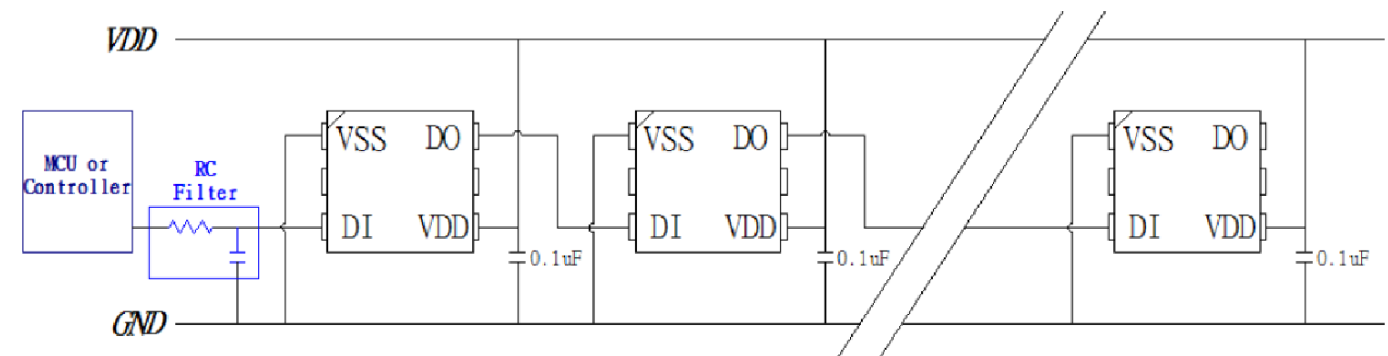
DATA COMMUNICATION



SINGLE DATA IN 24BIT FOR RGB

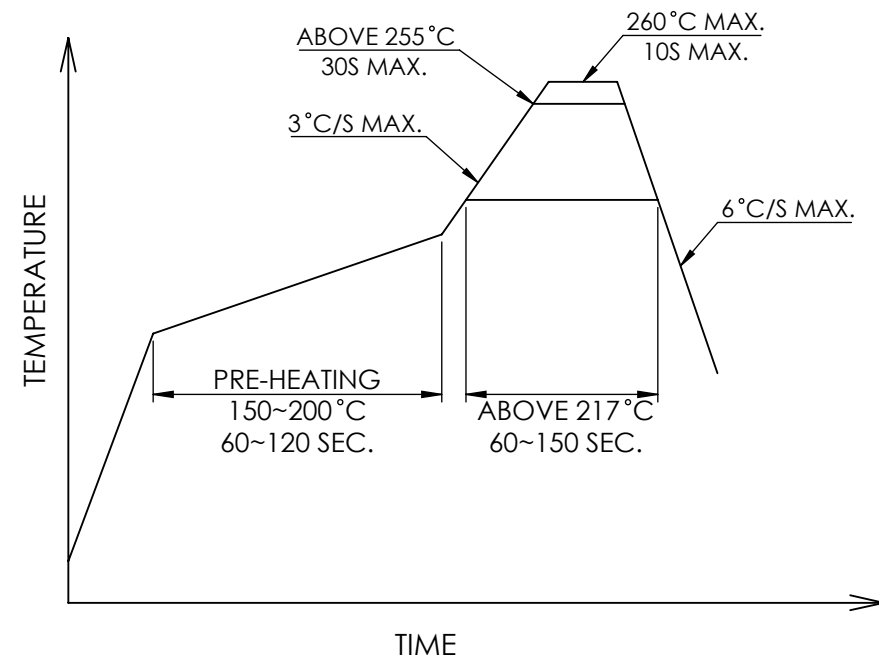


5V APPLICATION CIRCUIT

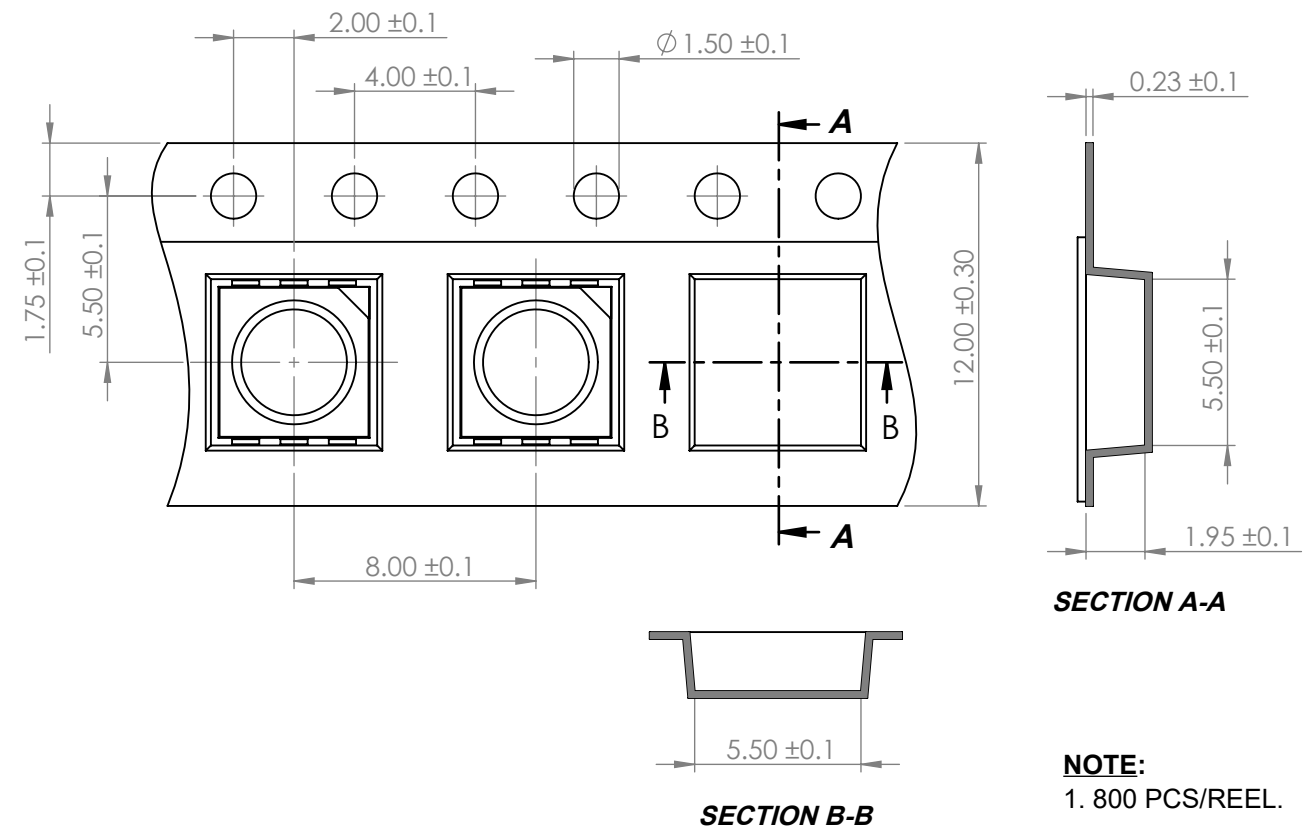


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PROFILE




CARRIER TAPE DIMENSION



NOTE:
1. 800 PCS/REEL.

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 <p>425 N. GARY AVE. CAROL STREAM, IL 60188 PHONE : 800-278-5666 FAX : 630-315-2150 WEB : WWW.LUMEX.COM</p>	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	DATE : 2018.10.23	DRAWN BY : C.C.	
	THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE.	PAGE : 3 OF 4	CHKD BY : E.C.	
	CONFIDENTIAL INFORMATION	SCALE : NTF	APRVD BY : G.Y.	
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EXAMPLE OF USING STM32F030C8T6 TO DISPLAY RED, GREEN AND BLUE IN SEQUENCE

```

/*****
uint8_t LED_Number_Per_Ring = 60;
uint32_t Ring_0_Display_memory[60];

void Display_One_Dot(uint32_t color);
void Embeded_One(void);
void Embeded_Zero(void);
void Init_GPIOs(void);

void main(void)
{
  Init_GPIOs();
  while (1)
  {
    Ring_0_Display_memory[0] = 0xFF0000;
    Send_Whole_Ring_from_Ring_Memory();
    delay_ms(1000);
    Ring_0_Display_memory[1] = 0x00FF00;
    Send_Whole_Ring_from_Ring_Memory();
    delay_ms(1000);
    Ring_0_Display_memory[2] = 0x0000FF;
    Send_Whole_Ring_from_Ring_Memory();
    delay_ms(1000);
  }
}

```

```

/*****
void Send_Whole_Ring_from_Ring_Memory(void)
{
  uint8_t j=0;
  uint32_t x,y;
  for (i=0;i<LED_Number_Per_Ring+10;i++)
  {
    y = Ring_0_Display_memory[i];
    for (j=0;j<8;j++)
    {
      x = (y & 0x800000);
      if (x>0)
        Embeded_One();
      else
        Embeded_Zero();
      y = y << 1;
    }
    y = Ring_0_Display_memory[i];
    for (j=0;j<8;j++)
    {
      x = (y & 0x008000);
      if (x>0)
        Embeded_One();
      else
        Embeded_Zero();
      y = y << 1;
    }
    y = Ring_0_Display_memory[i];
    for (j=0;j<8;j++)
    {
      x = (y & 0x000080);
      if (x>0)
        Embeded_One();
      else
        Embeded_Zero();
      y = y << 1;
    }
  }
  delay_us(80);
}

```

```

/*****
void Embeded_Zero(void)
{
  GPIO_SetBits(GPIOB,GPIO_Pin_12);
  GPIO_ResetBits(GPIOB,GPIO_Pin_12);
  GPIO_ResetBits(GPIOB,GPIO_Pin_12);
  GPIO_ResetBits(GPIOB,GPIO_Pin_12);
}


/*****
void Embeded_One(void)
{
  GPIO_SetBits(GPIOB,GPIO_Pin_12);
  GPIO_SetBits(GPIOB,GPIO_Pin_12);
  GPIO_SetBits(GPIOB,GPIO_Pin_12);
  GPIO_ResetBits(GPIOB,GPIO_Pin_12);
}

/*****
void Init_GPIOs(void)
{
  GPIO_InitTypeDef GPIO_InitStructure;
  RCC_AHBPeriphClockCmd(RCC_AHBPeriph_GPIOB,ENABLE);

  GPIO_InitStructure.GPIO_Pin = GPIO_Pin_12
  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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