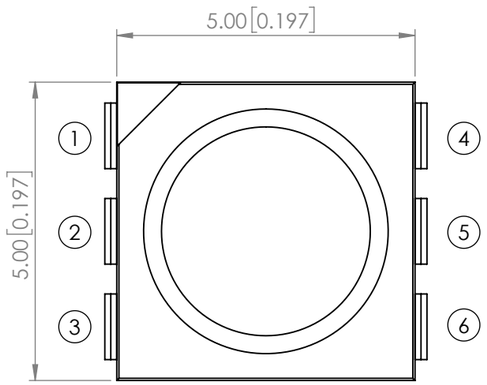
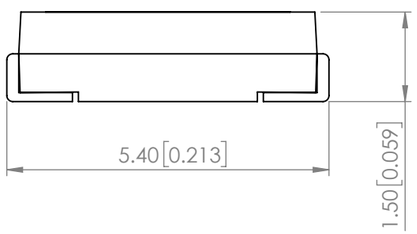
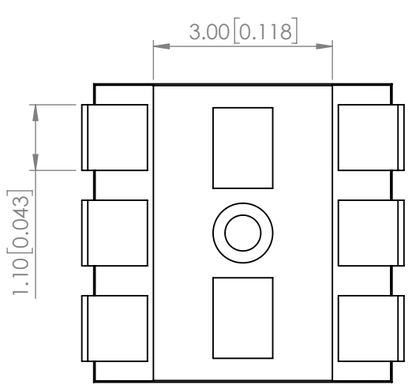
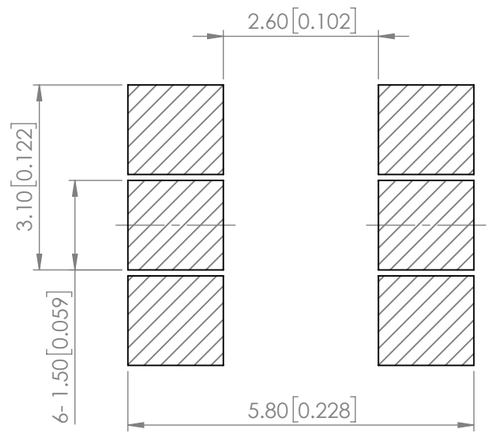
PART NUMBER	SMD-LX5050RGB-TR	REV	A
REV	E.C.N. NUMBER AND REVISION COMMENTS		DATE
A	ECN-Lumex201800183		11.27.18







RECOMMENDED SOLDER PAD LAYOUT



PIN ASSIMEMT

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

ELECTRO-OPTICAL CHARACTERISTIC TA=25℃

PARAMETER		MIN	TYP	MAX	UNITS	TEST COND
SUPPLY VOLTAGE	V_{DD}	-	5	-	V	-
INPUT VOLTAGE(HIGH)	V_{IH}	3.3	-	-	V	DIN, SET
INPUT VOLTAGE(LOW)	V_{IL}	-	-	$0.3V_{DD}$	V	DIN, SET
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℃

PARAMETER		MIN	TYP	MAX	UNITS
SUPPLY VOLTAGE	V_{DD}	4.2	-	5.5	V
STORAGE TEMPERATURE	-	-40 TO +90			℃
OPERATING TEMPERATURE	-	-25 TO +85			℃
SOLDERING TEMPERATURE	-	3 SEC. MAX. @260			℃

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= $^{+\text{DECIMAL PRECISION}}_{-0.00}$ MAX.= $^{+0.00}_{-\text{DECIMAL PRECISION}}$

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5.0(L)*5.0(W)*1.5(H)mm, SURFACE MOUNT LED, RGB FULL COLOR, 3-CHANNELs LED DRIVER WITH 8 bit PWM LINEAR CONTROL, WATER CLEAR LENS,TAPE & REEL

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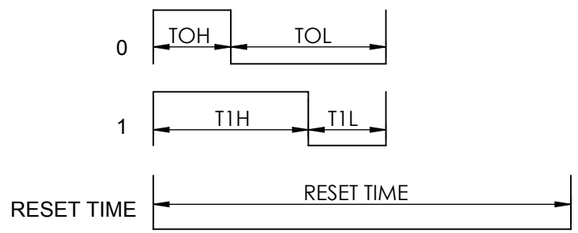
PAGE : 1 OF 4	CHKD BY : E.C.
SCALE : NTF	APRVD BY : G.Y.
UNIT : mm [INCH]	Pb

sales@prom-elec.com / ООО ПРОМЭЛЕКТРОНИКА

TIMING WAVE FORM

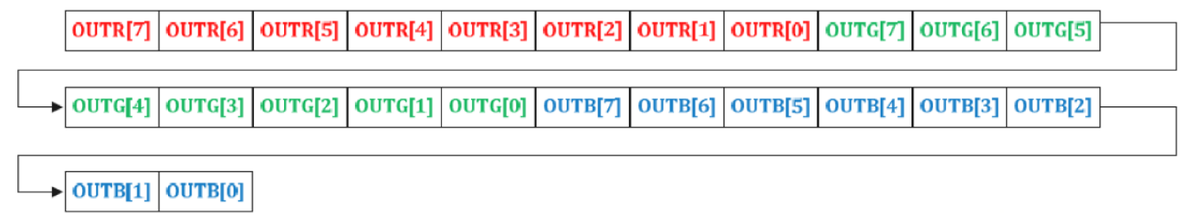


DATA TRANSFER TIME (TH+TL=1.2μs±600ns)

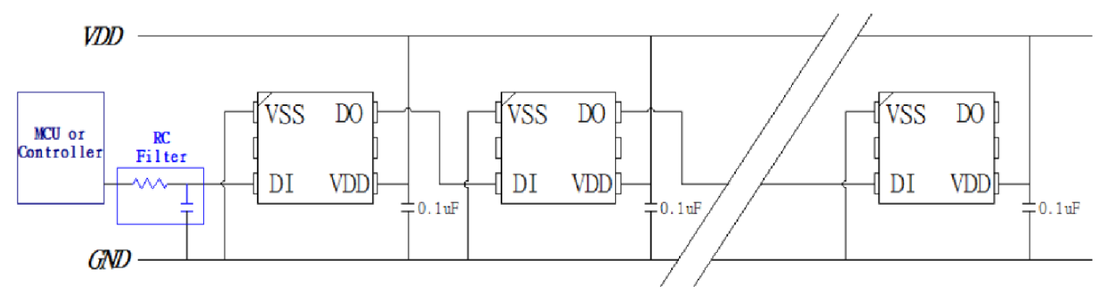
ITEM	DESCRIPTION	TYP.	ALLOWANCE
T0H	0 CODE, HIGH VOLTAGE TIME	0.3us	±80ns
T1H	1 CODE, HIGH VOLTAGE TIME	0.9us	±80ns
T0L	0 CODE, LOW VOLTAGE TIME	0.9us	±80ns
T1L	1 CODE, LOW VOLTAGE TIME	0.3us	±80ns
RES	LOW VOLTAGE TIME	ABOVE 50us	-

DATA COMMUNICATIOM

SINGLE DATA IN 24BIT FOR RGB



5V APPLICATION CIRCUIT



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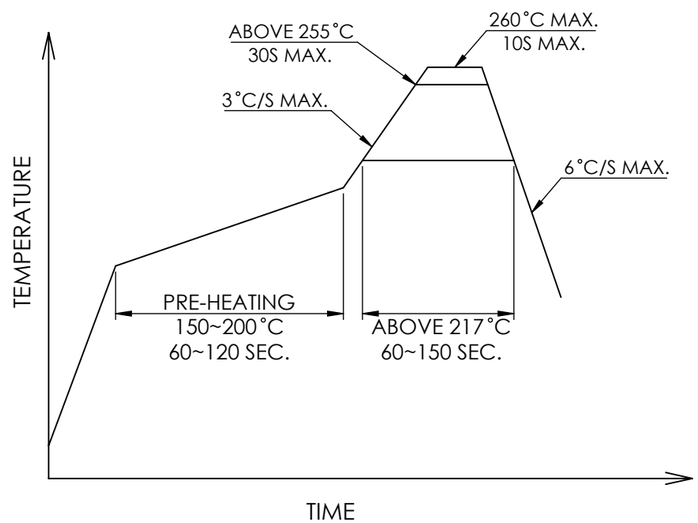
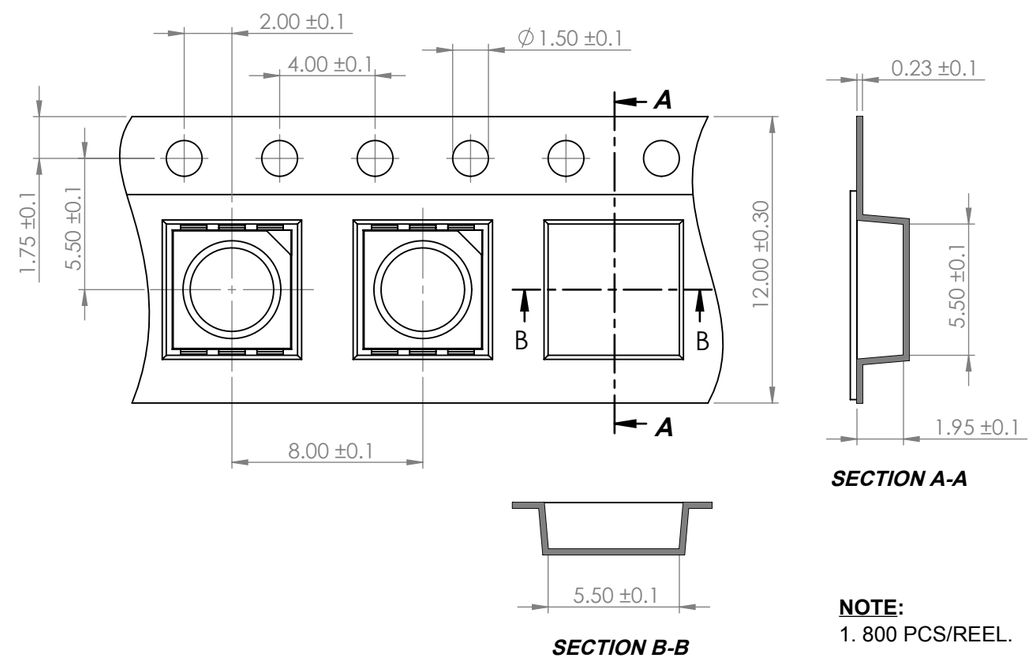
PART NUMBER	SMD-LX5050RGB-TR	REV	A

PROFILE



CARRIER TAPE DIMENSION



NOTE:
1. 800 PCS/REEL.

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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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