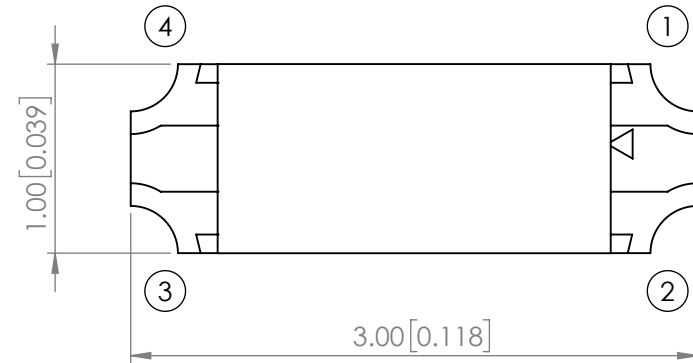


PART NUMBER		SMD-LXR1204RGB-C-TR	REV	A
REV	E.C.N. NUMBER AND REVISION COMMENTS			DATE
A	ECN-Lumex201900134			10.14.19
B	ECN-Lumex200100036			07.01.21

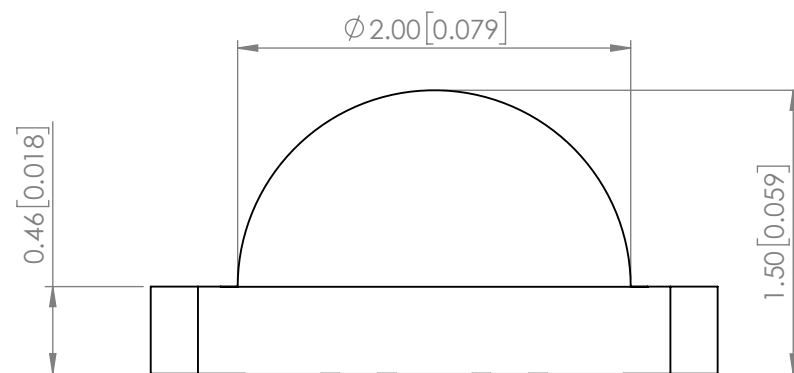


PIN ASSIGNMENT

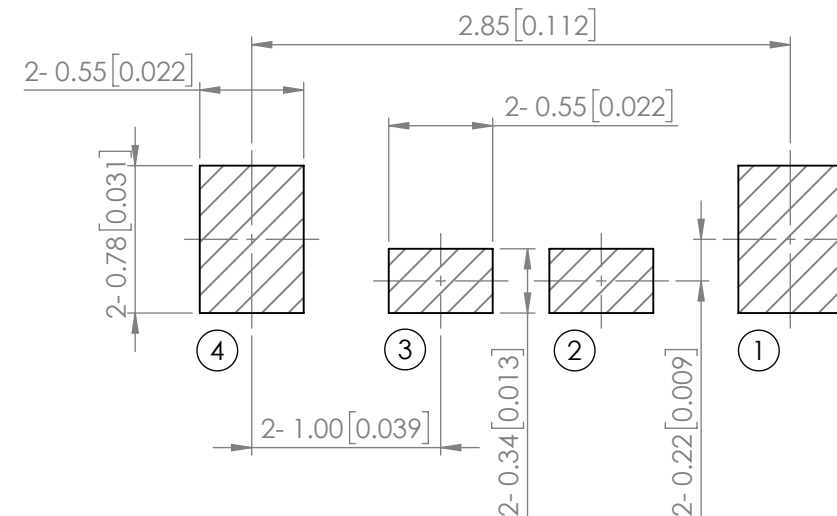
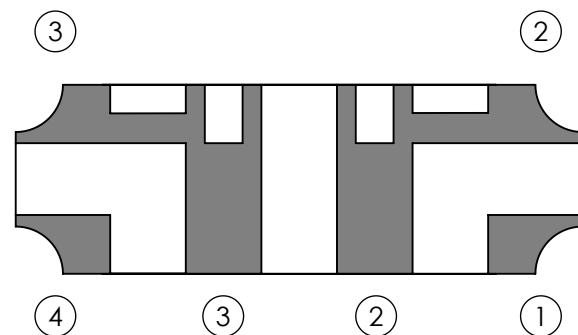
PIN NO	SYMBOL	DEFINITION
1	DIN	DATA IN
2	GND	GROUND
3	DOUT	DATA OUT
4	AVDD	POWER VOLTAGE

ELECTRO-OPTICAL CHARACTERISTIC TA=25°C

PARAMETER	MIN	TYP	MAX	UNITS	TEST COND
SUPPLY VOLTAGE	VDD	-	5	-	V
INPUT VOLTAGE(HIGH)	V _{IH}	0.7V _{DD}	-	V _{DD}	V
INPUT VOLTAGE(LOW)	V _{IL}	0	-	0.3V _{DD}	V
PEAK WAVELENGTH	R	-	630	-	nm
	G	-	520	-	
	B	-	470	-	
LUMINOUS INTENSITY	R	-	47	-	mcd
	G	-	92	-	
	B	-	38	-	
VIEWING ANGLE	-	130	-	2x theta1/2	-
EMITTED COLOR	RED / GREEN / BLUE				
EPOXY LENS FINISH	WATER CLEAR				



RECOMMENDED SOLDER PAD LAYOUT



ABSOLUTE MAXIMUM RATINGS TA=25°C

PARAMETER	MAX	TYP	MAX	UNITS
SUPPLY VOLTAGE (V _{DD})	-	-	5.5	V
STORAGE TEMPERATURE	-40 TO +90			°C
OPERATING TEMPERATURE	-20 TO +70			°C
SOLDERING TEMPERATURE	3 SEC. MAX @ 260			°C

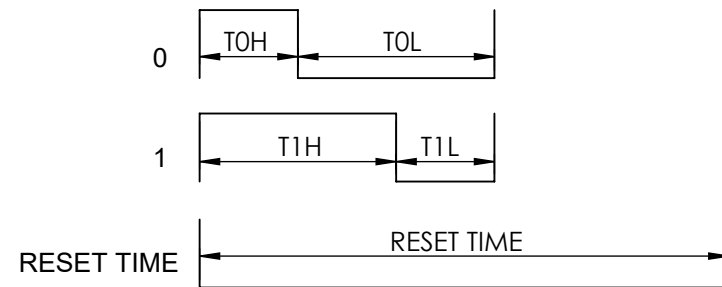
MOISTURE SENSITIVE DEVICE
PER JEDEC LEVEL 3 STANDARDS

*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}

RECOMMENDED OPERATING CONDITION Ta=-20~70°C , VSS=0V

PARAMETER	MIN	TYP	MAX	UNITS	TEST COND
PROPAGATION DELAY TIME	-	-	300	ns	DIN→DOUT CL=15pF, RL=10KΩ
FALLING TIME	-	-	20	us	CL=300pF OUTR/OUTG/OUTB
INPUT CAPACITOR	-	-	15	pf	

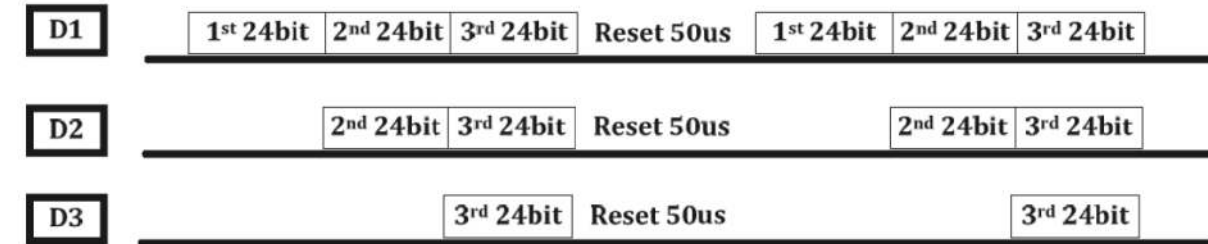
TIMING WAVE FORM



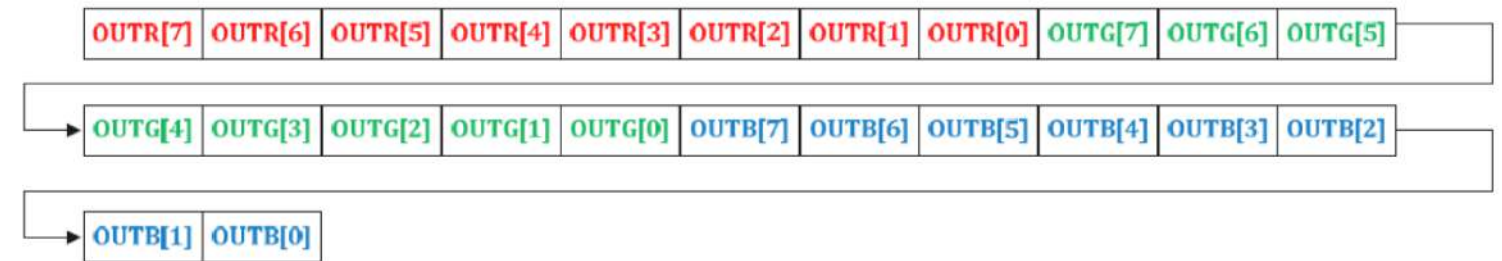
HIGH SPEED MODE

ITEM	DESCRIPTION	TYP.	ALLOWANCE
T0H	0 CODE, HIGH-LEVEL TIME	300ns	±80ns
T0L	0 CODE, LOW-LEVEL TIME	900ns	±80ns
T1H	1 CODE, HIGH-LEVEL TIME	900ns	±80ns
T1L	1 CODE, LOW-LEVEL TIME	300ns	±80ns
RES	RESET TIME	>50us	-

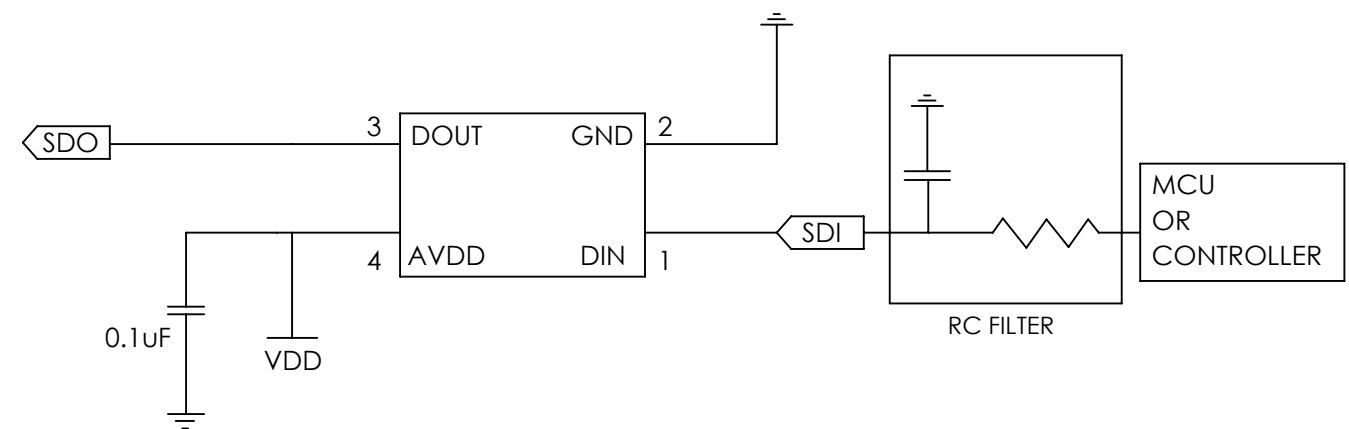
DATA COMMUNICATION



SINGLE DATA IN 24BIT FOR RGB

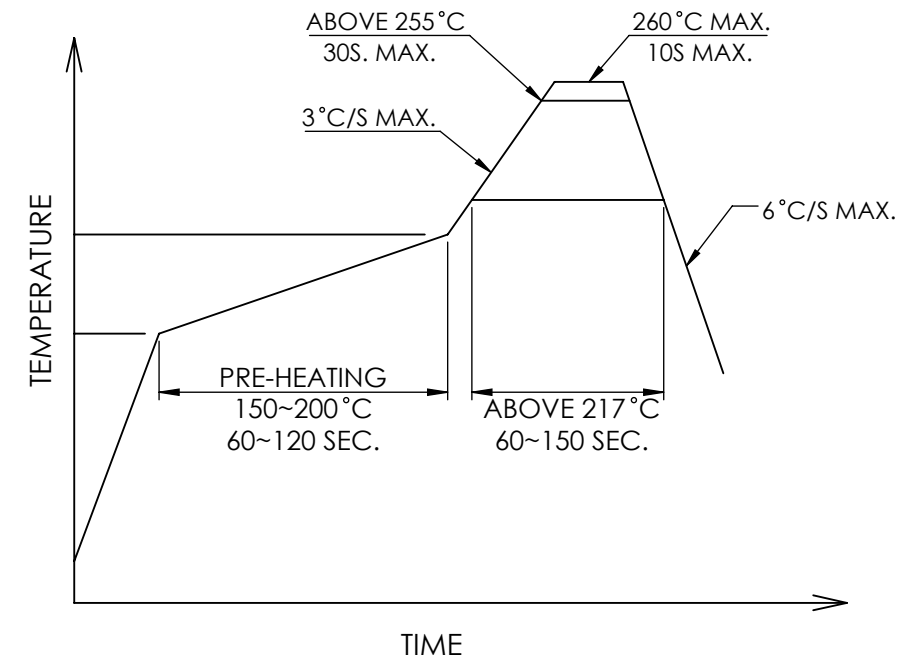


5V APPLICATION CIRCUIT

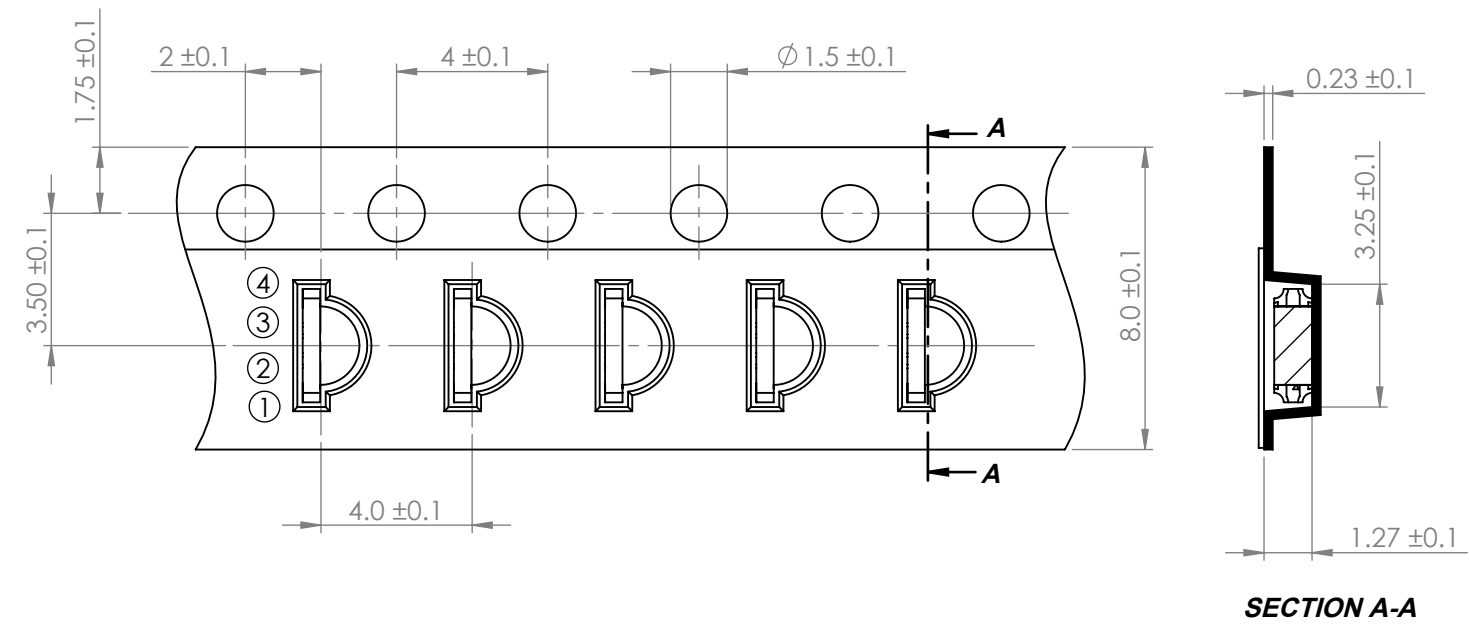


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PROFILE




CARRIER TAPE DIMENSION



NOTE:
1. 2000 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>	<p>3.0(L)*1.0(W)*1.5(H)mm, SURFACE MOUNT SIDE VIEW LED, RGB FULL COLOR, 3-CHANNELs LED DRIVER WITH 8 bit PWM LINEAR CONTROL, WATER CLEAR LENS, TAPE & REEL.</p>	<p>DATE : 2019.03.04</p>	<p>DRAWN BY : C.C.</p>
	<p>**THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE.**</p>	<p>PAGE : 3 OF 4</p>	<p>CHKD BY : E.C.</p>
	<p>CONFIDENTIAL INFORMATION THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF LUMEX INC. EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY LUMEX INC., THE HOLDER OF THIS DOCUMENT SHALL KEEP ALL INFORMATION CONTAINED HEREIN CONFIDENTIAL AND SHALL PROTECT SAME IN WHOLE OR IN PART FROM DISCLOSURE AND DISSEMINATION TO ALL THIRD PARTIES.</p>	<p>SCALE : NTF</p>	<p>APRVD BY : G.Y.</p>
	<p>UNIT : mm [INCH]</p>	<p>UNIT : mm [INCH]</p>	<p>⑩</p>

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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	CONFIDENTIAL INFORMATION	SCALE : NTF	APRVD BY : G.Y.	
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