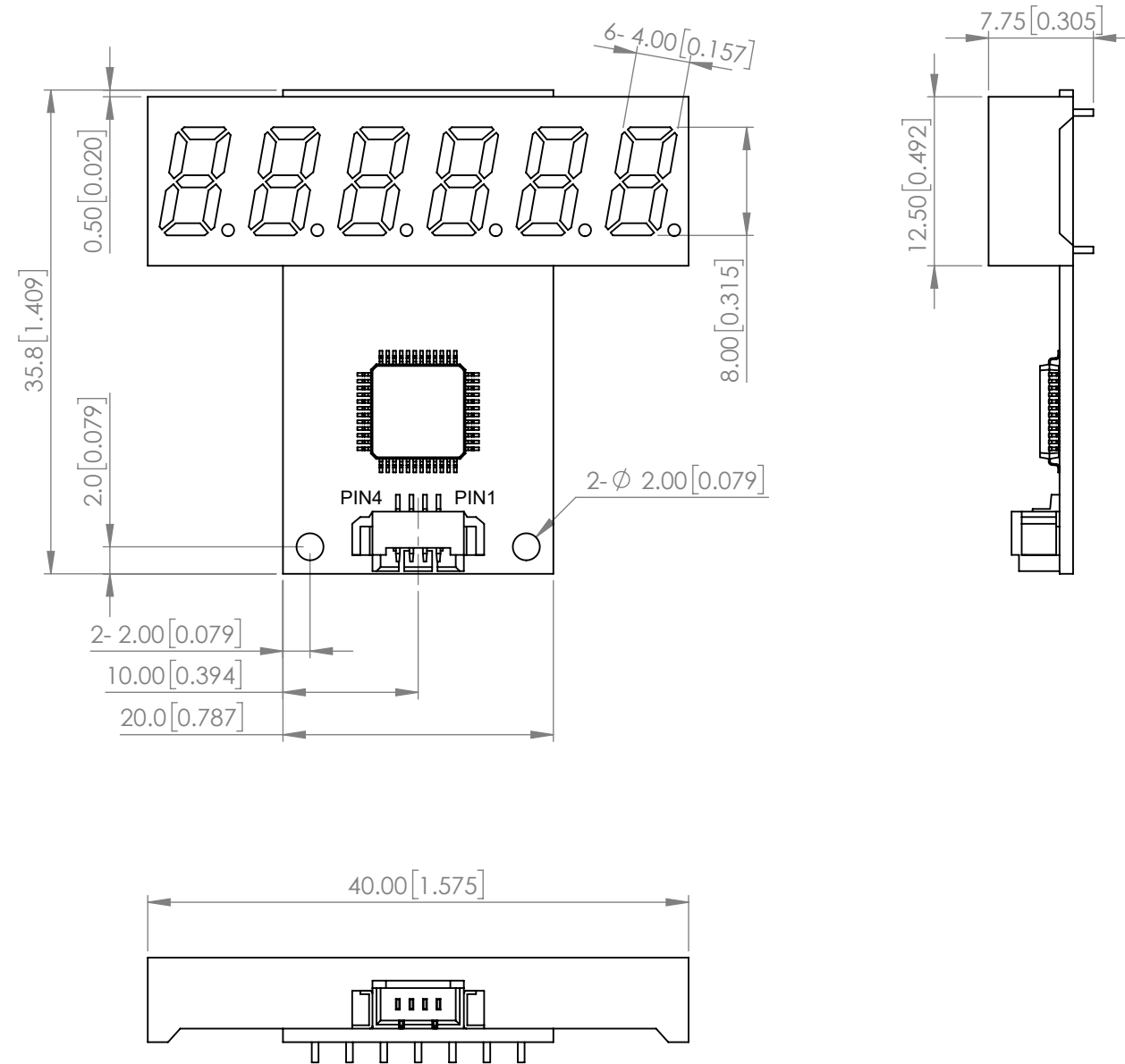


PART NUMBER		LDH-M3204RI-UR	REV	A
REV	E.C.N. NUMBER AND REVISION COMMENTS			DATE
A	ECN-Lumex202100030			06.01.21



**ELECTRO-OPTICAL CHARACTERISTIC TA=25°C PER SEGMENT**

PARAMETER	MIN	TYP	MAX	UNITS	TEST COND
PEAK WAVELENGTH	-	638	-	nm	If=10mA
FORWARD VOLTAGE	-	2.0	2.6	Vf	If=10mA
REVERSE CURRENT	-	-	100	uA	VR=5V
LUMINOUS INTENSITY	-	-	6100	ucd	If=10mA
EMITTED COLOR	RED				
FACE COLOR	BLACK				
SEGMENT COLOR	MILKY WHITE DIFFUSED				

**ABSOLUTE MAXIMUM RATINGS TA=25°C PER SEGMENT**

PARAMETER	MAX	UNITS
PEAK FORWARD CURRENT*	100	mA
FORWARD CURRENT	25	mA
POWER DISIPATION	65	mW
REVERSE VOLTAGE	5	V
STORAGE TEMPERATURE	-35 TO +85	°C
OPERATING TEMPERATURE	-35 TO +85	°C

\* 1/10 Duty, 10KHz

**PIN ASSIGNMENT**

PIN NO.	DESCRIPTION
1	TX1
2	RX1
3	3.3V
4	GND

\*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= <sup>+DECIMAL PRECISION</sup>/<sub>-0.00</sub> MAX= <sup>+0.00</sup>/<sub>-DECIMAL PRECISION</sub>

**UART CONFIGURATION**

ITEM	DESCRIPTION
BAUD RATE	115200
DATA BIT	8
STOP BIT	1
PARITY BIT	NONE
FLOW CONTROL	NONE

**UART (TTL SERIAL INTERFACE) 7 SEGMENT LED DISPLAY USER GUIDE****1. USING UART INTERFACE (TX, RX, +3.3V, GND).****2. TWO OPERATION COMMANDS(ASCII String and AT Command), USING C LANGUAGE AS EXAMPLE:**

-> **Input ASCII string directly.** Ex., input "12345" the display will show 12345 instantly.

However, it physically has only four digits, only 1234 been shown since the display is aligned to the **left**. String input illustration as below :

```
-> printf("5697");
-> printf("%2doC",temperature); "Display two digits Celsius number"
-> printf("%d",number);
-> printf("%4f",point);
-> printf("%d.%d",hour,minute)
-> if there is only two digits and you like to align them to the right,
you can put two space ' ' to achieve that ,such as printf(" 38").
```

-> **After each string or command sent, a 5ms delay or wait for display to return an 'E' is needed.**

```
-> Ex. while (USART_ReceiveData(UART1) != 'E') {}
```

-> **Display one digit AT Command:**

-> **at80=(0, digit position, ASCII pattern)**

-> Ex. printf("at80=(0,3,7)") means display a '7' on digit 3 (digit number starts at 0)

-> **Clear display : atd0=()**

```
-> printf("atd0=()");
```

-> **Blink control : ate0=(0 or 1), default as 0.**

```
-> printf("ate0=(1)"); start blinking
```

```
-> printf("ate0=(0)"); stop blinking
```

-> **Frequency of blinking : ate1=(0~10), default as 5.**

```
-> printf("ate1=(3)");
```

-> **Diming control : atf2=(0~4).**

**0 stands for display off, 1 stands for dimmest, 4 stands for not dim.default as 4.**

```
-> printf("atf2=(4)");
```

\*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=  $\frac{+DECIMAL PRECISION}{-0.00}$  MAX=  $\frac{+0.00}{-DECIMAL PRECISION}$



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0.32", 6 DIGIT, SEVEN SEGMENT LED DISPLAY, RED LEDs, BLACK FACE, MILKY WHITE DIFFUSED, UART INTERFACE

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

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DATE : 2021.01.19

DRAWN BY : E.C.

PAGE : 2 OF 3

CHKD BY : E.C.

SCALE : NTF

APRVD BY : G.Y.

UNIT : mm [INCH]

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**UART (TTL SERIAL INTERFACE) 7 SEGMENT LED DISPLAY USER GUIDE****3. AT CCOMMAND AT80=(0, DIGIT POSITION, ASCII PATTERN) ASCII PATTERN TABLE**

ASCII	DISPLAY PATTERN	ASCII	DISPLAY PATTERN
(' ')	(All segments off)	('A')	
('0')		('B')	
('1')		('C')	
('2')		('D')	
('3')		('E')	
('4')		('F')	
('5')		('G')	
('6')		('H')	
('7')		('I')	
('8')		('J')	
('9')		('L')	

ASCII	DISPLAY PATTERN	ASCII	DISPLAY PATTERN
('O')		('b')	
('P')		('c')	
('U')		('d')	
('W')		('e')	
('X')		('f')	
('Y')		('g')	
('a')		('.')	

\*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= <sup>+DECIMAL PRECISION</sup> -0.00 MAX= <sup>+0.00</sup> -DECIMAL PRECISION