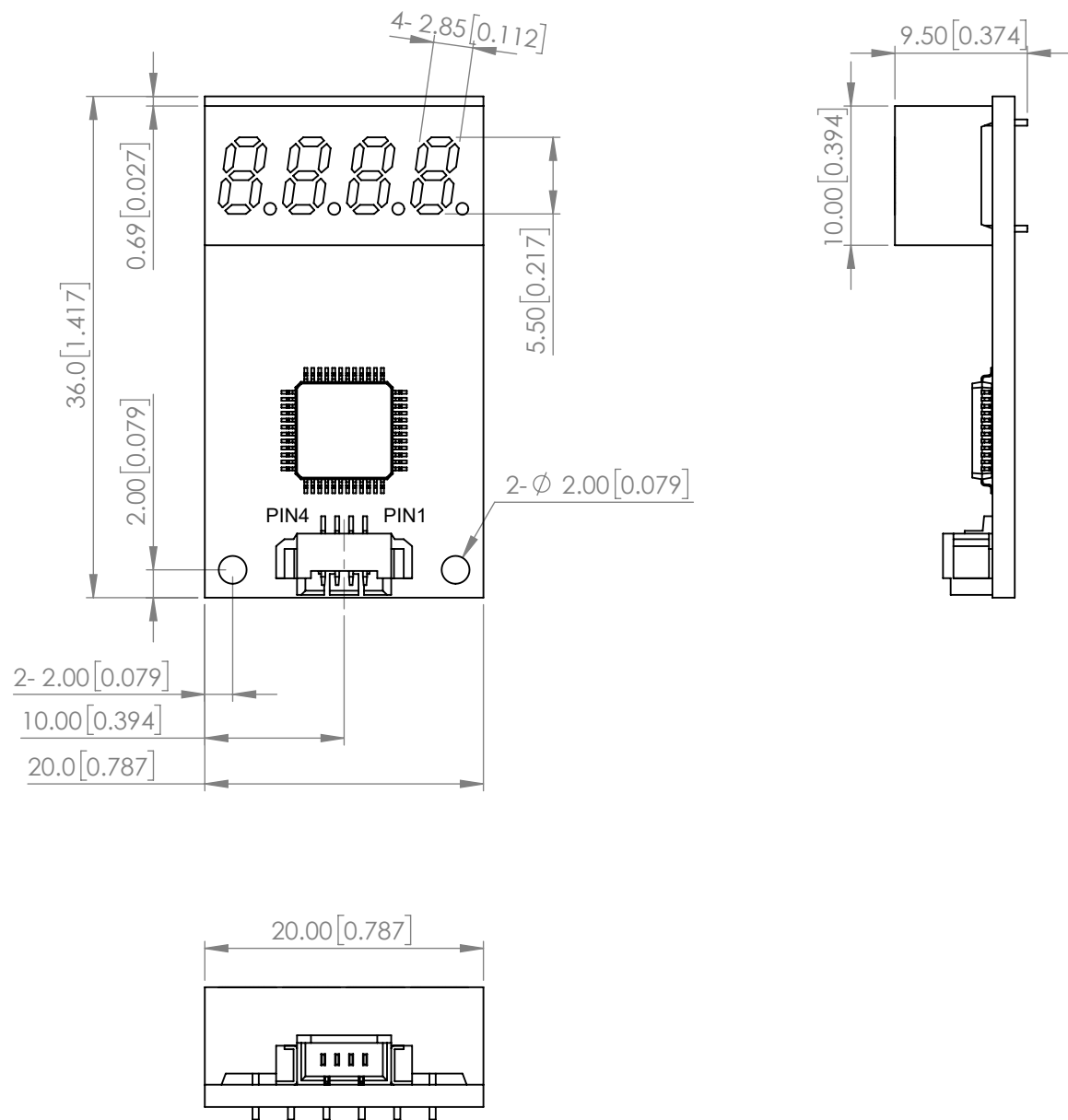


PART NUMBER		LDQ-M2204RI-UR	REV	A
REV	E.C.N. NUMBER AND REVISION COMMENTS			DATE
A	ECN-Lumex202100026			06.01.21



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	-	-	6000	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= +DECIMAL PRECISION -0.00 MAX.= +0.00 -DECIMAL PRECISION

 LUMEX Creating LED and LCD Solutions Together™	425 N. GARY AVE. CAROL STREAM, IL 60188 PHONE : 800-278-5666 FAX : 630-315-2150 WEB : WWW.LUMEX.COM	0.22", 4 DIGIT, SEVEN SEGMENT DIGIT LED DISPLAY, RED LEDs, BLACK FACE, MILKY WHITE DIFFUSED, UART INTERFACE		DATE : 2021.01.19	DRAWN BY : E.C.
		THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE.		PAGE : 1 OF 3	CHKD BY : E.C.
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				UNIT : mm [INCH]	

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)”)

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