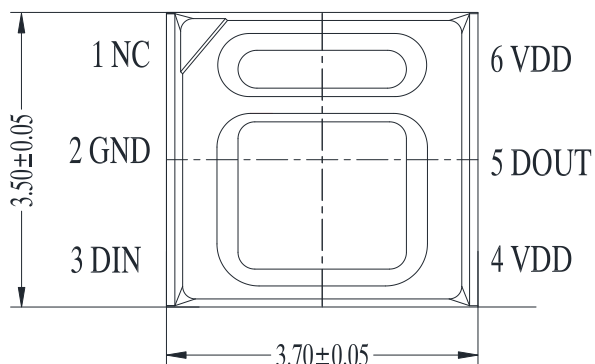


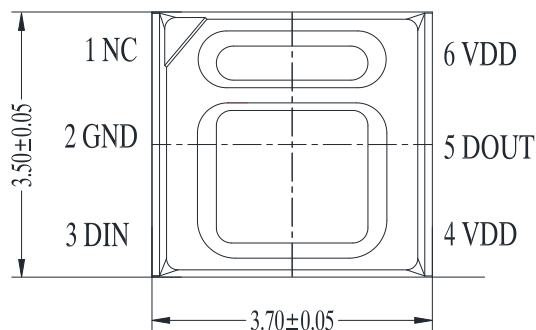
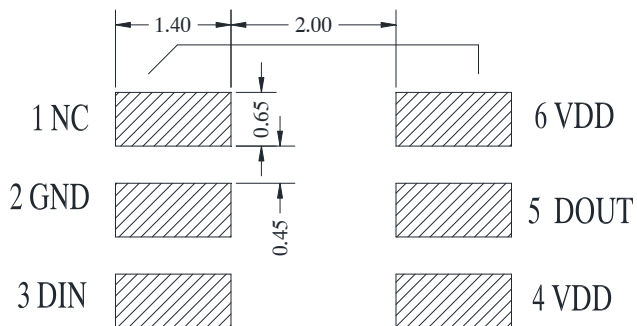
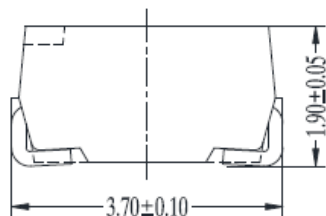
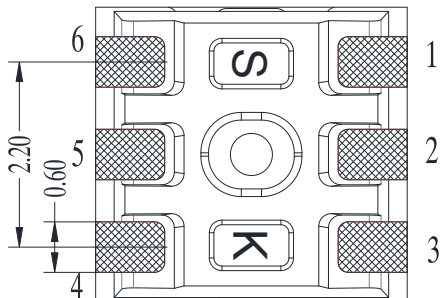
SPECIFICATION

CSPM1411RGBW-IC-6

PACKAGE OUTLINES



BOTTOM VIEW



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25\text{mm}$ (0.01") unless otherwise noted.
3. Specifications are subject to change without notice.

Item	Symbol	Pin Name	Function description
1	NC	NC	NC
2	GND	Ground	The signal and power supply and grounding
3	DIN	Data Input	control signal input data
4/6	VDD	Power	power supply pin
5	DOUT	Data Output	control signal output data

Part Number	Chip Material	Color of Emission	Lens Type	Viewing Angle
CSPM1411RGBW-IC-6	InGaAlP/InGaN	RGBW	Water Clear	120°



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ABSOLUTE MAXIMUM RATINGS
(TA=25°C)

Parameter	Symbol	Max Rating	Unit
Power Supply Voltage	VDD	+3.7 ~ +5.5	V
Input Voltage	VIN	-0.5 ~ VDD+0.5	V

OPTICAL-ELECTRICAL CHARACTERISTICS
(TA=25°C)

Parameter	Sym- bol	Test Condition	Value			Unit
			Min	Typ	Max	
Input Current	II	VI=VDD/VSS	-	-	±1	μA
Input Voltage Level	VIH	DIN, SET	0.7	-	-	V
Input Voltage Level	VIL	DIN, SET	-	-	0.3V	V

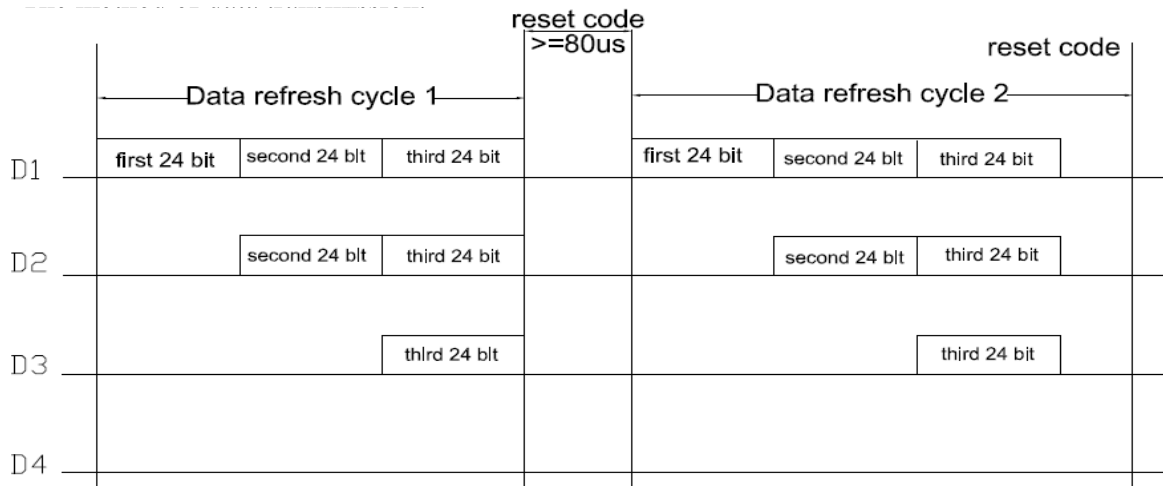
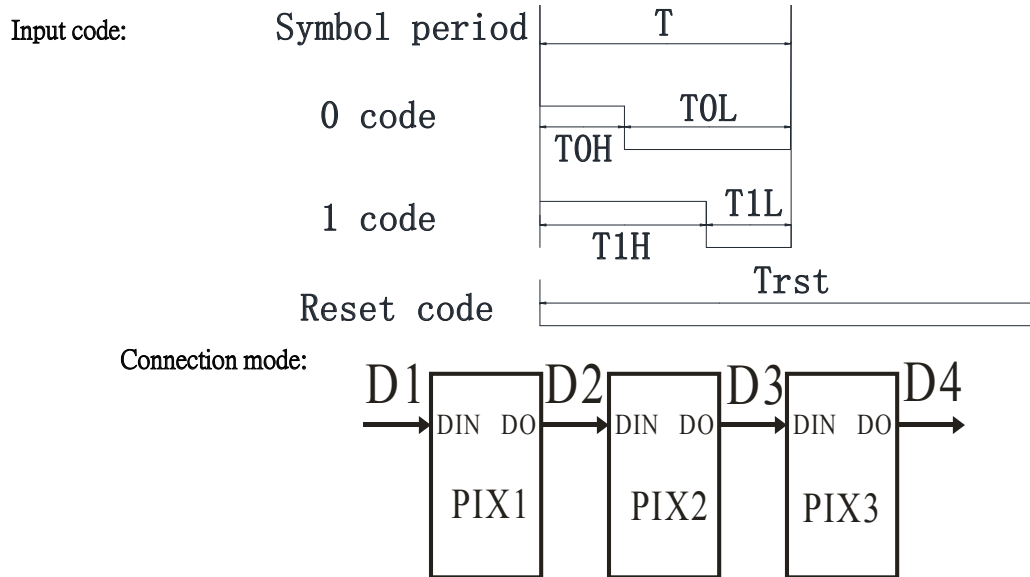
SWITCHING CHARACTERISTICS
(TA=25°C)

Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Speed Of Data Transmit	FDIN	Duty Ratio of 67%	-	800	-	khz
Transmission Delay	tPLH	DIN => DOUT	-	-	500	ns
	tPHL		-	-	500	ns
Rise/Drop Time	tR	VDS = 1.5 IOUT R/G/B = 9MA IOUT W = 18MA	-	100	-	ns
	tF		-	100	15	ns



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DATA TRANSMISSION METHOD



Note: the D1 sends data for MCU, D2, D3, D4 for data forwarding automatic shaping cascade circuit.

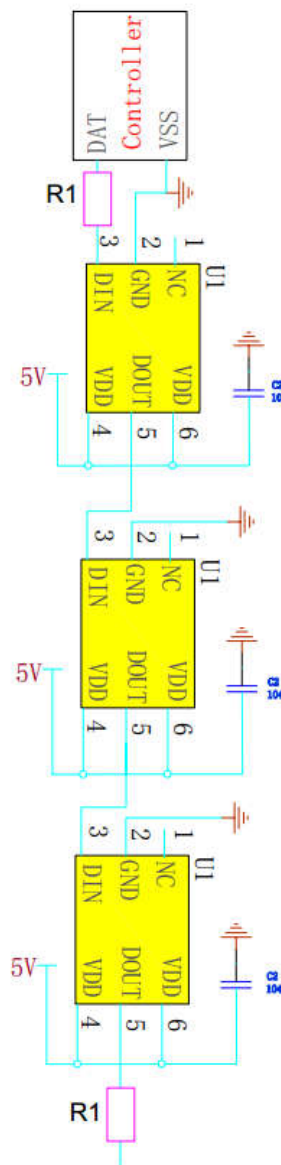


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DATA TRANSMISSION METHOD

G7	G6	G5	G4	G3	G2	G1	G0	R7	R6	R5	R4
R3	R2	R1	R0	B7	B6	B5	B4	B3	B2	B1	B0
W7	W6	W5	W4	W3	W2	W1	W0				

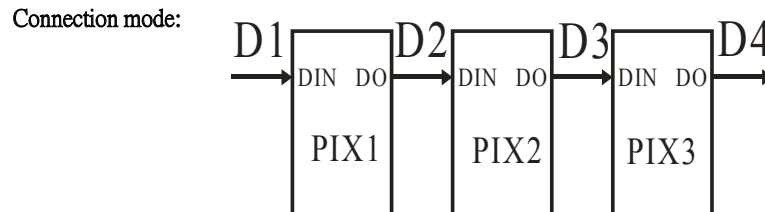
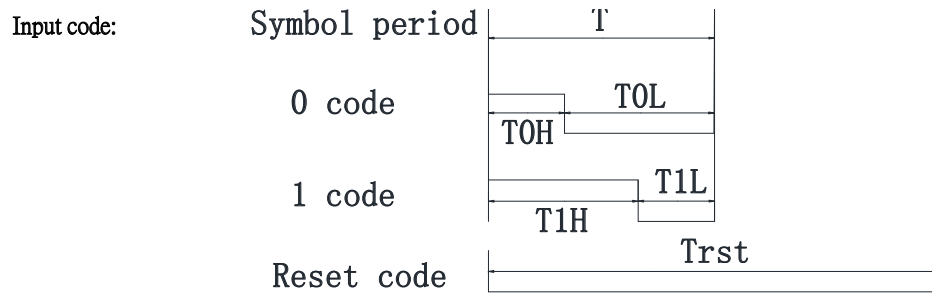
Note: high starting, in order to send data (G7 - G6 -B0)



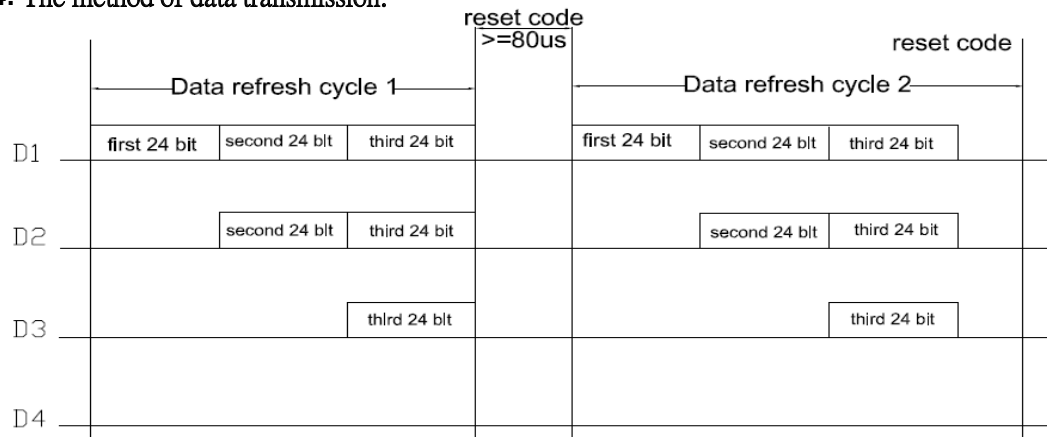
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LED CHARACTERISTICS

Parameter	Symbol	Test Condition	Color	Value			Unit
				Min	Typ	Max	
Luminous Intensity	I _v	I _F = 9mA	Red	400	700	-	mcd
			Green	1000	1500	-	
			Blue	200	400	-	
		I _F = 18mA	White	1500	2200	-	
Dominant Wavelength	λ _D	I _F = 9mA	Red	620	-	625	nm
			Green	520	-	530	
			Blue	460	-	470	
		I _F = 18mA	White	5500		10000	k



14. The method of data transmission:



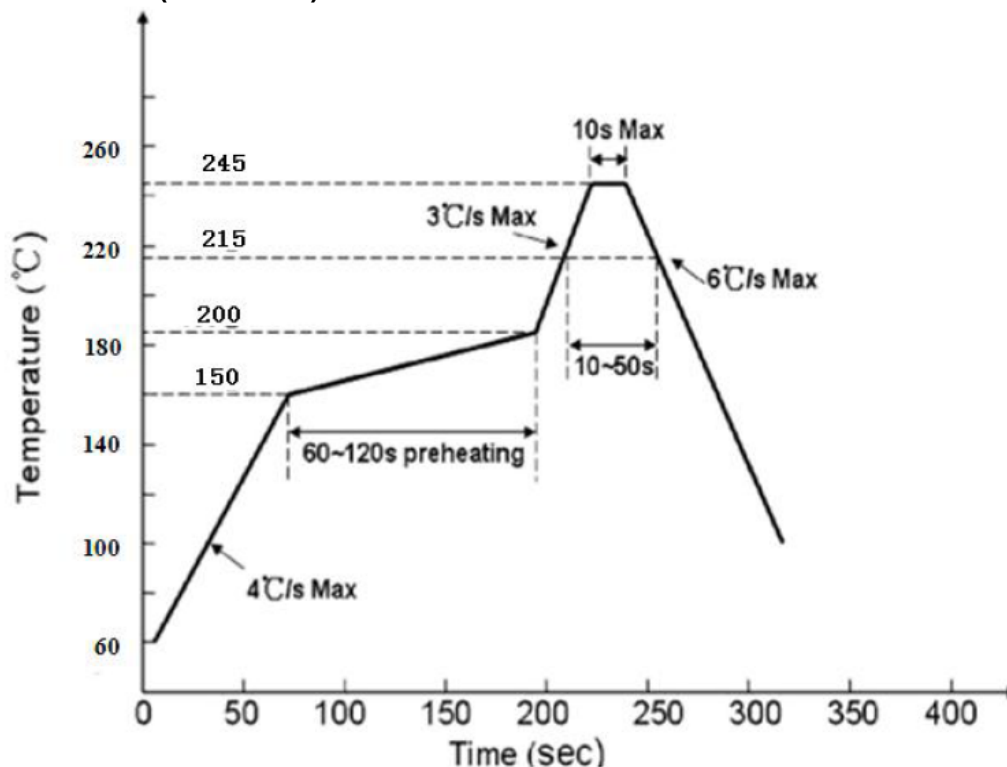
Note: the D1 sends data for MCU. D2. D3. D4 for data forwarding automatic shaping cascade circuit.



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SOLDERING CONDITIONS

LEAD-FREE REFLOW (SMT Line)



Curve Description	Lead-Free Reflow Solder/SMT
The lowest Preheat Temperature (T _{sm})	150°C
The highest Preheat Temperature (T _{sm})	200°C
Preheat Time (T _{sm} to T _{sm}) (ts)	60-180 seconds
Average Rate of Temperature Rise (T _{sm} to T _p)	< 3°C/seconds
Liquid Region Temperature (T _L)	217°C
Liquid Region Holding Time (t _L)	60-150 seconds
Peak Temperature (T _p)	245°C
High Temperature Region (T _p - 5°C) Holding Time (t _p)	< 10 seconds
Cooling Rate	< 6°C/seconds
Room Temperature to Peak Holding Time	< 6 minutes

Notes:

1. This has to be baked for 48 hours at the baking temperature of 70-75°C before being used.
2. Use up with 2 hours after taking out from oven.
3. Please replace the unused LEDs into oven.



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