

Features

- Embedded EEPROM
 - Very Easy Development with RFPDK
 - All Features Programmable
- Frequency Range: 240 to 480 MHz
- Symbol Rate: 0.5 to 40 ksps
- Output Power: -10 to +13 dBm
- Current Consumption: 12.4 mA @ +10 dBm
- Sleep Current < 20 nA
- Stand-Alone, No External MCU Control Required
- 3 Types of Encoder Supported: 1920, 1527 and 2262
- Up to 8 Configurable Data Pins for Push Buttons
- LED for Low Battery Detection and Transmission
- Sync ID Auto-Study with CMOSTEK Receiver
- FCC / ETSI Compliant
- RoHS Compliant
- 14-pin SOP14 Package

Descriptions

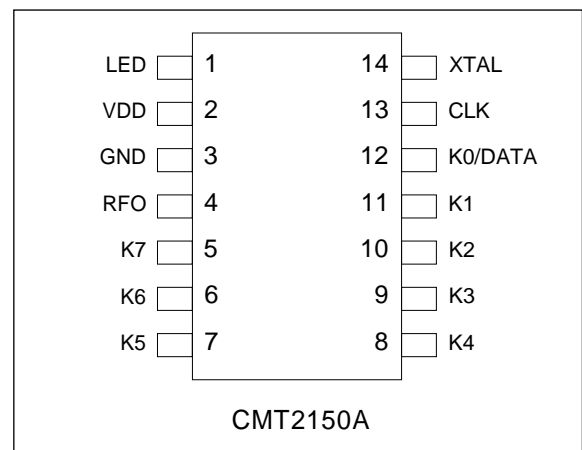
The CMT2150A is a true single-chip, highly flexible, high performance, OOK RF transmitter with embedded data encoder ideal for 240 to 480 MHz wireless applications. The device integrates a data encoder that is not only compatible with the most common used encoding format of 1527 and 2262, but also a more efficient, flexible and powerful format of 1920 designed by CMOSTEK. Up to 8 configurable push buttons are supported in multiple button modes. When pairing the device to CMOSTEK receiver, the synchronization ID can be programmed into both of the transmitter and receiver during the manufacturing phase, or studied by the receiver from the transmitter remotely by end customers. An embedded EEPROM allows the RF and encoder parameters to be programmed into the chip using the CMOSTEK USB Programmer and the RFPDK. Alternatively, in stock products of 315/433.92 MHz are available for immediate demands with no need of EEPROM programming. The CMT2150A is part of the CMOSTEK NextGenRF™ family, together with CMT225x receivers, they enable ultra low cost, low power consumption RF links.

Applications

- Low-Cost Consumer Electronics Applications
- Home and Building Automation
- Remote Fan Controllers
- Infrared Transmitter Replacements
- Industrial Monitoring and Controls
- Remote Lighting Control
- Wireless Alarm and Security Systems
- Remote Keyless Entry (RKE)

Ordering Information

Part Number	Frequency	Package	MOQ
CMT2150A-ESR	Random	SOP14	2,500 pcs
CMT2150A-ESR3	315.00 MHz	SOP14	2,500 pcs
CMT2150A-ESR4	433.92 MHz	SOP14	2,500 pcs



Typical Application

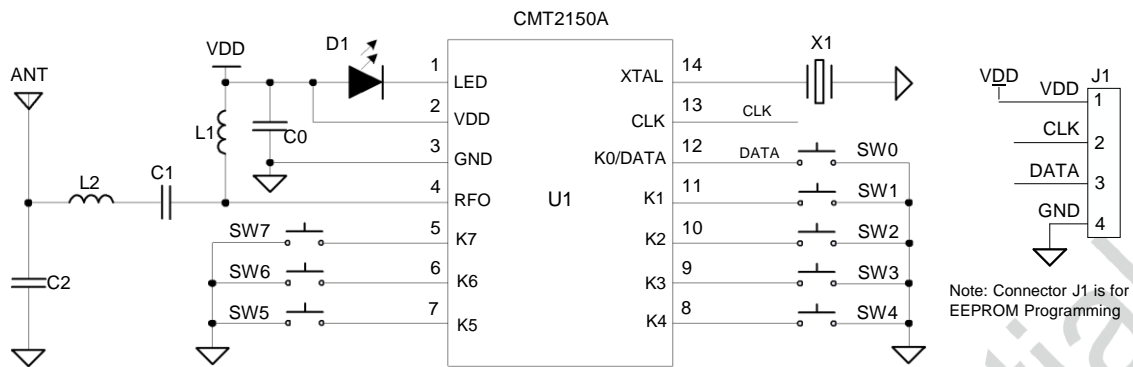


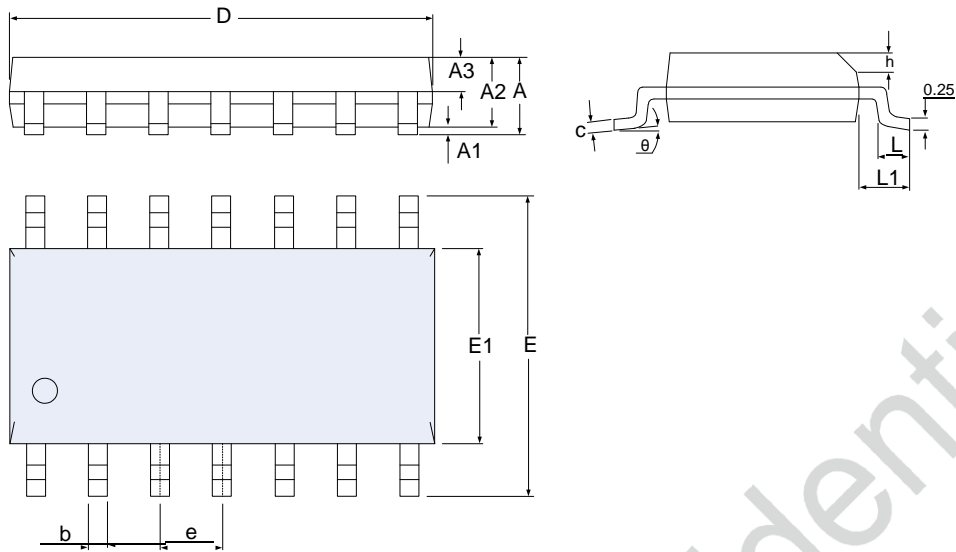
Figure 1. CMT2150A Typical Application Schematic

Table 1. BOM of 433.92 MHz Low-Cost Application

Designator	Descriptions	Value	Unit	Manufacturer
U1	CMT2150A, 240 – 480 MHz OOK stand-alone transmitter with encoder	-	-	CMOSTEK
X1	±20 ppm, SMD32*25 mm crystal	26	MHz	EPSON
C0	±20%, 0402 X7R, 25 V	0.1	uF	Murata GRM15
C1	±5%, 0402 NP0, 50 V	82	pF	Murata GRM15
C2	±5%, 0402 NP0, 50 V	9	pF	Murata GRM15
L1	±5%, 0603 multi-layer chip inductor	180	nH	Murata LQG18
L2	±5%, 0603 multi-layer chip inductor	27	nH	Murata LQG18
D1	D0603, red LED	-	-	-
SW[7:0]	Push buttons	-	-	-

Table 2. CMT2150A Pin Descriptions

Pin Number	Name	I/O	Descriptions
1	LED	O	LED driver, active low
2	VDD	I	Power supply input
3	GND	I	Ground
4	RFO	O	Power amplifier output
5 - 11	K[7:1]	I	Push button 7 to 1
12	K0/DATA	IO	Push button 0 or Data pin to access the embedded EEPROM
13	CLK	I	Clock pin to access the embedded EEPROM
14	XTAL	I	26 MHz single-ended crystal oscillator input or External 26 MHz reference clock input

Package Outline

Figure 2. 14-Pin SOP Package
Table 3. 14-Pin SOP Package Dimensions

Symbol	Size (millimeters)		
	Min	Typ	Max
A	-	-	1.75
A1	0.05	-	0.225
A2	1.30	1.40	1.50
A3	0.60	0.65	0.70
b	0.39	-	0.48
C	0.21	-	0.26
D	8.45	8.65	8.85
E	5.80	6.00	6.20
E1	3.70	3.90	4.10
e	1.27 BSC		
h	0.25	-	0.50
L	0.30	-	0.60
L1	1.05 BSC		
θ	0	-	8°

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