

CDT5430	P. 1
VOLTAGE DETECTOR IC	

THE CDT5430 SERIES

1. Non-adjusting voltage detector by using CMOS Technology.
2. 1.5 – 6.0VDC operating range.
3. The detecting voltage is fixed internally, and can be changed by new masking.
4. Composed of Standard Voltage Source, a Comparator, a Hysteresis Circuit, And an Output Driver.
5. Output Structure is an N-ch Open-Drain Output.
6. Normally LED is OFF. It will turn on when voltage is low.
7. With $\pm 0.1V$ Voltage Compensation Design by Pad Bonding Option

FEATURES

- Low Power Consumption
- Low Temperature Coefficient
- Built-in Hysteresis Characteristic
- Built-in High-Stability Reference Source

PACKAGE

- Chip Form
- T0-92
- SOT-89

APPLICATIONS

- Battery Checker
- Level Selector
- Power Failure Detector
- Micro Computer Reset
- Battery Backup of Memories

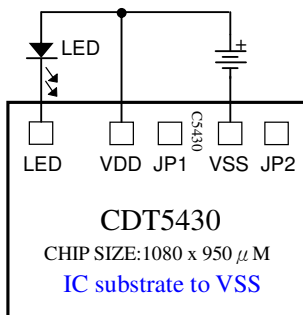
PRODUCTS LIST

Tolerance : $\pm 3.5\%$

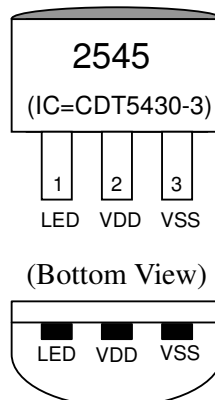
Part No.	Min.	Typ.	Max.	Hys.Width	Mark
CDT5430-01					
CDT5430-02	2.22V	2.300V	2.38V	0.115V	A2300
CDT5430-03	2.45V	2.545V	2.64V	0.128V	A2545
CDT5430-04					
CDT5430-05					

PIN ARRANGEMENT

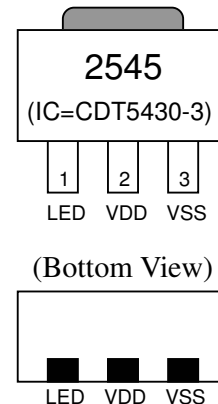
A. Chip form



B. T0-92 (Front View)



C. SOT-89 (Front View)



Voltage Compensation

$$JP1 + VDD = -0.1V$$

$$JP2 + VSS = +0.1V$$

CDT5430	P. 2
VOLTAGE DETECTOR	

CDT - 5430 - 03B 電氣特性

Absolute Maximum Ratings

Supply Voltage -----	VSS-0.3V to VSS+7V
Output Voltage -----	VSS-0.3V to VDD+0.3V
Storage Temperature -----	-50°C to 125°C
Operating Temperature -----	0°C to 70°C
Power Consumption -----	200mW

Electrical Characteristics

(Ta = 25°C)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit.
V _{DET}	Detection Voltage	—	2.47	2.55	2.62	V
V _{HYS}	Hysteresis Width	—	0.02V _{DET}	0.05V _{DET}	0.1V _{DET}	V
I _{DD}	Operating Current	V _{DD} = 3.2V No Load	—	3	4	μA
V _{DD}	Operating Voltage	—	1.5	—	6	V
I _{OL}	Output Sink current	V _{DD} = 2V V _{OUT} = 0.2V	0.5	1	—	mA
$\frac{\Delta V_{DET}}{\Delta T_a}$	Temperature Coefficient	0°C < Ta < 70°C	—	±0.9	—	mV/°C

CDT5430	P. 3
VOLTAGE DETECTOR	

■ CDT5430 規格

Tolerance : ±3.5%

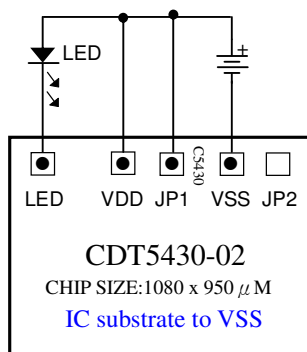
Part No.	Min.	Typ.	Max.	Hys.Width	Mark
CDT5430-01					
CDT5430-02	2.22V	2.300V	2.38V	0.115V	A2300
CDT5430-03	2.45V	2.545V	2.64V	0.128V	A2545
CDT5430-04					
CDT5430-05					

μM	X	Y
LED	139	713
VDD	339	713
JP1	499	713
VSS	683	713
JP2	843	713

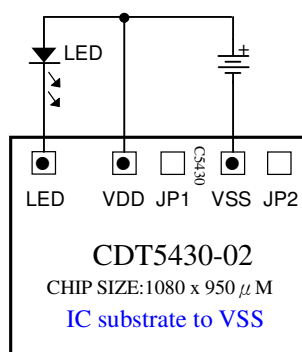
■ CDT5430 打線方法 (注意: IC 底座接 VSS)

A. CDT5430-02

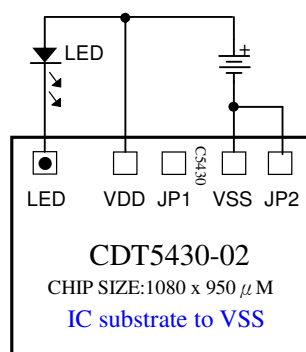
偵測電壓 = 2.2V



偵測電壓 = 2.3V

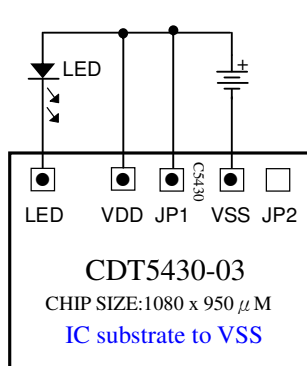


偵測電壓 = 2.4V

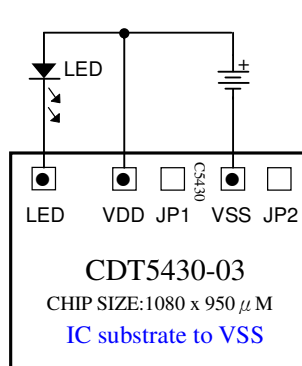


B. CDT5430-03

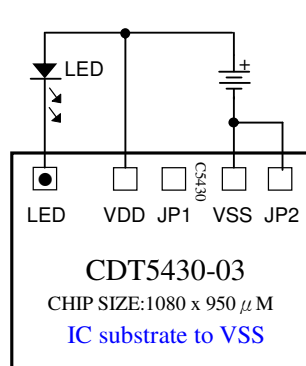
偵測電壓 = 2.45V



偵測電壓 = 2.545V



偵測電壓 = 2.65V



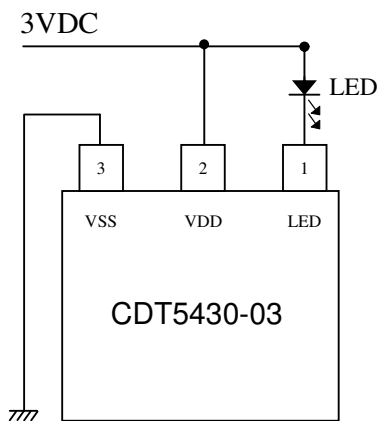
CDT5430 應用

A. 功能：

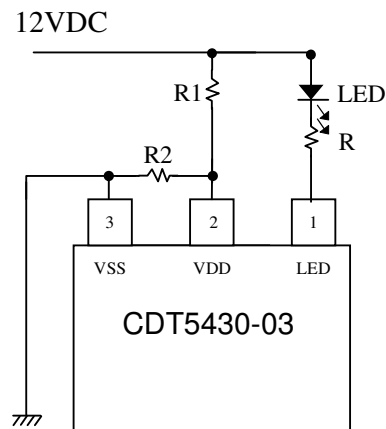
電源電壓(VDD)低於所訂定之電壓偵測點時 LED 即亮。

B. 應用線路圖：

■ CDT5430-3 偵測 2.545V 時



■ CDT5430-3 調準位



R 可調視 LED 亮度

範例：參考用

R1	R2	偵測電壓	STANDBY
X	X	2.57V	2.5 μ A
100K	1M	3.04V	6.5 μ A
150K	1M	3.27V	6.0 μ A
200K	1M	3.49V	5.1 μ A
220K	1M	3.58V	4.7 μ A
270K	1M	3.82V	4.2 μ A
300K	1M	3.96V	3.5 μ A
390K	1M	4.37V	3.1 μ A
470K	1M	4.81V	3.1 μ A
520K	1M	4.97V	3.1 μ A
540K	1M	5.06V	3.1 μ A
560K	1M	5.10V	3.1 μ A
680K	1M	5.70V	3.1 μ A
820K	1M	6.40V	3.1 μ A