

CYT1003AEG single-channel high-voltage linear constant current LED drive chip  
with dimming functionCYT  
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## General Description

CYT1003AEG is a single-channel high-voltage linear constant current LED drive chip with dimming function. It adopts linear constant current technology to set the maximum driving current of LED string through external resistor. The output drive current can be adjusted by external an input PWM pin voltage. The PWM waveform can be converted to a dimming voltage by a simple filter circuit.

CYT1003AEG can realize the LED light string fully turned off. When the PWM port input is connected to GND, the CYT1003AEG completely turns off the internal LDNMOS and the current on the LED string is zero.

## Electric Characteristics

Unless otherwise stated,  $T_A=25^{\circ}\text{C}$ .

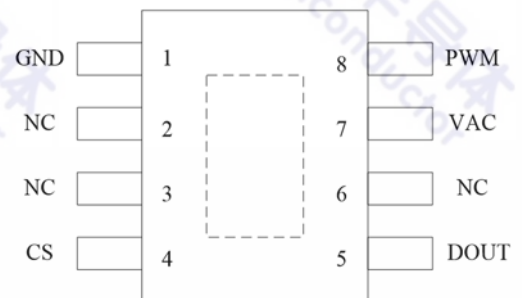
| Parameters                                         | Symbol     | Condition                                                                      | Min. | Typical | Max. | Unit               |
|----------------------------------------------------|------------|--------------------------------------------------------------------------------|------|---------|------|--------------------|
| Operating Voltage                                  | VAC        | AC 200V~270V application                                                       | 0    | 311     | 400  | V                  |
| Quiescent Current                                  | $I_Q$      | $V_{DD}=7.5\text{V}$                                                           | -    | 200     | 250  | $\mu\text{A}$      |
| Reference voltage                                  | $V_{REF}$  | $V_{VAC} > 30\text{V}$ , $V_{PWM}=3\text{V}$                                   | 1880 | 2000    | 2100 | mV                 |
| Shutdown voltage                                   | $V_{SD}$   | $V_{VAC} > 30\text{V}$                                                         | 40   | 80      | 120  | mV                 |
| drive current                                      | $I_{DOUT}$ | $V_{VAC} > 30\text{V}$ , $V_{PWM}=3\text{V}$ ,<br>sampling resistor $25\Omega$ | -    | 80      | -    | mA                 |
| Temperature compensation<br>transition temperature | $T_{SW}$   | -                                                                              | -    | 125     | 130  | $^{\circ}\text{C}$ |

## Absolute Maximum Ratings

Unless otherwise stated,  $T_A=25^{\circ}\text{C}$ .

| Parameters                                       | Symbol    | Min. | Max. | Unit               |
|--------------------------------------------------|-----------|------|------|--------------------|
| Storage temperature                              | $T_{STG}$ | -50  | 150  | $^{\circ}\text{C}$ |
| Operating temperature                            | $T_{OPT}$ | -40  | 150  | $^{\circ}\text{C}$ |
| High voltage pin withstand<br>voltage (DOUT/VAC) | $V_{OUT}$ | 500  | -    | V                  |
| Low voltage pin withstand<br>voltage (CS/PWM)    | $V_{CS}$  | 10   | -    | V                  |
| ESD (HBM)                                        | $V_{ESD}$ | 2000 | -    | V                  |

## Pin Diagram(top view)



## Typical Application

