## CYT1002AEG single segment LED linear constant current control chip with constant power and high reliability

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## General Description

CYT1002AEG is a single segment LED linear constant current control chip with constant power.It integrates 700V high-voltage MOSFET,and adopts unique and innovative device process technology.It has superior resistance to avalanche breakdown and surge,it can pass 700V lightning surge test when there is no protection device in the periphery,and built-in over-temperature protection function to improve system application reliability.The output current can be adjusted by adjusting the REXT resistance value in the periphery.At the same time,the CYT1002AEG integrates the input line voltage compensation function.When the input line voltage is too high,the CYT1002AEG will reduce the output current according to the external compensation resistor to ensure that the input power does not change with the line voltage.

It is mainly used in the fields of LED lighting,architectural lighting engineering,etc.The system structure is simple,the peripheral components are few,the PCB traces are simple,and the solution cost is low.

## Electric Characteristics

Unless otherwise stated, $T_A$=25°C.

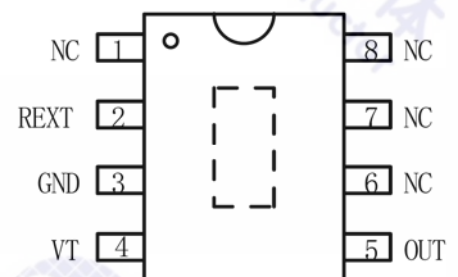| Symbol | Description | Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| $V_{OUT\_BV}$ | OUT port withstand voltage | - | 700 | - | - | V |
| $I_{OUT}$ | OUT port output current | - | 5 | - | 100 | mA |
| $I_{DD}$ | Quiescent current | $V_{OUT}$=20V，$V_{REXT}$=0.7V | 0.30 | 0.32 | 0.35 | mA |
| $V_{REXT}$ | REXT port voltage | $V_{OUT}$=15V，REXT=30Ω | 475 | 500 | 525 | mV |
| $T_{SC}$ | Initial point of the negative temperature compensation | - | - | 140 | - | °C |

## Absolute Maximum Ratings

Unless otherwise stated, $T_A$=25°C.

| Symbol | Description | Range | Unit |
|---|---|---|---|
| $V_{OUT}$ | OUT voltage | -0.5~700 | V |
| $V_{REXT}$ | REXT voltage | -0.5~8 | V |
| $V_T$ | VT voltage | -0.5~8 | V |
| $R_{θJA}$ | PN junction to ambient thermal resistance | 65 | °C/W |
| $P_D$ | Power consumption | 1.25 | W |
| $T_J$ | Operating junction temperature | -40~150 | °C |
| $T_{STG}$ | Storage temperature | -55~150 | °C |
| $V_{ESD}$ | HBM ESD | 2 | kV |

## Pin Diagram(top view)



```
NC   1          8  NC
REXT 2          7  NC
GND  3          6  NC
VT   4          5  OUT
```

## Typical Application

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