

## Constant Current Driver ICN2038

### Description

The ICN2038 is a 16-channel constant current sink output LED driver. All 16-channels constant current can be set by a single external resistor, which provides users flexibility in controlling the light intensity of LEDs.

The ICN2038 exploits current precision controlling technology, which makes error between ICs less than  $\pm 2.5\%$ , and error between channels less than  $\pm 1.3\%$ . At ICN2038 output stage, 16-regulated output ports are designed to provide uniform and constant current sinks for driving LEDs within a large range of forward voltage(VF) variations.

ICN2038 contains two 16-bit shift registers and latches which convert serial input data into parallel output format. For integrated dual latch, ICN2038 could get higher refresh rate.

### Features

- 16-channel constant current output
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- Output current setting range:
  - 0.5~45mA×16@V<sub>DD</sub>=5V constant current output
  - 0.5~25mA×16@V<sub>DD</sub>=3.3V constant current output
- Current accuracy
  - Between channel :<  $\pm 1.3\%$
  - Between ICs :<  $\pm 2.5\%$
- Fast response of output current,  
 $\overline{OE}$  (min):40ns@V<sub>DD</sub>=5V
- ESD HBM PASS 8KV
- I/O: Schmitt trigger input
- Data transfer frequency:f<sub>MAX</sub>=30MHz(Max)
- Power supply voltage: V<sub>DD</sub>=3.3~5V
- Operating Temperature: -40°C to +85°C
- Pre-Charge for Ghosting Reduction
- LED Protection
- Enhanced Circuit for Caterpillar Cancelling
- Low-Gray Scale Enhancement
- Integrated Dual Latch for higher refresh rate

