

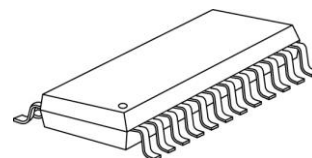


16-Channel Constant Current LED Sink Driver with Low Knee Voltage

Features

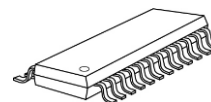
- 16 constant-current output channels
- Constant output current invariant to load voltage change:
Constant output current range:
3-45mA@ $V_{DD}=5V$;
3-30mA@ $V_{DD}=3.3V$
- Excellent output current accuracy:
-between channels: $\pm 1.5\%$ (typ.) and $\pm 3\%$ (max.)
-between ICs: $\pm 3\%$ (typ.) and $\pm 6\%$ (max.)
- Low Knee Voltage:
 $I_{OUT}=20mA@V_{DS}=0.2V; V_{DD}=3.3V$
 $I_{OUT}=20mA@V_{DS}=0.2V; V_{DD}=5.0V$
- Output current adjusted through an external resistor
- Fast response of output current, \overline{OE} (min.): 70ns with good uniformity between output channels
- Staggered delay of output
- 25MHz clock frequency
- Schmitt trigger input
- 3.3V/ 5V supply voltage
- "Pb-free & Green" Package

Small Outline Package



GF: SOP24L-300-1.00

Shrink SOP



GP: SSOP24L-150-0.64

Product Description

MBI5035 is a 16-channel constant current LED driver with $V_{DS}=0.2V @ I_{OUT}=20mA$, which is excellent compared to the conventional design. MBI5035 is especially designed for low power consumption LED display applications. The low knee voltage (LKV) design makes MBI5035 work at a constant output current with low V_{DS} and still guarantee PrecisionDrive™ feature. With PrecisionDrive™, MBI5035 is designed for LED displays which require to operate at low current and match the luminous intensity of each channel. MBI5035 contains a serial buffer and data latches converting serial input data into parallel output format. At MBI5035 output stage, sixteen regulated current ports are designed to provide uniform and constant current sinks for driving LEDs within a large range of V_F variations.

MBI5035 provides users with great flexibility and device performance in their low power system design for LED display applications. It accepts an input voltage range from 3.3V to 5.0V and maintains constant current up from 3mA to 45mA determined by an external resistor, R_{ext} , which gives users flexibility in controlling the light intensity of LEDs. MBI5035 guarantees to endure maximum 17V at the output port. The high clock frequency, 25 MHz, also satisfies the system requirements of high volume data transmission.