

STP16CP05B1R  
750 units from:  
**€ 0.79**

STP16CP05TTR  
750 units from:  
**€ 0.79**

STP16CP05XTR  
2.5k units from:  
**€ 0.85**

# STP16CP05

## 16-Bit Constant Current LED Sink Driver



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ST Microelectronics Power Logic family totally integrates all functions required to drive LEDs. The STP16CP05, member of ST's Power Logic family, is a monolithic, low voltage, low current power 16-bit shift register designed for LED panel displays of high-brightness (HB) LEDs.

The devices allow a constant current control in a single chip solution. The external parts are reduced to only one resistor which sets the preferred maximum current for all outputs.

An innovative feature of this family is the clock and data re-synchronization; this occurs when the devices are connected in cascade.

Operating over a wide temperature range of -40...+125°C, the STP16CP05 can work with

a power supply from 3V up to 5.5V; its output current is programmable from 5...100mA to suit applications requiring mid-current range and high-precision LED control.

The STP16CP05 allows manufacturers to meet the requirements of industrial lighting and is optimized for applications such as full-color, monochrome high-resolution large display, front display panels and LED illumination for washers, ovens, etc.

### Key Features

- 16 Constant-Current output channels
- Low voltage power supply down to 3V
- Adjustable output current using only one external resistor
- Can be driven by a 3.3V microcontroller

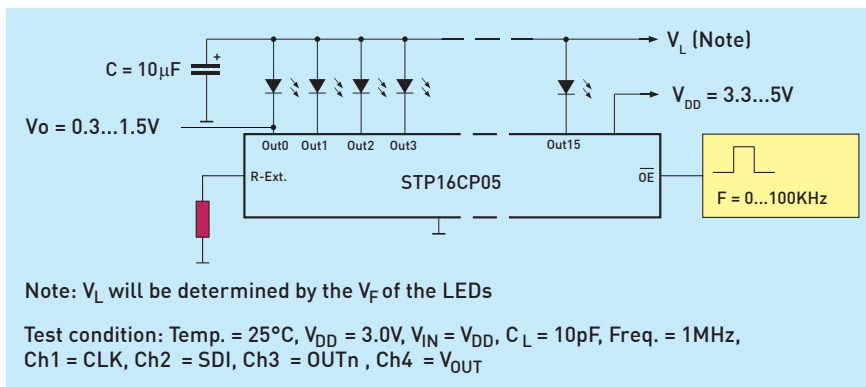
- Under-Voltage lockout and power on reset
- Serial Output Set on Clock Falling Edge
- Data loss prevention due to clock propagation delay time on board
- Current precision: 3% (Bit-to-Bit)
- Current precision: 8% (Chip-to-Chip)
- Current setup time: 40ns
- Input: Serial Data I/P
- Output: Parallel Data I/P
- Max. clock frequency 30MHz
- Cascadable devices
- Common footprints for universal device replacements on the same PCB
- Thermal protection by automatic thermal shutdown circuitry

### Key Applications

- Large LED Matrix Display
- White Goods
- Traffic Panels
- Full Color Applications
- Signage Applications

### Key Design Tips

ST's STP16CP05 are supported by a low-cost development tool to meet the needs of application developers: STEVAL-ILL003V2 (HB 32-LED evaluation board without diagnostic based on the STP16CP05 LED driver)



Service available or already delivered T&R from Manufacturer.  
Tapes are available, but not stocked at Avnet Logistics due to low demand.  
Device supported by or programming equipment, but the socket for this package must be provided by customer.

P/N	Package	Programming	Taping & Reeling	Marking
STP16CP05B1R	24-pin PDIP			
STP16CP05M	24-pin SO			
STP16CP05TTR	24-pin TSSOP			