2016

TENET TECHNETRONICS

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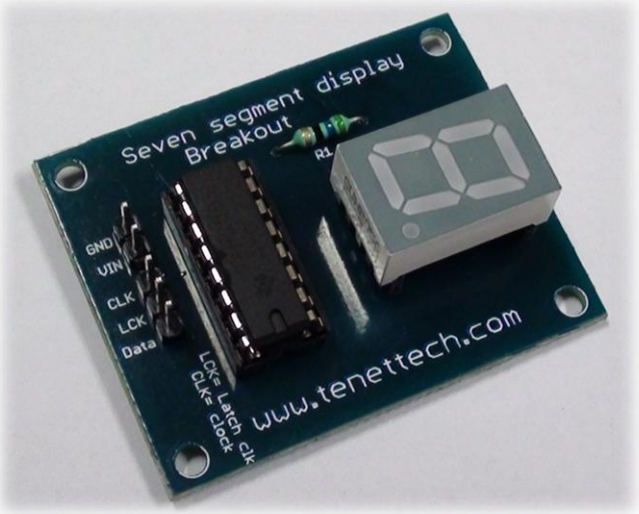
Tenet's Seven Segment with Shift Register breakout



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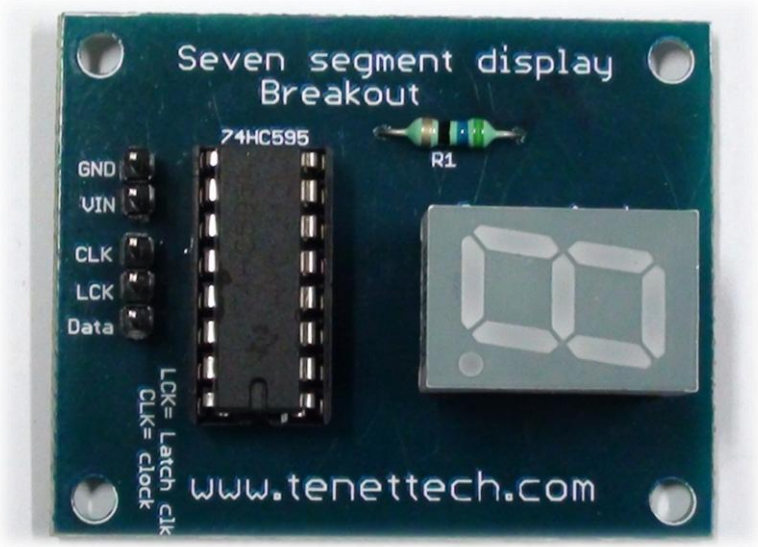
#9/3, Shree Lakshmi Complex, 2nd Floor, Opp. To Vivekananda Park, Girinagar, Bangalore - 560085.
Ph. No: 080-26722726., Website: www.tenettech.com, Email: info@tenettech.com

Introduction

Seven Segment display Breakout is a segment display with a shift register (HC595). The 'HC595 devices contain an 8-bit serial-in, parallel-out shift register that feeds an 8-bit D-type storage register. The storage register has parallel 3-state outputs. Separate clocks are provided for both the shift and storage register. The shift register has a direct overriding clear (SRCLR) input, serial (SER) input, and serial outputs for cascading. When the output-enable (OE) input is high, the outputs are in the high-impedance state. Both the shift register clock (SRCLK) and storage register clock (RCLK) are positive-edge triggered. If both clocks are connected together, the shift register always is one clock pulse ahead of the storage register.



Features: 74HC595 Shift Register

- 8-Bit Serial-In, Parallel-Out Shift
- Wide Operating Voltage Range of 2 V to 6 V
- High-Current 3-State Outputs Can Drive Up To 15 LSTTL Loads
- Low Power Consumption, 80-µA Max ICC
- Typical tpd = 13 ns
- ±6-mA Output Drive at 5 V

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- Low Input Current of 1 µA Max
- Shift Register Has Direct Clear

Applications

- Visitor Counting Systems
- Industries for counting the products
- Toys

Specifications

Absolute Maximum Ratings of Segment Display

Parameters	**Specs.**
DC Forward Current Per Segment	30 mA
Peak Current Per Segment	70 mA
Avg. Forward Current (Pulse Operation) Per Segment	30 mA
Derating Linear From 25°C Per Segment	0.3 mA/°C
Reverse Voltage	3 V
Operating Temperature	-25 to +85 °C
Storage Temperature	-30 to +85 °C

Absolute Maximum Ratings of 74HC595

Parameters	**Specs.**
Supply voltage range, VCC	−0.5 V to 7 V
Input clamp current, IIK (VI < 0 or VI > VCC)	±20 mA
Output clamp current, IOK (VO < 0 or VO > VCC)	±20 mA
Continuous output current, IO (VO = 0 to VCC)	±35 mA
Continuous current through VCC or GND	±70 mA
Storage temperature range, Tstg	−65°C to 150°C

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Recommended operating conditionsof 74HC595

Symbol	Parameters		Min.	Typ.	Max.	Unit
VCC	Supply voltage		2	5	6	V
VIH	High-level input voltage	VCC = 2 V	1.5			V
		VCC = 4.5 V	3.15			
		VCC = 6 V	4.2			
VIL	Low-level input voltage	VCC = 2 V			0.5	V
		VCC = 4.5 V			1.35	
		VCC = 6 V			1.8	
VI	Input voltage		0		VCC	V
VO	Output voltage		0		VCC	V
Δt/Δv‡	Input transition rise/fall time	VCC = 2 V			1000	ns
		VCC = 4.5 V			500	
		VCC = 6 V			400	
TA	Operating free-air temperature		−40		85	°C

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