PWM to DC in One Cycle

PWM Input to DAC Output

INA
2V/DIV

VOUTA
500mV/DIV

20µs/DIV
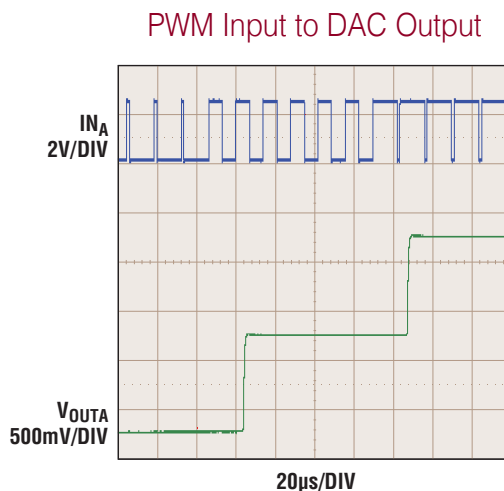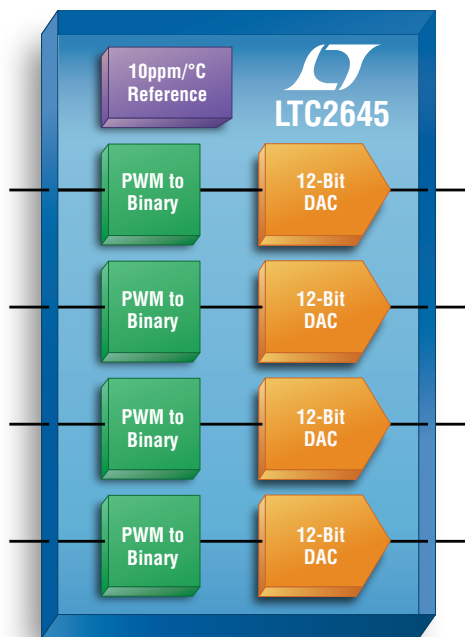
No Software. No Ripple. No Latency.

Linear Technology's PWM to V_{OUT} DACs convert a PWM (pulse-width modulation) input to an accurate, stable, buffered voltage without the ripple, slow settling and external passive components of discrete filter implementations. The LTC®2645 quad PWM DAC measures the period and pulse width of the PWM input signal and updates the DAC output immediately with up to 12-bit accuracy, no software coding required.

Features

- 30Hz to 100kHz PWM Input
- Buffered Rail-to-Rail Voltage Output
- Updates and Settles Within 8µs
- 10ppm/°C Internal Reference; 2.5V Full-Scale
- Pin-Selectable Internal or External Reference
- ±2.5 LSB Maximum INL; ±1LSB Maximum DNL
- 2.7V to 5.5V Supply
- 1.71V to 5.5V PWM Inputs

Family of Dual and Quad PWM to V_{OUT} DACs

	12-Bit	10-Bit	8-Bit
Dual 12-Pin MSOP	LTC2644-12	LTC2644-10	LTC2644-8
Quad 16-Pin MSOP	LTC2645-12	LTC2645-10	LTC2645-8

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Voltage Output DACs

8-Bit to 16-Bit Resolution, 1-Channel to 16-Channel V_{OUT} DACs

	1-Channel			2-Channel			4-Channel			8-Channel		16-Channel
	Parallel	SPI	I²C	PWM	SPI	I²C	PWM	SPI	I²C	SPI	I²C	SPI
16-Bit	1821, 1657	2641-16, 2642-16, 1650, 1655, 2601	2606		2602	2607		2704-16, 2654-16, 2604	2655-16, 2609	2656-16, 2600	2657-18, 2605	2668-16
14-Bit		2641-14, 2642-14, 1658, 2611	2616		2612	2617		2704-14, 2614	2619	2610	2615	
12-Bit	1450	2641-12, 2642-12, 2630-12, 2640-12, 1257, 2621	2631-12, 2626	2644-12	2632-12, 2622	2633-12, 2627	2645-12	2704-12, 2654-12, 2634-12, 2624	2655-12, 2635-12, 2629	2656-12, 2636-12, 2620	2657-12, 2637-12, 2625	2668-12
10-Bit		2630-10, 2640-10	2631-10, 1663, 1669	2644-10	2632-10, 1661, 1662	2633-10	2645-10	2634-10, 1664	2635-10	2636-10, 1660	2637-10	
8-Bit		2630-8, 2640-8	2631-8	2644-8	2632-8	2633-8	2645-8	2634-8	2635-8	2636-18, 1665	2637-8	

Legend

- 16-/12-Bit Quad/Octal DACs with 10ppm/°C (Max) Internal Reference
- Low Glitch 16-/14-/12-Bit Unbuffered V_{OUT} Unipolar or Bipolar DACs
- 12-Bit DAC with Internal Reference and 5V to 15V Supply Range
- Tiny 12-/10-/8-Bit Single/Dual/Quad/Octal DACs with 10ppm/°C Internal Reference
- 16-/14-/12-Bit ±10V V_{OUT} SoftSpan™ DACs
- Low Power, Double Buffered 16-/12-Bit Parallel Interface DACs
- 16-/14-/12-Bit Single/Dual/Quad/Octal DACs with External Reference
- 16-/12-Bit ±10V V_{OUT} SoftSpan DACs with 10ppm/°C (Max) Reference
- 16-Bit ±10V, Fast 2µs Settling, Parallel DAC in SSOP-36 Package
- 16-Bit, ±5V, Low Glitch DAC
- Micropower 10-/8-Bit Single/Dual/Quad/Octal DACs
- 14-Bit Low Power DAC in 8-Pin Packages
- 16-Bit, Low Power DAC with Internal Reference
- 12-/10-/8-Bit PWM to V_{OUT} DACs

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