

## LP2981/LP2985/LP2985LV

### Ultra-low dropout regulator with shutdown



#### Features

- Wide  $V_{IN}$  range: 2.2 V to 16 V
- Stable with ceramic capacitors (LP2985, LP2985LV)
- Very low dropout voltage, typically:
  - 70 mV at 25 mA
  - 200 mV at 100 mA
  - 280 mV at 150 mA
- Output tolerance (LP2981/LP2985):
  - 0.75%/1% (A grade)
  - 1.25%/1.5% (standard grade)
- Low noise: 30  $\mu$ V (300 Hz to 50 kHz) (LP2985, LP2985LV)
- Wide operating temperature range ( $T_j$ ):  $-40^{\circ}\text{C}$  to  $125^{\circ}\text{C}$
- Low quiescent current in shutdown: 0.01  $\mu$ A (typ)
- Overcurrent and thermal protection
- High peak current capability

#### Voltage Nodes

- LP2981: Adj, 1.25, 1.8, 2.5, 2.7, 2.8,\* 2.9, 3.0, 3.2, 3.3\* and 5 V
- LP2985: 2.5, 2.6, 2.7, 2.8,\* 2.85, 3.0, 3.1, 3.2, 3.3\* and 5 V
- LP2985LV: 1.25, 1.5, 1.7, 1.8 and 2.0 V

#### Output Current

- LP2981: 100 mA
- LP2985 and LP2985LV: 150 mA

#### Package Options

- SOT-23 (DBV)
- WCSP (YEQ, YEU, YZQ, YZU)\*\*

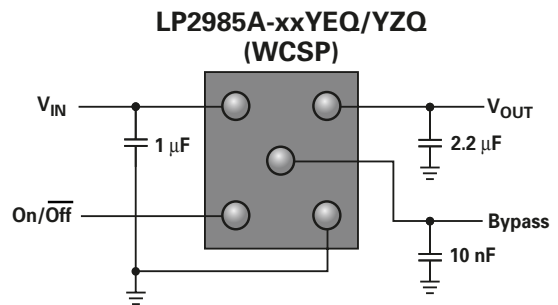
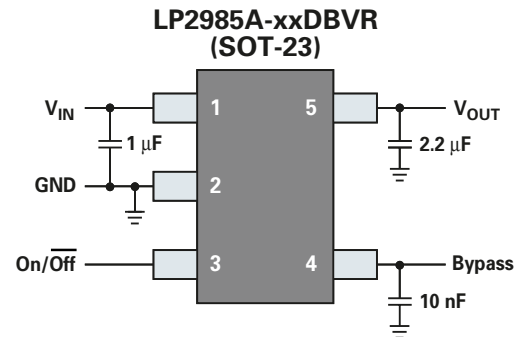
\* Currently released

\*\* YZQ/YZU = Lead (Pb)-Free, YEU/YZU = 0.30-mm bump, YEQ/YZQ = 0.17-mm bump

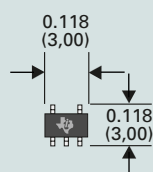
#### Target Applications

- Notebooks, desktop PCs
- PC peripheral cards
- PDAs, mobile phones, palmtops
- Telecommunications/modems
- Media players
- Digital still cameras, VCRs, camcorders
- Storage card and system
- Industrial/automotive

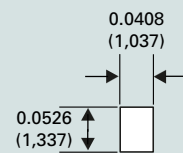
#### Package Pinouts



#### Comparison Between SOT-23 and WCSP Devices



**5-pin SOT-23 (DBV)**  
 Lead pitch = 0.037 (0,95)  
 Height = 0.047 (1,20)  
 Area = 0.014 (9)



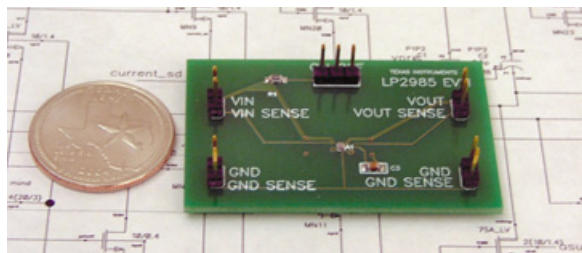
**5-ball NanoStar™ (YEU/YEQ) NanoFree™ (YZU/YZQ)**  
 Ball pitch = 0.020 (0,50)  
 Height = 0.0246 (0,625)  
 Area = 0.0021 (1,386)

Dimensions in inches (millimeters)

<b>Part Number Definition</b>	<b>LP2981*</b>	<b>X</b>	<b>XX</b>	<b>DBV</b>	<b>T</b>
<b>Device Name:</b> LP2981—100 mA; LP2985/LP2985LV—150 mA, ceramic caps, low noise	<b>LP2985*</b>				
<b>Grade:</b> Blank (standard) = 1.25%/1.5%, A = 0.75%/1%					
<b>V<sub>OUT</sub> Nodes:</b> Blank = Adj, 15 = 1.5 V, 18 = 1.8 V, 25 = 2.5 V, 33 = 3.3 V, etc.					
<b>Package Type:</b> DBV = SOT-23; YEQ/YZQ and YEU/YZU = WCSP					
<b>Quantity/Package Type:</b> T = 250 pcs reel, R = 3000 pcs reel					

\*Standard temperature range (T<sub>J</sub>): -40°C to 125°C

## LP2985 Evaluation Module Using a WCSP Device



(EVM size is in relation to a standard U.S. quarter.)

## For More Information, Visit:

[linear.ti.com/LDO/LP2981](http://linear.ti.com/LDO/LP2981)  
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