

# LDO Regulator - 1 A, Ultra Low Dropout, CMOS, with Bias Rail

## Product Preview

### T30LMPSR131, T30LAPSR131

The T30LxPSR131 is a 1 A LDO equipped with an NMOS pass transistor and a separate bias supply voltage ( $V_{BIAS}$ ). The T30LxPSR131 offers ultra-fast dynamic response and provides very stable output voltage with 1% accuracy over full temperature range. To optimize performance for battery operated portable applications, the T30LxPSR131 features an ultra-low bias current consumption. The device also features high PSRR across frequency range and ultra-low noise optimized for noise sensitive applications. The WLCSP6 1.145 mm x 0.75 mm, 0.4 mm pitch Chip Scale package is optimized for use in space constrained applications.

#### Features

- Best-in-Class Dropout: 25 mV (typ.) at 1 A
- $\pm 1\%$  Accuracy over  $-40^{\circ}\text{C}$  to  $125^{\circ}\text{C}$  Temp. Range
- Ultra Low Bias Input Current of Typ. 85  $\mu\text{A}$
- Low Noise, 7.5  $\mu\text{V}_{\text{RMS}}$  Typ.
- High PSRR across Frequency Range
  - ◆ 75 dB at 1 kHz
  - ◆ 34 dB at 100 kHz
- Input Voltage Range: up to 2.2 V
- Bias Voltage Range: up to 3.3 V
- Output Voltage Range: 0.5 V to 1.8 V (Fixed), Resolution 25 mV
- Excellent Load Transient Performance
- 1.2 V Logic Level Enable Input Compatibility
- Normal and Slow Turn-On Options Available
- Output Active Discharge Option Available

#### Typical Applications

- Battery-powered Equipment
- Smartphones, Tablets
- Cameras, DVRs, STB and Camcorders

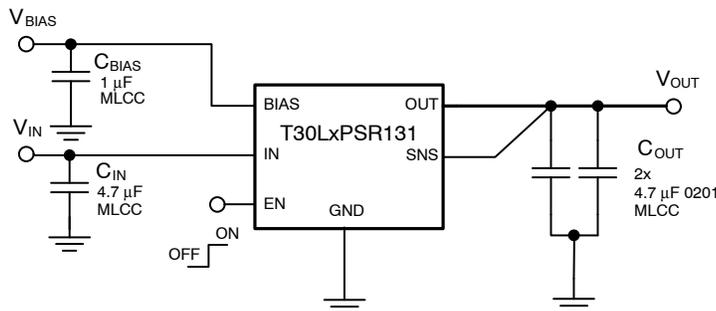


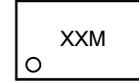
Figure 1. Application Schematic

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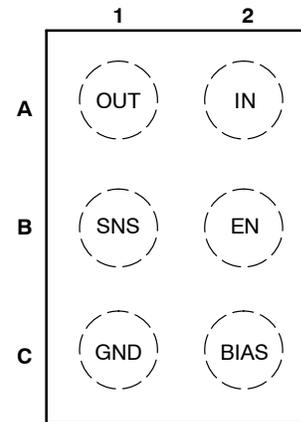
WLCSP6  
1.145x0.75x0.33  
CASE 567YX

#### MARKING DIAGRAM



XX = Specific Device Code  
M = Month Code

#### PIN CONNECTIONS



Top View

#### ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

# T30LMPSR131, T30LAPSR131

## ORDERING INFORMATION

Device	Nominal Output Voltage	Marking	Option	Package	Shipping†
T30LMPSR131	TBD V	TBD	TBD	WLCSP6 Case 567YX (Pb-Free)	10,000 / Tape & Reel
T30LAPSR131	TBD V	TBD		UBM: 240 μm Bump Type: (98.2% Sn/1.8% Ag) Plate	

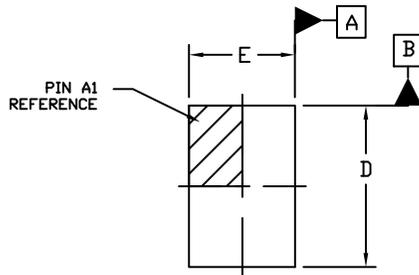
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, [BRD8011/D](#).

1. To order other package and voltage variants, please contact your **onsemi** sales representative.

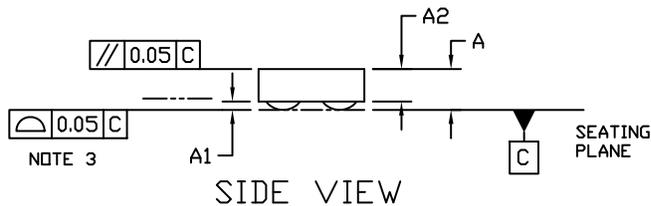
# T30LMPSR131, T30LAPSR131

## PACKAGE DIMENSIONS

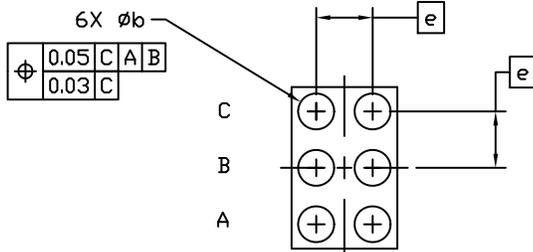
WLCSP6 1.145x0.75x0.33  
CASE 567YX  
ISSUE O



TOP VIEW



SIDE VIEW

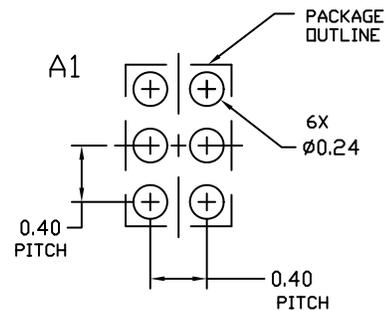


1 2  
BOTTOM VIEW

NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS
3. COPLANARITY APPLIES TO THE SPHERICAL CROWNS OF THE SOLDER BALLS.
4. DATUM C, THE SEATING PLANE, IS DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.
5. DIMENSION *b* IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER PARALLEL TO DATUM C.

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	---	---	0.33
A1	0.04	0.06	0.08
A2	0.230 REF		
<i>b</i>	0.220	0.240	0.260
D	1.095	1.145	1.195
E	0.700	0.750	0.800
<i>e</i>	0.400 BSC		



RECOMMENDED  
MOUNTING FOOTPRINT

\*For additional information on our Pb-Free strategy and soldering details, please download the **onsemi Soldering and Mounting Techniques Reference Manual, SOLDERRM/D**.

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