

# LP2985-N Micropower 150 mA Low-Noise Ultra Low-Dropout Regulator in SOT-23 and DSBGA Packages

# Designed for Use with Very Low ESR Output Capacitors

Check for Samples: LP2985-N

#### **FEATURES**

- Ultra Low Dropout Voltage
- Ensured 150 mA Output Current
- Smallest Possible Size (SOT-23, DSBGA Packages)
- Requires Minimum External Components
- Stable with Low-ESR Output Capacitor
- <1 µA Quiescent Current when Shut Down</li>
- Low Ground Pin Current at All Loads
- Output Voltage Accuracy 1% (A Grade)
- High Peak Current Capability
- Wide Supply Voltage Range (16V Max)
- Low Z<sub>OUT</sub>: 0.3Ω Typical (10 Hz to 1 MHz)
- Overtemperature/Overcurrent Protection
- -40°C to +125°C Junction Temperature Range
- Custom Voltages Available

### **APPLICATIONS**

- Cellular Phone
- Palmtop/Laptop Computer
- Personal Digital Assistant (PDA)
- · Camcorder, Personal Stereo, Camera

#### DESCRIPTION

The LP2985-N is a 150 mA, fixed-output voltage regulator designed to provide ultra low-dropout and low noise in battery powered applications.

Using an optimized VIP (Vertically Integrated PNP) process, the LP2985-N delivers unequalled performance in all specifications critical to battery-powered designs:

Dropout Voltage: Typically 300 mV @ 150 mA load, and 7 mV @ 1 mA load.

Ground Pin Current: Typically 850 μA @ 150 mA load, and 75 μA @ 1 mA load.

Enhanced Stability: The LP2985-N is stable with output capacitor ESR as low as 5 m $\Omega$ , which allows the use of ceramic capacitors on the output.

Sleep Mode: Less than 1 µA quiescent current when ON/OFF pin is pulled low.

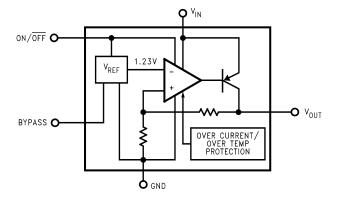
Smallest Possible Size: SOT-23 and DSBGA packages use absolute minimum board space.

Precision Output: 1% tolerance output voltages available (A grade).

Low Noise: By adding a 10 nF bypass capacitor, output noise can be reduced to 30  $\mu$ V (typical).

Multiple voltage options, from 2.5V to 5.0V, are available as standard products. Consult factory for custom voltages.

### **BLOCK DIAGRAM**

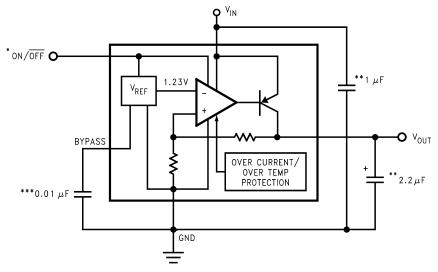


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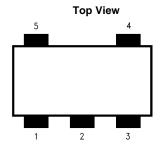


#### **BASIC APPLICATION CIRCUIT**



<sup>\*</sup>ON/OFF input must be actively terminated. Tie to  $V_{\text{IN}}$  if this function is not to be used.

#### **CONNECTION DIAGRAMS**



A3 C3

C3

A1 B2 C1

Figure 1. SOT-23, 5-Lead Small Outline Package (M5)
See Package Number DBV0005A

Figure 2. DSBGA Package, 5-Bump Package See Package Numbers YPB0005 and YZR0005

### **NOTE**

The actual physical placement of the package marking will vary from part to part. Package marking contains date code and lot traceability information, and will vary considerably. Package marking does not correlate to device type.

#### PIN DESCRIPTIONS

Nama	Pin	Number	Function
Name	SOT-23	DSBGA	Function
V <sub>IN</sub>	1	C3	Input Voltage
GND	2	A1	Common Ground (device substrate)
ON/OFF	3	A3	Logic high enable input
BYPASS	4	B2	Bypass capacitor for low noise operation
V <sub>OUT</sub>	5	C1	Regulated output voltage

<sup>\*\*</sup>Minimum capacitance is shown to ensure stability (may be increased without limit). Ceramic capacitor required for output (see APPLICATION HINTS).

<sup>\*\*\*</sup>Reduces output noise (may be omitted if application is not noise critical). Use ceramic or film type with very low leakage current (see APPLICATION HINTS).





These devices have limited built-in ESD protection. The leads should be shorted together or the device placed in conductive foam during storage or handling to prevent electrostatic damage to the MOS gates.

### ABSOLUTE MAXIMUM RATINGS(1)(2)

ABOULUTE MAXIMUM NATINGO	
Storage Temperature Range	-65°C to +150°C
Operating Junction Temperature Range	-40°C to +125°C
Lead Temp. (Soldering, 5 sec.)	260°C
ESD Rating <sup>(3)</sup>	2 kV
Power Dissipation <sup>(4)</sup>	Internally Limited
Input Supply Voltage (Survival)	-0.3V to +16V
Input Supply Voltage (Operating)	2.5V to +16V
Shutdown Input Voltage (Survival)	-0.3V to +16V
Output Voltage (Survival, See (5))	-0.3V to +9V
I <sub>OUT</sub> (Survival)	Short Circuit Protected
Input-Output Voltage (Survival, See (6))	-0.3V to +16V

- (1) Absolute Maximum Ratings indicate limits beyond which damage to the component may occur. Electrical specifications do not apply when operating the device outside of its rated operating conditions.
- (2) If Military/Aerospace specified devices are required, please contact the Texas Instruments Sales Office/ Distributors for availability and specifications.
- (3) The ESD rating of pins 3 and 4 for the SOT-23 package, or pins 5 and 2 for the DSBGA package, is 1 kV.

$$P(MAX) = \frac{T_{J}(MAX) - T_{A}}{\theta_{J-A}}$$

#### where

(a) the value of  $\theta_{J-A}$  for the SOT-23 package is 220°C/W in a typical PC board mounting and the DSBGA package is 225°C/W.

Exceeding the maximum allowable dissipation will cause excessive die temperature, and the regulator will go into thermal shutdown.

For 12V option, output voltage survival: -0.3 to +16V. If used in a dual-supply system where the regulator load is returned to a negative supply, the LP2985-N output must be diode-clamped to ground.

(6) The output PNP structure contains a diode between the V<sub>IN</sub> to V<sub>OUT</sub> terminals that is normally reverse-biased. Reversing the polarity from V<sub>IN</sub> to V<sub>OUT</sub> will turn on this diode.

# **ELECTRICAL CHARACTERISTICS(1)**

Limits in standard typeface are for  $T_J$  = 25°C. and limits in **boldface type** apply over the full operating temperature range. Unless otherwise specified:  $V_{IN} = V_O(NOM) + 1V$ ,  $I_L$  = 1 mA,  $C_{IN}$  = 1  $\mu$ F,  $C_{OUT}$  = 4.7  $\mu$ F,  $V_{ON/OFF}$  = 2V.

Cumbal	Parameter	Conditions	Turn	LP2985	AI-X.X <sup>(2)</sup>	LP298	Units		
Symbol	Parameter	Conditions	Тур	Min	Max	Min	Max	OiillS	
$\Delta V_{O}$	Output Voltage	I <sub>L</sub> = 1 mA		-1.0	1.0	-1.5	1.5		
	Tolerance	1 mA ≤ I <sub>L</sub> ≤ 50 mA		-1.5	1.5	-2.5	2.5		
				-2.5	2.5	-3.5	3.5	%V <sub>NOM</sub>	
		1 mA ≤ I <sub>L</sub> ≤ 150 mA		-2.5	2.5	-3.0	3.0		
				-3.5	3.5	-4.0	4.0		
	Output Voltage	$V_O(NOM)+1V \le V_{IN} \le 16V$	0.007		0.014		0.014		
$\frac{\Delta V_{0}}{\Delta V_{1N}}$	Line Regulation				0.032		0.032	%/V	

(1) Exposing the DSBGA device to direct sunlight will cause misoperation. See APPLICATION HINTS for additional information.

(2) Limits are 100% production tested at 25°C. Limits over the operating temperature range are ensured through correlation using Statistical Quality Control (SQC) methods. The limits are used to calculate Tl's Average Outgoing Quality Level (AOQL).



# **ELECTRICAL CHARACTERISTICS**(1) (continued)

Limits in standard typeface are for  $T_J$  = 25°C. and limits in **boldface type** apply over the full operating temperature range. Unless otherwise specified:  $V_{IN} = V_O(NOM) + 1V$ ,  $I_L$  = 1 mA,  $C_{IN}$  = 1  $\mu$ F,  $C_{OUT}$  = 4.7  $\mu$ F,  $V_{ON/OFF}$  = 2V.

Symbol V <sub>IN</sub> –V <sub>O</sub>	Parameter	Conditions	IVn				Units	
V <sub>IN</sub> -V <sub>O</sub>			Тур	Min	Max	Min	Max	Units
	Dropout Voltage (3)	I <sub>L</sub> = 0	1		3		3	
					5		5	
		I <sub>L</sub> = 1 mA	7		10		10	
					15		15	
		I <sub>L</sub> = 10 mA	40		60		60	\/
					90		90	mV
		I <sub>L</sub> = 50 mA	120		150		150	1
					225		225	
		I <sub>L</sub> = 150 mA	280		350		350	1
					575		575	
$I_{GND}$	Ground Pin Current	I <sub>L</sub> = 0	65		95		95	
					125		125	
		I <sub>L</sub> = 1 mA	75		110		110	
					170		170	
		I <sub>L</sub> = 10 mA	120		220		220	
					400		400	
		I <sub>L</sub> = 50 mA	350		600		600	μA
					1000		1000	
		I <sub>L</sub> = 150 mA	850		1500		1500	
					2500		2500	
		V <sub>ON/OFF</sub> < 0.3V	0.01		0.8		0.8	
		V <sub>ON/OFF</sub> < 0.15V	0.05		2		2	
/ <sub>ON/OFF</sub>	ON/OFF Input	High = O/P ON	1.4	1.6		1.6		
	Voltage <sup>(4)</sup>	Low = O/P OFF	0.55		0.15		0.15	V
I <sub>ON/OFF</sub>	ON/OFF Input Current	V <sub>ON/OFF</sub> = 0	0.01		-2		-2	
		V <sub>ON/OFF</sub> = 5V	5		15		15	μA
e <sub>n</sub>	Output Noise	BW = 300 Hz to 50 kHz,						
	Voltage (RMS)	C <sub>OUT</sub> = 10 μF	30					μV
		C <sub>BYPASS</sub> = 10 nF						
	Ripple Rejection	f = 1 kHz, C <sub>BYPASS</sub> = 10 nF						
$\frac{\Delta V_{OUT}}{\Delta V_{IN}}$		C <sub>OUT</sub> = 10 μF	45					dB
I <sub>O</sub> (SC)	Short Circuit Current	R <sub>L</sub> = 0 (Steady State) <sup>(5)</sup>	400					mA
	Peak Output Current	$V_{OUT} \ge V_{o}(NOM) -5\%$	350					mA

<sup>(3)</sup> Dropout voltage is defined as the input to output differential at which the output voltage drops 100 mV below the value measured with a 1V differential.

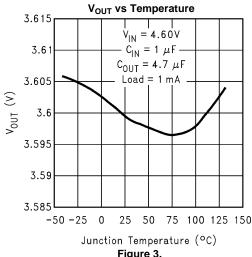
<sup>(4)</sup> The ON/OFF input must be properly driven to prevent possible misoperation. For details, refer to APPLICATION HINTS.

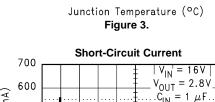
<sup>(5)</sup> The LP2985-N has foldback current limiting which allows a high peak current when V<sub>OUT</sub> > 0.5V, and then reduces the maximum output current as V<sub>OUT</sub> is forced to ground (see TYPICAL PERFORMANCE CHARACTERISTICS curves).



#### TYPICAL PERFORMANCE CHARACTERISTICS

Unless otherwise specified:  $C_{IN} = 1\mu F$ ,  $C_{OUT} = 4.7\mu F$ ,  $V_{IN} = V_{OUT}(NOM) + 1$ ,  $T_A = 25$ °C, ON/OFF pin is tied to  $V_{IN}$ .





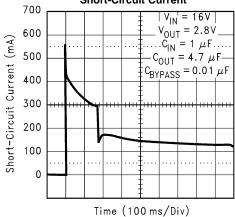
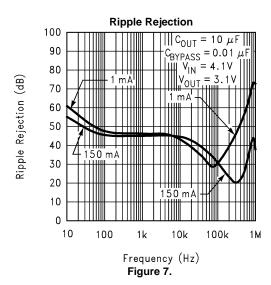


Figure 5.



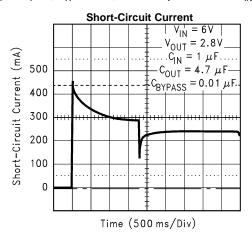
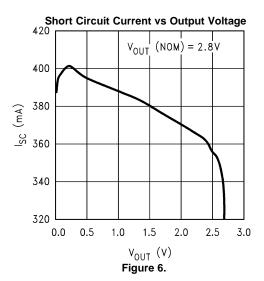
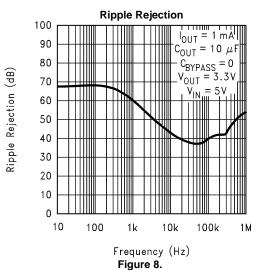


Figure 4.

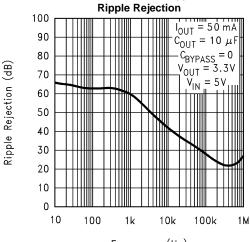




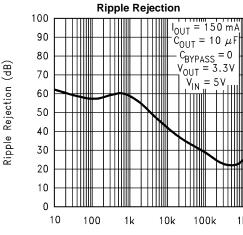
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Unless otherwise specified:  $C_{IN}$  = 1 $\mu$ F,  $C_{OUT}$  = 4.7 $\mu$ F,  $V_{IN}$  =  $V_{OUT}(NOM)$  +1,  $T_A$  = 25°C, ON/OFF pin is tied to  $V_{IN}$ .



Frequency (Hz) **Figure 9.** 



Frequency (Hz) Figure 10.

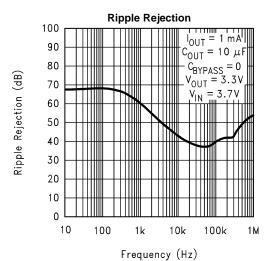


Figure 11.

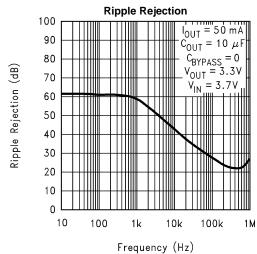
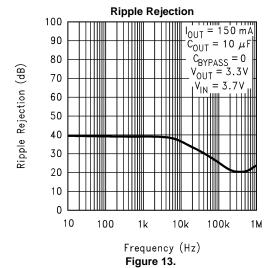


Figure 12.



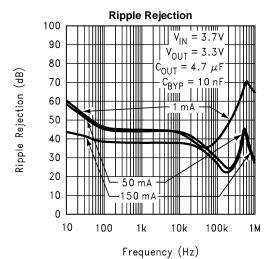


Figure 14.

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Unless otherwise specified:  $C_{IN}$  = 1 $\mu$ F,  $C_{OUT}$  = 4.7 $\mu$ F,  $V_{IN}$  =  $V_{OUT}(NOM)$  +1,  $T_A$  = 25°C, ON/OFF pin is tied to  $V_{IN}$ .

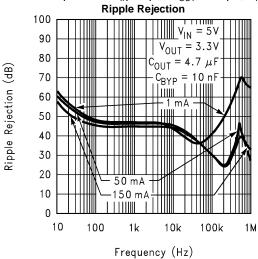


Figure 15.

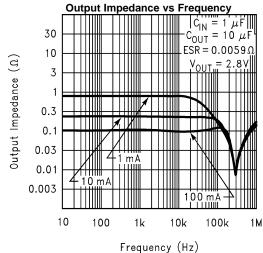


Figure 16.

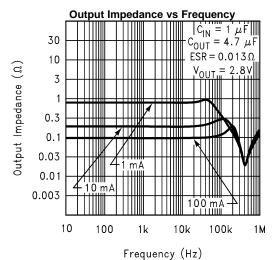
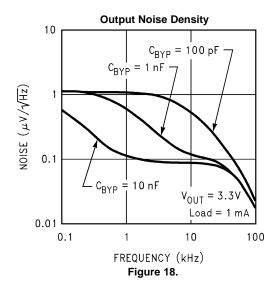
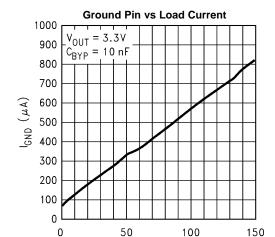
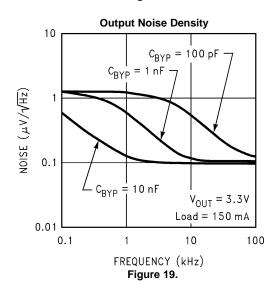


Figure 17.







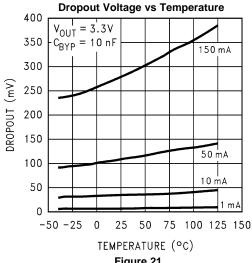
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LOAD CURRENT (mA)

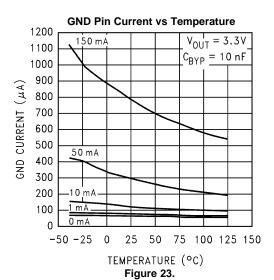
Figure 20.



Unless otherwise specified:  $C_{IN} = 1 \mu F$ ,  $C_{OUT} = 4.7 \mu F$ ,  $V_{IN} = V_{OUT}(NOM) + 1$ ,  $T_A = 25$ °C, ON/OFF pin is tied to  $V_{IN}$ .







3.30 3.29 3.28  $V_{OUT} = 3.3V$  $C_{BYP} = 10 \text{ nF}$ 

**Load Transient Response** 

 $20 \,\mu \text{s/div} \rightarrow$ Figure 25.

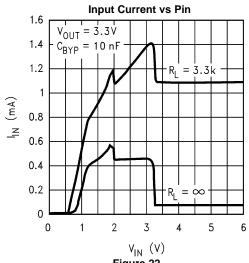


Figure 22.

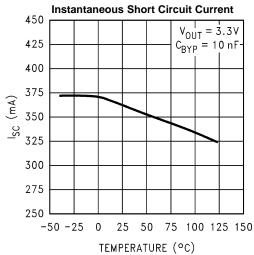
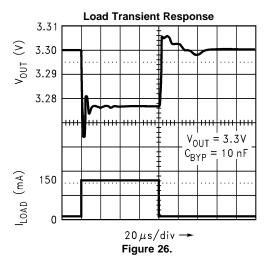


Figure 24.



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3.31

100 0



Unless otherwise specified:  $C_{IN}$  = 1 $\mu$ F,  $C_{OUT}$  = 4.7 $\mu$ F,  $V_{IN}$  =  $V_{OUT}(NOM)$  +1,  $T_A$  = 25°C, ON/OFF pin is tied to  $V_{IN}$ .

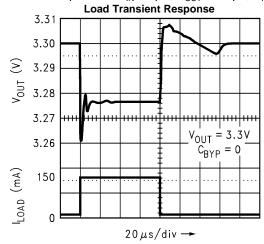


Figure 27.

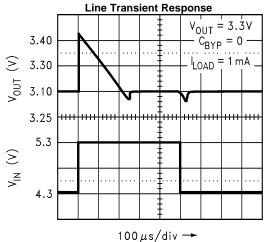


Figure 28.

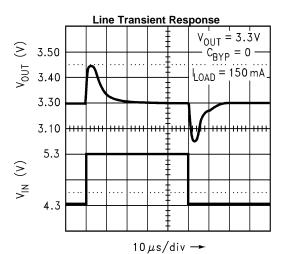


Figure 29.

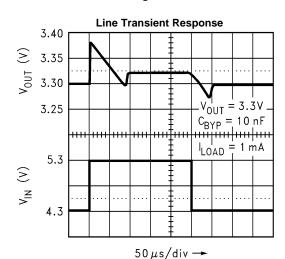
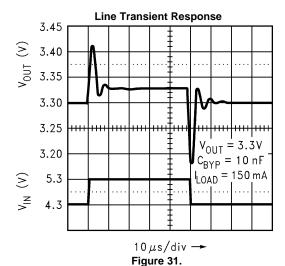


Figure 30.



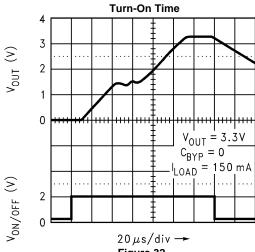
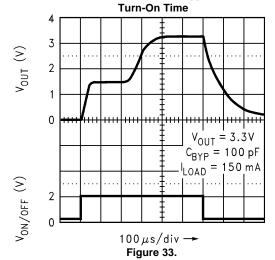
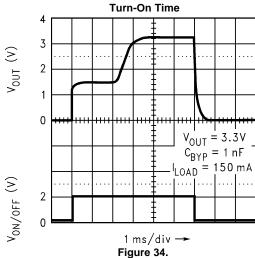


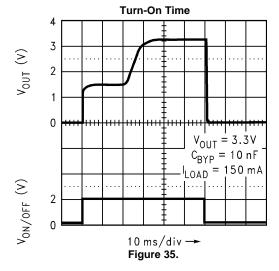
Figure 32.



Unless otherwise specified:  $C_{IN}$  = 1 $\mu$ F,  $C_{OUT}$  = 4.7 $\mu$ F,  $V_{IN}$  =  $V_{OUT}(NOM)$  +1,  $T_A$  = 25°C, ON/OFF pin is tied to  $V_{IN}$ .







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#### **APPLICATION HINTS**

#### **EXTERNAL CAPACITORS**

Like any low-dropout regulator, the LP2985-N requires external capacitors for regulator stability. These capacitors must be correctly selected for good performance.

#### **Input Capacitor**

An input capacitor whose capacitance is  $\geq 1 \, \mu F$  is required between the LP2985-N input and ground (the amount of capacitance may be increased without limit).

This capacitor must be located a distance of not more than 1 cm from the input pin and returned to a clean analog ground. Any good quality ceramic, tantalum, or film capacitor may be used at the input.

**Important:** Tantalum capacitors can suffer catastrophic failure due to surge current when connected to a low-impedance source of power (like a battery or very large capacitor). If a Tantalum capacitor is used at the input, it must be ensured by the manufacturer to have a surge current rating sufficient for the application.

There are no requirements for ESR on the input capacitor, but tolerance and temperature coefficient must be considered when selecting the capacitor to ensure the capacitance will be  $\geq$  1  $\mu$ F over the entire operating temperature range.

#### **Output Capacitor**

The LP2985-N is designed specifically to work with ceramic output capacitors, utilizing circuitry which allows the regulator to be stable across the entire range of output current with an output capacitor whose ESR is as low as  $5 \text{ m}\Omega$ . It may also be possible to use Tantalum or film capacitors at the output, but these are not as attractive for reasons of size and cost (see CAPACITOR CHARACTERISTICS).

The output capacitor must meet the requirement for minimum amount of capacitance and also have an ESR (equivalent series resistance) value which is within the stable range. Curves are provided which show the stable ESR range as a function of load current (see Figure 36).

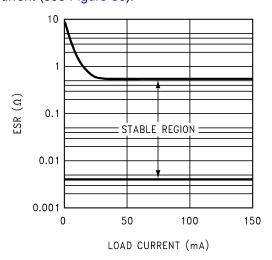


Figure 36. ESR Graph

**Important:** The output capacitor must maintain its ESR within the stable region over the full operating temperature range of the application to assure stability.

The LP2985-N requires a minimum of 2.2 µF on the output (output capacitor size can be increased without limit).

It is important to remember that capacitor tolerance and variation with temperature must be taken into consideration when selecting an output capacitor so that the minimum required amount of output capacitance is provided over the full operating temperature range. It should be noted that ceramic capacitors can exhibit large changes in capacitance with temperature (see CAPACITOR CHARACTERISTICS). The output capacitor must be located not more than 1 cm from the output pin and returned to a clean analog ground.



#### **Noise Bypass Capacitor**

Connecting a 10 nF capacitor to the Bypass pin significantly reduces noise on the regulator output. It should be noted that the capacitor is connected directly to a high-impedance circuit in the bandgap reference.

Because this circuit has only a few microamperes flowing in it, any significant loading on this node will cause a change in the regulated output voltage. For this reason, DC leakage current through the noise bypass capacitor must never exceed 100 nA, and should be kept as low as possible for best output voltage accuracy.

The types of capacitors best suited for the noise bypass capacitor are ceramic and film. High-quality ceramic capacitors with either NPO or COG dielectric typically have very low leakage. 10 nF polypropolene and polycarbonate film capacitors are available in small surface-mount packages and typically have extremely low leakage current.

#### **CAPACITOR CHARACTERISTICS**

The LP2985-N was designed to work with ceramic capacitors on the output to take advantage of the benefits they offer: for capacitance values in the 2.2  $\mu$ F to 4.7  $\mu$ F range, ceramics are the least expensive and also have the lowest ESR values (which makes them best for eliminating high-frequency noise). The ESR of a typical 2.2  $\mu$ F ceramic capacitor is in the range of 10 m $\Omega$  to 20 m $\Omega$ , which easily meets the ESR limits required for stability by the LP2985-N.

One disadvantage of ceramic capacitors is that their capacitance can vary with temperature. Most large value ceramic capacitors ( $\geq$  2.2 µF) are manufactured with the Z5U or Y5V temperature characteristic, which results in the capacitance dropping by more than 50% as the temperature goes from 25°C to 85°C.

This could cause problems if a 2.2  $\mu$ F capacitor were used on the output since it will drop down to approximately 1  $\mu$ F at high ambient temperatures (which could cause the LM2985 to oscillate). If Z5U or Y5V capacitors are used on the output, a minimum capacitance value of 4.7  $\mu$ F must be observed.

A better choice for temperature coefficient in ceramic capacitors is X7R, which holds the capacitance within ±15%. Unfortunately, the larger values of capacitance are not offered by all manufacturers in the X7R dielectric.

### **Tantalum**

Tantalum capacitors are less desirable than ceramics for use as output capacitors because they are more expensive when comparing equivalent capacitance and voltage ratings in the 1  $\mu$ F to 4.7  $\mu$ F range.

Another important consideration is that Tantalum capacitors have higher ESR values than equivalent size ceramics. This means that while it may be possible to find a Tantalum capacitor with an ESR value within the stable range, it would have to be larger in capacitance (which means bigger and more costly) than a ceramic capacitor with the same ESR value.

It should also be noted that the ESR of a typical Tantalum will increase about 2:1 as the temperature goes from 25°C down to −40°C, so some guard band must be allowed.

#### **On/Off Input Operation**

The LP2985-N is shut off by driving the ON/OFF input low, and turned on by pulling it high. If this feature is not to be used, the ON/OFF input should be tied to  $V_{IN}$  to keep the regulator output on at all times.

To assure proper operation, the signal source used to drive the ON/OFF input must be able to swing above and below the specified turn-on/turn-off voltage thresholds listed in the ELECTRICAL CHARACTERISTICS section under  $V_{ON/OFF}$ . To prevent mis-operation, the turn-on (and turn-off) voltage signals applied to the ON/OFF input must have a slew rate which is  $\geq$  40 mV/ $\mu$ s.

### **CAUTION**

The regulator output voltage cannot be ensured if a slow-moving AC (or DC) signal is applied that is in the range between the specified turn-on and turn-off voltages listed under the electrical specification  $V_{\text{ON/OFF}}$  (see ELECTRICAL CHARACTERISTICS).



#### REVERSE INPUT-OUTPUT VOLTAGE

The PNP power transistor used as the pass element in the LP2985-N has an inherent diode connected between the regulator output and input. During normal operation (where the input voltage is higher than the output) this diode is reverse-biased).

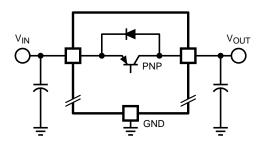


Figure 37. Reverse Current Path

However, if the output is pulled above the input, this diode will turn ON and current will flow into the regulator output. In such cases, a parasitic SCR can latch which will allow a high current to flow into  $V_{IN}$  (and out the ground pin), which can damage the part.

In any application where the output may be pulled above the input, an external Schottky diode must be connected from  $V_{IN}$  to  $V_{OUT}$  (cathode on  $V_{IN}$ , anode on  $V_{OUT}$ ), to limit the reverse voltage across the LP2985-N to 0.3V (see ABSOLUTE MAXIMUM RATINGS).

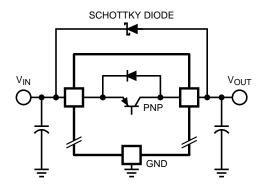


Figure 38. Reverse Current Protection

### **DSBGA MOUNTING**

The DSBGA package requires specific mounting techniques which are detailed in Texas Instruments Application Note 1112 (SNVA009). Referring to the section *Surface Mount Technology (SMT) Assembly Considerations*, it should be noted that the pad style which must be used with the 5-pin package is the NSMD (non-solder mask defined) type.

For best results during assembly, alignment ordinals on the PC board may be used to facilitate placement of the DSBGA device.

#### **DSBGA LIGHT SENSITIVITY**

Exposing the DSBGA device to direct sunlight will cause misoperation of the device. Light sources such as Halogen lamps can also affect electrical performance if brought near to the device.

The wavelenghts which have the most detrimental effect are reds and infra-reds, which means that the fluorescent lighting used inside most buildings has very little effect on performance. A DSBGA test board was brought to within 1 cm of a fluorescent desk lamp and the effect on the regulated output voltage was negligible, showing a deviation of less than 0.1% from nominal.

### SNVS018V -MARCH 2000-REVISED JUNE 2013



# **REVISION HISTORY**

Cł	nanges from Revision U (April 2013) to Revision V	Pa	ıge
•	Changed layout of National Data Sheet to TI format		13





### **PACKAGING INFORMATION**

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan	Lead/Ball Finish	MSL Peak Temp	Op Temp (°C)	Top-Side Markings	Samples
LP2985AIM5-2.5	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LAUA	Samples
LP2985AIM5-2.5/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LAUA	Samples
LP2985AIM5-2.7	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LALA	Samples
LP2985AIM5-2.7/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LALA	Samples
LP2985AIM5-2.8	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	L0KA	Samples
LP2985AIM5-2.8/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	L0KA	Samples
LP2985AIM5-2.9	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LAXA	Samples
LP2985AIM5-2.9/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LAXA	Samples
LP2985AIM5-3.0	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LOOA	Samples
LP2985AIM5-3.0/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOOA	Samples
LP2985AIM5-3.1	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LOPA	Samples
LP2985AIM5-3.1/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOPA	Samples
LP2985AIM5-3.3	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	L0RA	Samples
LP2985AIM5-3.3/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LORA	Samples
LP2985AIM5-3.6	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LOSA	Samples
LP2985AIM5-3.6/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOSA	Samples
LP2985AIM5-3.8	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LOYA	Samples
LP2985AIM5-3.8/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	L0YA	Samples
LP2985AIM5-4.0	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LOTA	Samples





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Orderable Device	Status	Package Type	Package Drawing	Pins	Package Qty	Eco Plan	Lead/Ball Finish	MSL Peak Temp	Op Temp (°C)	Top-Side Markings	Samples
LP2985AIM5-4.0/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOTA	Samples
LP2985AIM5-4.5	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LA7A	Samples
LP2985AIM5-4.5/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LA7A	Samples
LP2985AIM5-5.0	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LOUA	Samples
LP2985AIM5-5.0/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOUA	Samples
LP2985AIM5-5.7/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM		LKTA	Samples
LP2985AIM5-6.1	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LF6A	Samples
LP2985AIM5-6.1/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LF6A	Samples
LP2985AIM5X-2.5	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LAUA	Samples
LP2985AIM5X-2.5/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LAUA	Samples
LP2985AIM5X-2.6	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LCEA	Samples
LP2985AIM5X-2.6/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LCEA	Samples
LP2985AIM5X-2.7	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI		LALA	Samples
LP2985AIM5X-2.7/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM		LALA	Samples
LP2985AIM5X-2.8	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	L0KA	Samples
LP2985AIM5X-2.8/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOKA	Samples
LP2985AIM5X-2.9	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LAXA	Samples
LP2985AIM5X-2.9/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LAXA	Samples
LP2985AIM5X-3.0	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LOOA	Samples



Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan	Lead/Ball Finish	MSL Peak Temp	Op Temp (°C)	Top-Side Markings	Samples
LP2985AIM5X-3.0/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOOA	Samples
LP2985AIM5X-3.1	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LOPA	Samples
LP2985AIM5X-3.1/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	L0PA	Samples
LP2985AIM5X-3.3	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LORA	Samples
LP2985AIM5X-3.3/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LORA	Samples
LP2985AIM5X-3.6	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LOSA	Samples
LP2985AIM5X-3.6/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOSA	Samples
LP2985AIM5X-3.8	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LOYA	Samples
LP2985AIM5X-3.8/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOYA	Samples
LP2985AIM5X-4.0	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LOTA	Samples
LP2985AIM5X-4.0/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOTA	Samples
LP2985AIM5X-4.5	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LA7A	Samples
LP2985AIM5X-4.5/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LA7A	Samples
LP2985AIM5X-5.0	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LOUA	Samples
LP2985AIM5X-5.0/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOUA	Samples
LP2985AIM5X-5.7/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM		LKTA	Samples
LP2985AIM5X-6.1	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LF6A	Samples
LP2985AIM5X-6.1/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LF6A	Samples
LP2985AITL-3.3/NOPB	ACTIVE	DSBGA	YZR	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples





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Orderable Device	Status	Package Type	Package Drawing	Pins	Package Qty	Eco Plan	Lead/Ball Finish	MSL Peak Temp	Op Temp (°C)	Top-Side Markings	Samples
LP2985AITLX-3.3/NOPB	ACTIVE	DSBGA	YZR	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985AITP-2.6/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985AITP-2.7/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985AITP-2.8/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985AITP-2.9/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985AITP-3.0/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985AITP-3.3/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985AITP-5.0/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985AITPX-2.5/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985AITPX-2.6/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985AITPX-2.7/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985AITPX-2.8/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985AITPX-2.9/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985AITPX-3.0/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985AITPX-3.3/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985AITPX-5.0/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985IM5-2.5	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LAUB	Samples
LP2985IM5-2.5/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LAUB	Samples





Orderable Device	Status	Package Type	Package Drawing	Pins	Package Qty	Eco Plan	Lead/Ball Finish	MSL Peak Temp	Op Temp (°C)	Top-Side Markings	Samples
LP2985IM5-2.7	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI		LALB	Samples
LP2985IM5-2.7/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM		LALB	Samples
LP2985IM5-2.8	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	L0KB	Samples
LP2985IM5-2.8/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	L0KB	Samples
LP2985IM5-2.9	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LAXB	Samples
LP2985IM5-2.9/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LAXB	Samples
LP2985IM5-3.0	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	L0OB	Samples
LP2985IM5-3.0/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOOB	Samples
LP2985IM5-3.1	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LOPB	Samples
LP2985IM5-3.1/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOPB	Samples
LP2985IM5-3.2	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	L0QB	Samples
LP2985IM5-3.2/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	L0QB	Samples
LP2985IM5-3.3	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LORB	Samples
LP2985IM5-3.3/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	SN	Level-1-260C-UNLIM	-40 to 125	LORB	Samples
LP2985IM5-3.5	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LAIB	Samples
LP2985IM5-3.5/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LAIB	Samples
LP2985IM5-3.6	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LOSB	Samples
LP2985IM5-3.6/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOSB	Samples
LP2985IM5-3.8	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	L0YB	Samples



Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan	Lead/Ball Finish	MSL Peak Temp	Op Temp (°C)	Top-Side Markings	Samples
LP2985IM5-3.8/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOYB	Samples
LP2985IM5-4.0	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	LOTB	Samples
LP2985IM5-4.0/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	SN	Level-1-260C-UNLIM	-40 to 125	LOTB	Samples
LP2985IM5-4.5	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI		LA7B	Samples
LP2985IM5-4.5/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM		LA7B	Samples
LP2985IM5-5.0	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI	-40 to 125	L0UB	Samples
LP2985IM5-5.0/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	SN	Level-1-260C-UNLIM	-40 to 125	LOUB	Samples
LP2985IM5-5.7/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM		LKTB	Samples
LP2985IM5-6.1	ACTIVE	SOT-23	DBV	5	1000	TBD	Call TI	Call TI		LF6B	Samples
LP2985IM5-6.1/NOPB	ACTIVE	SOT-23	DBV	5	1000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM		LF6B	Samples
LP2985IM5X-2.5	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LAUB	Samples
LP2985IM5X-2.5/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LAUB	Samples
LP2985IM5X-2.7	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI		LALB	Samples
LP2985IM5X-2.7/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM		LALB	Samples
LP2985IM5X-2.8	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	L0KB	Samples
LP2985IM5X-2.8/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	L0KB	Samples
LP2985IM5X-2.9	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LAXB	Samples
LP2985IM5X-2.9/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LAXB	Samples
LP2985IM5X-3.0	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LOOB	Samples





Orderable Device	Status	Package Type	Package Drawing	Pins	Package Qty	Eco Plan	Lead/Ball Finish	MSL Peak Temp	Op Temp (°C)	Top-Side Markings	Samples
LP2985IM5X-3.0/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	L0OB	Samples
LP2985IM5X-3.1	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LOPB	Samples
LP2985IM5X-3.1/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	L0PB	Sample
LP2985IM5X-3.3	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LORB	Sample
LP2985IM5X-3.3/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	SN	Level-1-260C-UNLIM	-40 to 125	LORB	Sample
LP2985IM5X-3.6	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LOSB	Sample
LP2985IM5X-3.6/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOSB	Sample
LP2985IM5X-3.8	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	L0YB	Sample
LP2985IM5X-3.8/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	L0YB	Sample
LP2985IM5X-4.0	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LOTB	Sample
LP2985IM5X-4.0/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM	-40 to 125	LOTB	Sample
LP2985IM5X-4.5	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI		LA7B	Sample
LP2985IM5X-4.5/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM		LA7B	Sample
LP2985IM5X-5.0	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI	-40 to 125	LOUB	Sample
LP2985IM5X-5.0/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	SN	Level-1-260C-UNLIM	-40 to 125	LOUB	Sample
LP2985IM5X-5.7/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM		LKTB	Sample
LP2985IM5X-6.1	ACTIVE	SOT-23	DBV	5	3000	TBD	Call TI	Call TI		LF6B	Sample
LP2985IM5X-6.1/NOPB	ACTIVE	SOT-23	DBV	5	3000	Green (RoHS & no Sb/Br)	CU SN	Level-1-260C-UNLIM		LF6B	Sample
LP2985ITL-3.3/NOPB	ACTIVE	DSBGA	YZR	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Sample





Orderable Device	Status	Package Type	Package Drawing	Pins	Package Qty	Eco Plan	Lead/Ball Finish	MSL Peak Temp	Op Temp (°C)	Top-Side Markings	Samples
LP2985ITLX-3.3/NOPB	ACTIVE	DSBGA	YZR	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985ITP-2.5/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985ITP-2.6/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985ITP-2.7/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985ITP-2.8/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985ITP-2.9/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985ITP-3.0/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985ITP-3.3/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985ITP-5.0/NOPB	ACTIVE	DSBGA	YPB	5	250	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985ITPX-2.6/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985ITPX-2.7/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985ITPX-2.8/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985ITPX-2.9/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985ITPX-3.0/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM	-40 to 125	5	Samples
LP2985ITPX-3.3/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples
LP2985ITPX-5.0/NOPB	ACTIVE	DSBGA	YPB	5	3000	Green (RoHS & no Sb/Br)	SNAGCU	Level-1-260C-UNLIM		5	Samples

<sup>(1)</sup> The marketing status values are defined as follows: **ACTIVE:** Product device recommended for new designs.

LIFEBUY: TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.



# PACKAGE OPTION ADDENDUM

11-Apr-2013

PREVIEW: Device has been announced but is not in production. Samples may or may not be available.

**OBSOLETE:** TI has discontinued the production of the device.

(2) Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS), Pb-Free (RoHS Exempt), or Green (RoHS & no Sb/Br) - please check http://www.ti.com/productcontent for the latest availability information and additional product content details.

**TBD:** The Pb-Free/Green conversion plan has not been defined.

Pb-Free (RoHS): TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.

**Pb-Free (RoHS Exempt):** This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package, or 2) lead-based die adhesive used between the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.

Green (RoHS & no Sb/Br): TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

(3) MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

(4) Multiple Top-Side Markings will be inside parentheses. Only one Top-Side Marking contained in parentheses and separated by a "~" will appear on a device. If a line is indented then it is a continuation of the previous line and the two combined represent the entire Top-Side Marking for that device.

Important Information and Disclaimer: The information provided on this page represents TI's knowledge and belief as of the date that it is provided. TI bases its knowledge and belief on information provided by third parties, and makes no representation or warranty as to the accuracy of such information. Efforts are underway to better integrate information from third parties. TI has taken and continues to take reasonable steps to provide representative and accurate information but may not have conducted destructive testing or chemical analysis on incoming materials and chemicals. TI and TI suppliers consider certain information to be proprietary, and thus CAS numbers and other limited information may not be available for release.

In no event shall TI's liability arising out of such information exceed the total purchase price of the TI part(s) at issue in this document sold by TI to Customer on an annual basis.

www.ti.com 8-Apr-2013

# TAPE AND REEL INFORMATION





	Dimension designed to accommodate the component width
B0	Dimension designed to accommodate the component length
K0	Dimension designed to accommodate the component thickness
W	Overall width of the carrier tape
P1	Pitch between successive cavity centers

### QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



\*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
LP2985AIM5-2.5	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-2.5/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-2.7	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-2.7/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-2.8	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-2.8/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-2.9	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-2.9/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-3.0	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-3.0/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-3.1	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-3.1/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-3.3	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-3.3/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-3.6	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-3.6/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-3.8	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-3.8/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3



Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
LP2985AIM5-4.0	SOT-23	DBV	5	1000	(mm) 178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-4.0/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-4.5	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-4.5/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-5.0	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-5.0/NOPB	SOT-23	DBV	5	1000	178.0		3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-5.7/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0		Q3
						8.4				_	8.0	
LP2985AIM5-6.1	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5-6.1/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-2.5	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-2.5/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-2.6	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-2.6/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-2.7	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-2.7/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-2.8	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-2.8/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-2.9	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-2.9/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-3.0	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-3.0/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-3.1	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-3.1/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-3.3	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-3.3/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-3.6	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-3.6/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-3.8	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-3.8/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-4.0	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-4.0/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-4.5	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-4.5/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-5.0	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-5.0/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-5.7/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-6.1	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AIM5X-6.1/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985AITL-3.3/NOPB	DSBGA	YZR	5	250	178.0	8.4	1.14	1.47	0.76	4.0	8.0	Q1
LP2985AITLX-3.3/NOPB	DSBGA	YZR	5	3000	178.0	8.4	1.14	1.47	0.76	4.0	8.0	Q1
LP2985AITP-2.6/NOPB	DSBGA	YPB	5	250	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985AITP-2.7/NOPB	DSBGA	YPB	5	250	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
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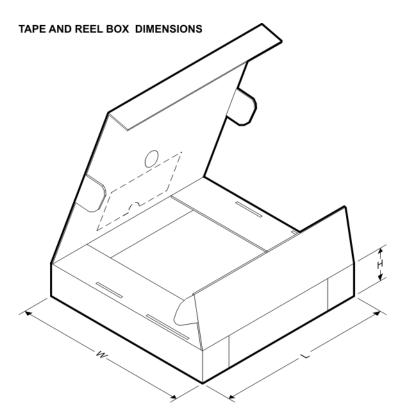
Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter		A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
					(mm)	W1 (mm)						_
LP2985AITP-2.9/NOPB	DSBGA	YPB	5	250	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985AITP-3.0/NOPB	DSBGA	YPB	5	250	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985AITP-3.3/NOPB	DSBGA	YPB	5	250	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985AITP-5.0/NOPB	DSBGA	YPB	5	250	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985AITPX-2.5/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985AITPX-2.6/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985AITPX-2.7/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985AITPX-2.8/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985AITPX-2.9/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985AITPX-3.0/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985AITPX-3.3/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985AITPX-5.0/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985IM5-2.5	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-2.5/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-2.7	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-2.7/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-2.8	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-2.8/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-2.9	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-2.9/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-3.0	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-3.0/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-3.1	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-3.1/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-3.2	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-3.2/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-3.3	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-3.3/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-3.5	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-3.5/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-3.6	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-3.6/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-3.8	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-3.8/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-4.0	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-4.0/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-4.5	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-4.5/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-5.0	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-5.0/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IIVI5-5.0/NOPB	SOT-23	DBV	5	1000	178.0			3.2		4.0	8.0	Q3
						8.4	3.2		1.4			
LP2985IM5-6.1	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5-6.1/NOPB	SOT-23	DBV	5	1000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3



Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
LP2985IM5X-2.5	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-2.5/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-2.7	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-2.7/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-2.8	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-2.8/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-2.9	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-2.9/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-3.0	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-3.0/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-3.1	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-3.1/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-3.3	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-3.3/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-3.6	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-3.6/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-3.8	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-3.8/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-4.0	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-4.0/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-4.5	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-4.5/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-5.0	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-5.0/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-5.7/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-6.1	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985IM5X-6.1/NOPB	SOT-23	DBV	5	3000	178.0	8.4	3.2	3.2	1.4	4.0	8.0	Q3
LP2985ITL-3.3/NOPB	DSBGA	YZR	5	250	178.0	8.4	1.14	1.47	0.76	4.0	8.0	Q1
LP2985ITLX-3.3/NOPB	DSBGA	YZR	5	3000	178.0	8.4	1.14	1.47	0.76	4.0	8.0	Q1
LP2985ITP-2.5/NOPB	DSBGA	YPB	5	250	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985ITP-2.6/NOPB	DSBGA	YPB	5	250	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985ITP-2.7/NOPB	DSBGA	YPB	5	250	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985ITP-2.8/NOPB	DSBGA	YPB	5	250	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985ITP-2.9/NOPB	DSBGA	YPB	5	250	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985ITP-3.0/NOPB	DSBGA	YPB	5	250	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985ITP-3.3/NOPB	DSBGA	YPB	5	250	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985ITP-5.0/NOPB	DSBGA	YPB	5	250	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985ITPX-2.6/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985ITPX-2.7/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985ITPX-2.8/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985ITPX-2.9/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985ITPX-3.0/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1
LP2985ITPX-3.3/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1



Device	Package Type	Package Drawing		SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
LP2985ITPX-5.0/NOPB	DSBGA	YPB	5	3000	178.0	8.4	1.02	1.19	0.66	4.0	8.0	Q1



\*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
LP2985AIM5-2.5	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-2.5/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-2.7	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-2.7/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-2.8	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-2.8/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-2.9	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-2.9/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-3.0	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-3.0/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-3.1	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-3.1/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-3.3	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-3.3/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-3.6	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-3.6/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0



Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
LP2985AIM5-3.8	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-3.8/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-4.0	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-4.0/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-4.5	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-4.5/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-5.0	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-5.0/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-5.7/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-6.1	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5-6.1/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985AIM5X-2.5	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-2.5/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-2.6	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-2.6/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-2.7	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-2.7/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-2.8	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-2.8/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-2.9	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-2.9/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-3.0	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-3.0/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-3.1	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-3.1/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-3.3	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-3.3/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-3.6	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-3.6/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-3.8	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-3.8/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-4.0	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-4.0/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-4.5	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-4.5/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-5.0	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-5.0/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-5.7/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-6.1	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AIM5X-6.1/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985AITL-3.3/NOPB	DSBGA	YZR	5	250	210.0	185.0	35.0
LP2985AITLX-3.3/NOPB	DSBGA	YZR	5	3000	210.0	185.0	35.0
LP2985AITP-2.6/NOPB	DSBGA	YPB	5	250	210.0	185.0	35.0
LP2985AITP-2.7/NOPB	DSBGA	YPB	5	250	210.0	185.0	35.0



Device P  LP2985AITP-2.8/NOPB  LP2985AITP-3.0/NOPB  LP2985AITP-3.3/NOPB  LP2985AITP-5.0/NOPB  LP2985AITP-5.0/NOPB  LP2985AITPX-2.5/NOPB  LP2985AITPX-2.7/NOPB	DSBGA DSBGA DSBGA DSBGA DSBGA DSBGA DSBGA DSBGA DSBGA	YPB YPB YPB YPB YPB YPB YPB YPB	5 5 5 5	250 250 250	210.0 210.0	Width (mm) 185.0 185.0	35.0 35.0
LP2985AITP-2.9/NOPB  LP2985AITP-3.0/NOPB  LP2985AITP-3.3/NOPB  LP2985AITP-5.0/NOPB  LP2985AITPX-2.5/NOPB  LP2985AITPX-2.6/NOPB	DSBGA DSBGA DSBGA DSBGA DSBGA	YPB YPB YPB YPB	5 5	250			
LP2985AITP-3.0/NOPB LP2985AITP-3.3/NOPB LP2985AITP-5.0/NOPB LP2985AITPX-2.5/NOPB LP2985AITPX-2.6/NOPB	DSBGA DSBGA DSBGA DSBGA	YPB YPB YPB	5		210.0		3D U
LP2985AITP-3.3/NOPB LP2985AITP-5.0/NOPB LP2985AITPX-2.5/NOPB LP2985AITPX-2.6/NOPB	DSBGA DSBGA DSBGA	YPB YPB			210.0	185.0	35.0
LP2985AITP-5.0/NOPB LP2985AITPX-2.5/NOPB LP2985AITPX-2.6/NOPB	DSBGA DSBGA	YPB		250	210.0	185.0	35.0
LP2985AITPX-2.5/NOPB LP2985AITPX-2.6/NOPB	DSBGA		5	250	210.0	185.0	35.0
LP2985AITPX-2.6/NOPB			5	3000	210.0	185.0	35.0
	Вовол	YPB	5	3000	210.0	185.0	35.0
El 2000/IIII / Zii//IOI B	DSBGA	YPB	5	3000	210.0	185.0	35.0
LP2985AITPX-2.8/NOPB	DSBGA	YPB	5	3000	210.0	185.0	35.0
LP2985AITPX-2.9/NOPB	DSBGA	YPB	5	3000	210.0	185.0	35.0
LP2985AITPX-3.0/NOPB	DSBGA	YPB	5	3000	210.0	185.0	35.0
LP2985AITPX-3.3/NOPB	DSBGA	YPB	5	3000	210.0	185.0	35.0
LP2985AITPX-5.0/NOPB	DSBGA	YPB	5	3000	210.0	185.0	35.0
LP2985IM5-2.5	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-2.5/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-2.7	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-2.7/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-2.8	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-2.8/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-2.9	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-2.9/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-3.0	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-3.0/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-3.1	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-3.1/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-3.2	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-3.2/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-3.3	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-3.3/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-3.5	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-3.5/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-3.6	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-3.6/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-3.8	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-3.8/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-4.0	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-4.0/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-4.5	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-4.5/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-5.0	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-5.0/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-5.7/NOPB	SOT-23	DBV	5	1000	210.0	185.0	35.0
LP2985IM5-5.7/NOPB	SOT-23	DBV			210.0	185.0	35.0
LP2985IM5-6.1 LP2985IM5-6.1/NOPB	SOT-23	DBV	5 5	1000	210.0	185.0	35.0



Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
LP2985IM5X-2.5	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-2.5/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-2.7	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-2.7/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-2.8	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-2.8/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-2.9	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-2.9/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-3.0	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-3.0/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-3.1	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-3.1/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-3.3	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-3.3/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-3.6	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-3.6/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-3.8	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-3.8/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-4.0	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-4.0/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-4.5	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-4.5/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-5.0	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-5.0/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-5.7/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-6.1	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985IM5X-6.1/NOPB	SOT-23	DBV	5	3000	210.0	185.0	35.0
LP2985ITL-3.3/NOPB	DSBGA	YZR	5	250	210.0	185.0	35.0
LP2985ITLX-3.3/NOPB	DSBGA	YZR	5	3000	210.0	185.0	35.0
LP2985ITP-2.5/NOPB	DSBGA	YPB	5	250	210.0	185.0	35.0
LP2985ITP-2.6/NOPB	DSBGA	YPB	5	250	210.0	185.0	35.0
LP2985ITP-2.7/NOPB	DSBGA	YPB	5	250	210.0	185.0	35.0
LP2985ITP-2.8/NOPB	DSBGA	YPB	5	250	210.0	185.0	35.0
LP2985ITP-2.9/NOPB	DSBGA	YPB	5	250	210.0	185.0	35.0
LP2985ITP-3.0/NOPB	DSBGA	YPB	5	250	210.0	185.0	35.0
LP2985ITP-3.3/NOPB	DSBGA	YPB	5	250	210.0	185.0	35.0
LP2985ITP-5.0/NOPB	DSBGA	YPB	5	250	210.0	185.0	35.0
LP2985ITPX-2.6/NOPB	DSBGA	YPB	5	3000	210.0	185.0	35.0
LP2985ITPX-2.7/NOPB	DSBGA	YPB	5	3000	210.0	185.0	35.0
LP2985ITPX-2.8/NOPB	DSBGA	YPB	5	3000	210.0	185.0	35.0
LP2985ITPX-2.9/NOPB	DSBGA	YPB	5	3000	210.0	185.0	35.0
LP2985ITPX-3.0/NOPB	DSBGA	YPB	5	3000	210.0	185.0	35.0
LP2985ITPX-3.3/NOPB	DSBGA	YPB	5	3000	210.0	185.0	35.0
LP2985ITPX-5.0/NOPB	DSBGA	YPB	5	3000	210.0	185.0	35.0

# DBV (R-PDSO-G5)

# PLASTIC SMALL-OUTLINE PACKAGE



NOTES:

- A. All linear dimensions are in millimeters.
  - B. This drawing is subject to change without notice.
  - C. Body dimensions do not include mold flash or protrusion. Mold flash and protrusion shall not exceed 0.15 per side.
  - D. Falls within JEDEC MO-178 Variation AA.



# DBV (R-PDSO-G5)

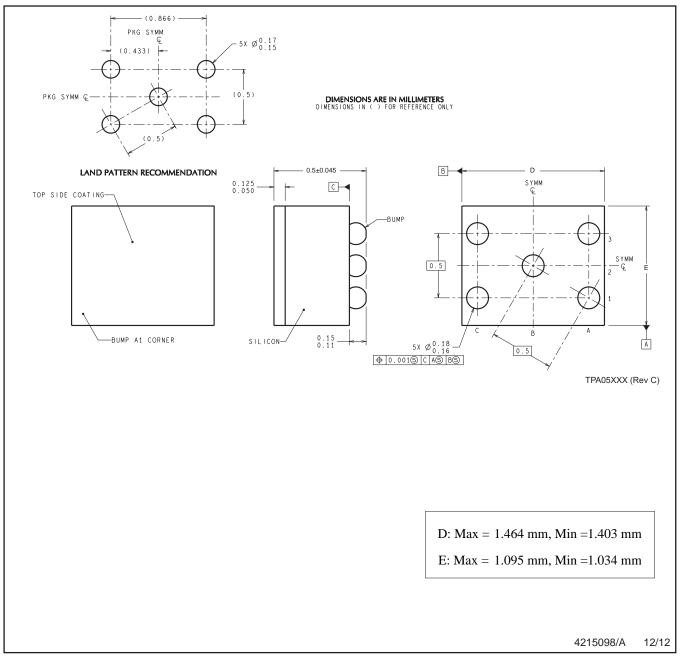
# PLASTIC SMALL OUTLINE



NOTES:

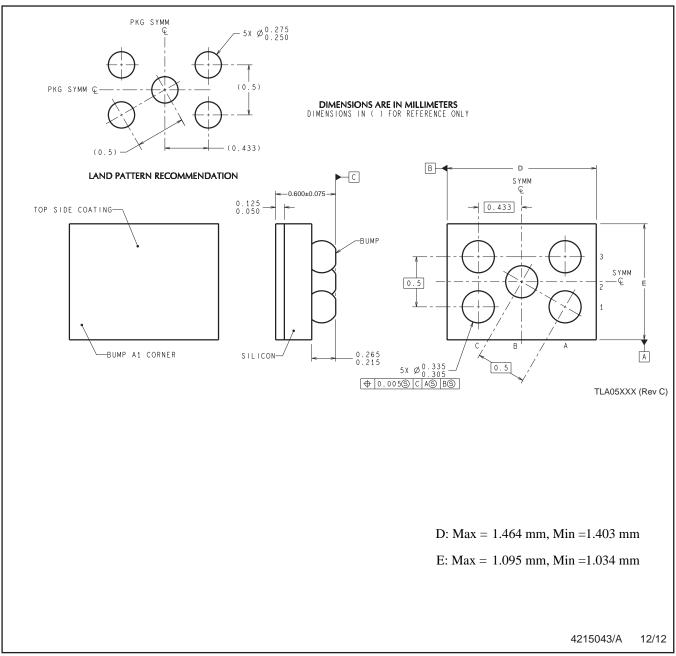
- A. All linear dimensions are in millimeters.
- B. This drawing is subject to change without notice.
- C. Customers should place a note on the circuit board fabrication drawing not to alter the center solder mask defined pad.
- D. Publication IPC-7351 is recommended for alternate designs.
- E. Laser cutting apertures with trapezoidal walls and also rounding corners will offer better paste release. Customers should contact their board assembly site for stencil design recommendations. Example stencil design based on a 50% volumetric metal load solder paste. Refer to IPC-7525 for other stencil recommendations.





NOTES: A. All linear dimensions are in millimeters. Dimensioning and tolerancing per ASME Y14.5M-1994.

B. This drawing is subject to change without notice.



NOTES: A. All linear dimensions are in millimeters. Dimensioning and tolerancing per ASME Y14.5M-1994. B. This drawing is subject to change without notice.



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