

## CHANGE NOTIFICATION



NOW PART OF



Analog Devices, Inc.  
1630 McCarthy Blvd., Milpitas CA  
(408) 432-1900

August 10, 2017

PCN#081017

Dear Sir/Madam:

**Subject: Notification of Change to LTC4367 Datasheet**

Please be advised that Analog Devices, Inc. Milpitas, California has made a minor change to the LTC4367 product datasheet to facilitate improvement in our manufacturing capability. The changes are shown on the attached pages of the marked up datasheet. There was no change in form, fit, function, quality or reliability of the product. The product shipped after October 10, 2017 will be tested to the new limits.

Should you have any questions or concerns please contact your local Analog Devices sales representatives or you may contact me at 408-432-1900 ext. 2077, or by e-mail at [JASON.HU@ANALOG.COM](mailto:JASON.HU@ANALOG.COM). If I do not hear from you by October 10, 2017, we will consider this change to be approved by your company.

Sincerely,

Jason Hu  
Quality Assurance Engineer

## LTC4367

**ORDER INFORMATION**<http://www.linear.com/product/LTC4367#orderinfo>

LEAD FREE FINISH	TAPE AND REEL	PART MARKING*	PACKAGE DESCRIPTION	TEMPERATURE RANGE
LTC4367CDD#PBF	LTC4367CDD#TRPBF	LGTF	8-Lead (3mm × 3mm) Plastic DFN	0°C to 70°C
LTC4367CDD-1#PBF	LTC4367CDD-1#TRPBF	LGWW	8-Lead (3mm × 3mm) Plastic DFN	0°C to 70°C
LTC4367IDD#PBF	LTC4367IDD#TRPBF	LGTF	8-Lead (3mm × 3mm) Plastic DFN	-40°C to 85°C
LTC4367IDD-1#PBF	LTC4367IDD-1#TRPBF	LGWW	8-Lead (3mm × 3mm) Plastic DFN	-40°C to 85°C
LTC4367HDD#PBF	LTC4367HDD#TRPBF	LGTF	8-Lead (3mm × 3mm) Plastic DFN	-40°C to 125°C
LTC4367HDD-1#PBF	LTC4367HDD-1#TRPBF	LGWW	8-Lead (3mm × 3mm) Plastic DFN	-40°C to 125°C
LTC4367CMS8#PBF	LTC4367CMS8#TRPBF	LTGTD	8-Lead Plastic MSOP	0°C to 70°C
LTC4367CMS8-1#PBF	LTC4367CMS8-1#TRPBF	LTGVX	8-Lead Plastic MSOP	0°C to 70°C
LTC4367IMS8#PBF	LTC4367IMS8#TRPBF	LTGTD	8-Lead Plastic MSOP	-40°C to 85°C
LTC4367IMS8-1#PBF	LTC4367IMS8-1#TRPBF	LTGVX	8-Lead Plastic MSOP	-40°C to 85°C
LTC4367HMS8#PBF	LTC4367HMS8#TRPBF	LTGTD	8-Lead Plastic MSOP	-40°C to 125°C
LTC4367HMS8-1#PBF	LTC4367HMS8-1#TRPBF	LTGVX	8-Lead Plastic MSOP	-40°C to 125°C

Consult LTC Marketing for parts specified with wider operating temperature ranges. \*The temperature grade is identified by a label on the shipping container.

For more information on lead free part marking, go to: <http://www.linear.com/leadfree/>

For more information on tape and reel specifications, go to: <http://www.linear.com/tapeandree/>. Some packages are available in 500 unit reels through designated sales channels with #TRMPBF suffix.

## ELECTRICAL CHARACTERISTICS

The ● denotes the specifications which apply over the full operating temperature range, otherwise specifications are at  $T_A = 25^\circ\text{C}$ ,  $V_{IN} = 2.5\text{V}$  to  $60\text{V}$ , unless otherwise noted. (Note 2)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
<b><math>V_{IN}</math>, <math>V_{OUT}</math></b>						
$V_{IN}$	Input Voltage: Operating Range		● 2.5		60	V
	Protection Range		● -40		100	V
$V_{IN(UVLO)}$	Input Supply Undervoltage Lockout	$V_{IN}$ Rising	● 1.8	2.2	2.4	V
$I_{VIN}$	Input Supply Current: On	$\overline{\text{SHDN}} = 2.5\text{V}$	●	30	90	$\mu\text{A}$
	Off	$\overline{\text{SHDN}} = 0\text{V}$ , $V_{IN} = V_{OUT}$	●	5	20	$\mu\text{A}$
$I_{VIN(R)}$	Reverse Input Supply Current	$V_{IN} = -40\text{V}$ , $V_{OUT} = 0\text{V}$	●	-1.5	-2.5	mA
$I_{VOUT}$	$V_{OUT}$ Input Current: On	$\overline{\text{SHDN}} = 2.5\text{V}$ , $V_{IN} = V_{OUT}$	●	40	110	$\mu\text{A}$
	Off	$\overline{\text{SHDN}} = 0\text{V}$ , $V_{IN} = V_{OUT}$	●	3	15	$\mu\text{A}$
	Reverse	$V_{IN} = -40\text{V}$ , $V_{OUT} = 0\text{V}$	●	20	50	$\mu\text{A}$
<b>GATE</b>						
$\Delta V_{GATE}$	Gate Drive ( $GATE - V_{OUT}$ )	$V_{IN} = V_{OUT} = 5.0\text{V}$ , $I_{GATE} = 0\mu\text{A}$ , $-1\mu\text{A}$	● 7.2	8.7	10.8	V
		$V_{IN} = V_{OUT} = 12\text{V}$ to $60\text{V}$ , $I_{GATE} = 0\mu\text{A}$ , $-1\mu\text{A}$	● 10	11	13.1	V
$I_{GATE(UP)}$	Gate Pull Up Current	$GATE = 15\text{V}$ , $V_{IN} = V_{OUT} = 12\text{V}$	●	-20	-35	$\mu\text{A}$
$I_{GATE(SLOW)}$	Gate Slow Pull Down Current	$GATE = 20\text{V}$ , $V_{IN} = V_{OUT} = 12\text{V}$	●	50	90	$\mu\text{A}$
$I_{GATE(FAST)}$	Gate Fast Pull Down Current	$GATE = 20\text{V}$ , $V_{IN} = V_{OUT} = 12\text{V}$	●	30	60	mA
$t_{GATE(SLOW)}$	Slow Turn Off Delay	$C_{GATE} = 2.2\text{nF}$ , $\overline{\text{SHDN}}$ Falling, $V_{IN} = V_{OUT} = 12\text{V}$	●	150	250	$\mu\text{s}$
$t_{GATE(FAST)}$	Gate Fast Turn Off Delay	$C_{GATE} = 2.2\text{nF}$ , UV or OV Fault	●	2	6	$\mu\text{s}$

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For more information [www.linear.com/LTC4367](http://www.linear.com/LTC4367)

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## LTC4367

## ELECTRICAL CHARACTERISTICS

The ● denotes the specifications which apply over the full operating temperature range, otherwise specifications are at  $T_A = 25^\circ\text{C}$ .  $V_{IN} = 2.5\text{V}$  to  $60\text{V}$ , unless otherwise noted. (Note 2)

SYMBOL	PARAMETER	CONDITIONS		MIN	TYP	MAX	UNITS
$t_{D(ON)}$	GATE Turn-On Delay Time	$V_{IN} = 12\text{V}$ , Power Good to $\Delta V_{GATE} > 0\text{V}$ , $C_{GATE} = 2.2\text{nF}$ LTC4367 LTC4367-1	● ●	22 0.2	32 0.5	45 1.2	ms ms
<b>UV, OV</b>							
$V_{UV}$	UV Input Threshold Voltage	UV Falling	●	492.5	500	507.5	mV
$V_{OV}$	OV Input Threshold Voltage	OV Rising	●	492.5	500	507.5	mV
$V_{UVHYST}$	UV Input Hysteresis	$V_{IN} = V_{OUT} = 12\text{V}$	●	20	25	32	mV
$V_{OVHYST}$	OV Input Hysteresis	$V_{IN} = V_{OUT} = 12\text{V}$	●	20	25	32	mV
$I_{LEAK}$	UV, OV Leakage Current	$V = 0.5\text{V}$ , $V_{IN} = 60\text{V}$	●			$\pm 10$	nA
$t_{FAULT}$	UV, OV Fault Propagation Delay	Overdrive = $50\text{mV}$ $V_{IN} = V_{OUT} = 12\text{V}$	●		1	2	$\mu\text{s}$
<b>SHDN</b>							
$V_{SHDN}$	$\overline{\text{SHDN}}$ Input Threshold	SHDN Falling	●	0.4	0.75	1.2	V
$I_{SHDN}$	$\overline{\text{SHDN}}$ Input Current	SHDN = $10\text{V}$ , $V_{IN} = 60\text{V}$	●			$\pm 15$	nA
$t_{START}$	Delay Coming Out of Shutdown Mode	SHDN Rising to FAULT Released, $V_{IN} = V_{OUT} = 12\text{V}$ LTC4367 LTC4367-1	●	400 125	800 250	1400 500	$\mu\text{s}$ $\mu\text{s}$
$t_{SHDN(F)}$	$\overline{\text{SHDN}}$ to $\overline{\text{FAULT}}$ Asserted	$V_{IN} = V_{OUT} = 12\text{V}$	●		1.5	3	$\mu\text{s}$
$t_{LOWPWR}$	Delay from Turn Off to Low Power Operation	$V_{IN} = V_{OUT} = 12\text{V}$ LTC4367 LTC4367-1	● ●	20 0.125	32 0.3	48 0.6	ms ms
<b>FAULT</b>							
$V_{OL}$	$\overline{\text{FAULT}}$ Output Voltage Low	$I_{FAULT} = 500\mu\text{A}$ , $V_{IN} = 12\text{V}$	●		0.15	0.4	V
$I_{FAULT}$	$\overline{\text{FAULT}}$ Leakage Current	$\overline{\text{FAULT}} = 5\text{V}$ , $V_{IN} = 60\text{V}$	●			$\pm 200$	nA

**Note 1.** Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. Exposure to any Absolute Maximum Rating condition for extended periods may affect device reliability and lifetime.

**Note 2.** All currents into pins are positive; all voltages are referenced to GND unless otherwise noted.

**Note 3.** These pins have a diode to GND. They may go below  $-0.3\text{V}$  if the current magnitude is limited to less than  $1\text{mA}$ .

**Note 4.** The GATE pin is referenced to  $V_{OUT}$  and does not exceed  $73\text{V}$  for the entire operating range.

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