



# California Micro Devices Product Release

**CM3015**

**300mA Low Noise LDO  
Regulator**



# Overview

- CM3015 is a 300mA very low noise and low dropout (LDO) regulator
  - Second member of the Power Wise Regulator™ product family
- Ideal for mobile applications since it has low quiescent current combined with low noise
- May also be used in computing and consumer electronics applications



# CM3015 Features

- Regulated output voltages:
  - 3.3V, 3.0V, 2.8V, 2.5V, 1.8V, 1.5V, 1.2V and Adjustable
- Low dropout voltage of 210mV @ 300mA
- High Power Supply Ripple Rejection (PSRR) - 75dB @ 1kHz
- Low quiescent current ~ 150 $\mu$ A
- Thermal and current overload protection
- Available in SOT23-5 and MSOP8 (Power)



# CM3015 Applications

## ■ Applications

- Battery Charger section of mobile design
- Provide low noise and high PSRR to audio IC for improved sound fidelity
- Regulated output voltage to chipsets

## ■ Product Applications

- Wireless Handsets
- Digital Still Cameras
- Handheld PCs/PDAs
- MP3 Players

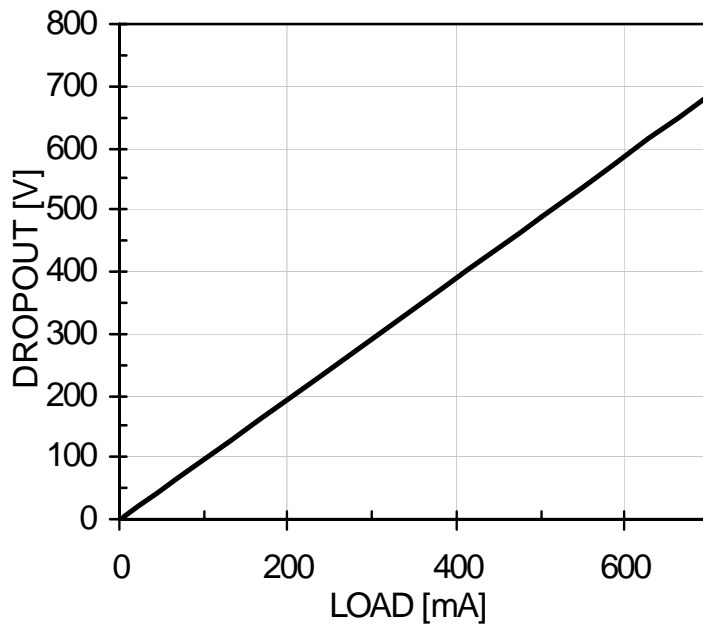


# Features & Benefits

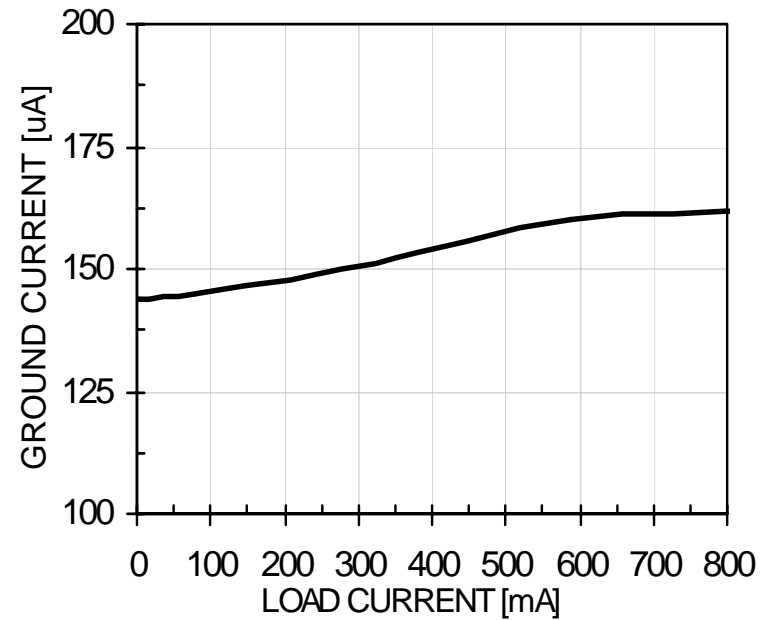
<b>Feature</b>	<b>Benefit</b>
Excellent Line and Load Regulation	■ Stable output voltage with little variation for sensitive circuits and chipsets
Very Low Dropout Voltage	■ Improved efficiency as it is able to regulate the output voltage with a low supply voltage
Low Quiescent Current	■ Conserves power and extends battery life in mobile electronics
Low Noise & High PSRR	■ Provides a very “quiet” output voltage for sensitive ASICs and chipsets
Fast Enable Response Time regardless of Bypass Capacitor Size	■ Enables CM3019 to be turned on or off very quickly such that chipset will be powered when needed so user won't face delay in operation and conserve power when it needs to be turned off
Thermal and Overcurrent Protection	■ Provides protection for CM3019 itself and the application circuit it supports



# CM3015 – DC Characteristics



Dropout Voltage vs. Load Current

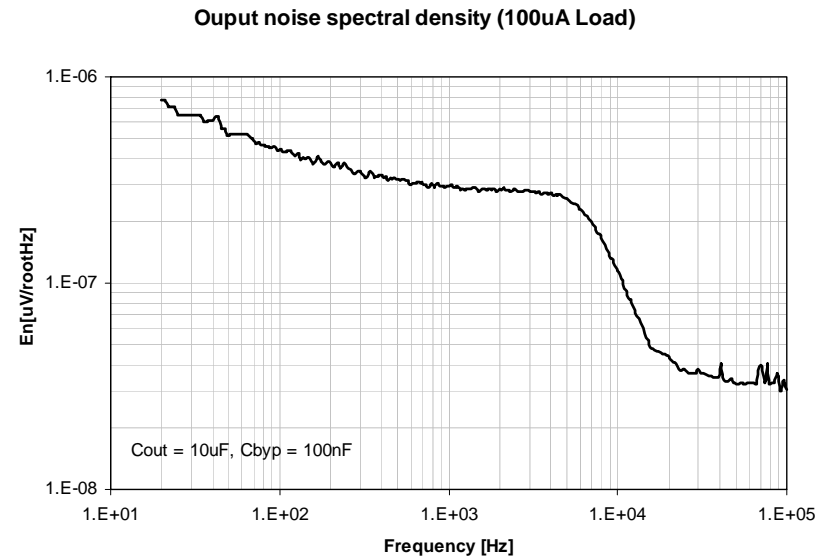


Ground Current vs. Load



# CM3015 Noise Performance

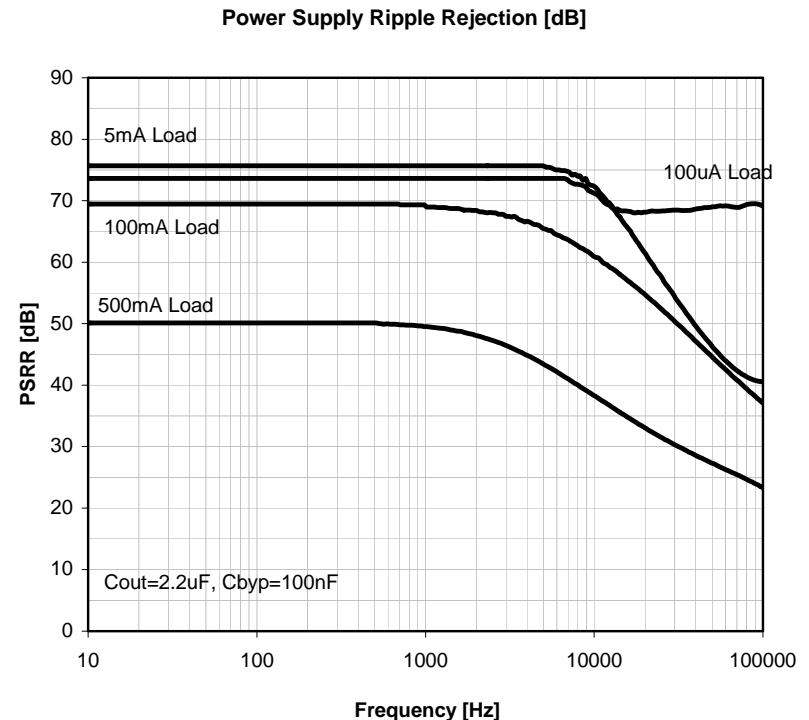
- Using ceramic Bypass capacitor improves noise performance
- Output noise is about  $30\mu\text{V}_{\text{RMS}}$  from 300Hz to 100kHz
- Using ceramic capacitors maintains performance while lowering solution cost





# CM3015 PSRR Performance

- Implementing bypass capacitor maximizes the PSRR
- 70dB of ripple rejection out to 1kHz for 100mA current load
- CM3015 designed to be stable with low ESR capacitors
  - Lower overall solution cost while maintaining level of performance

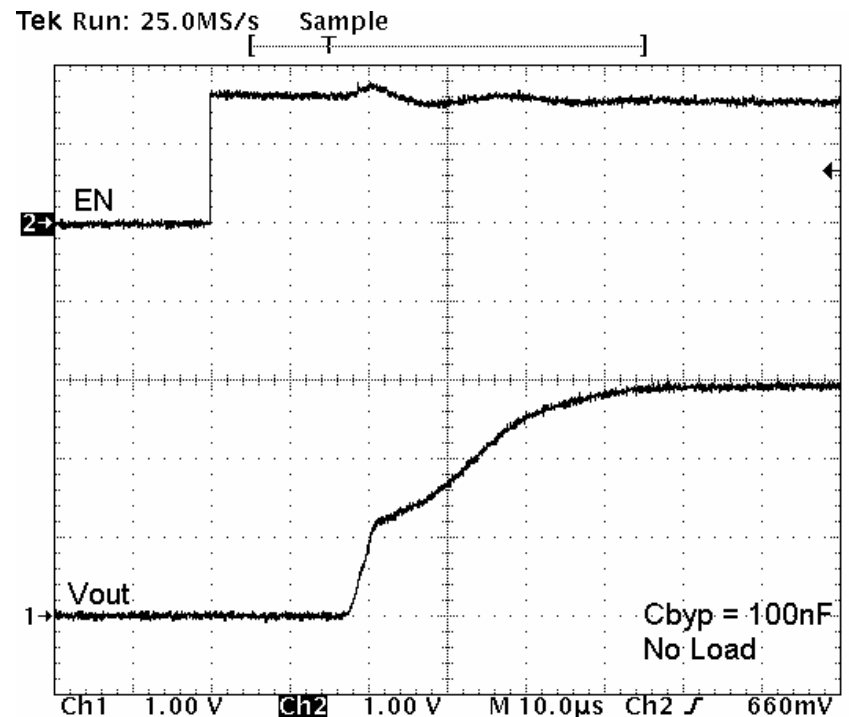
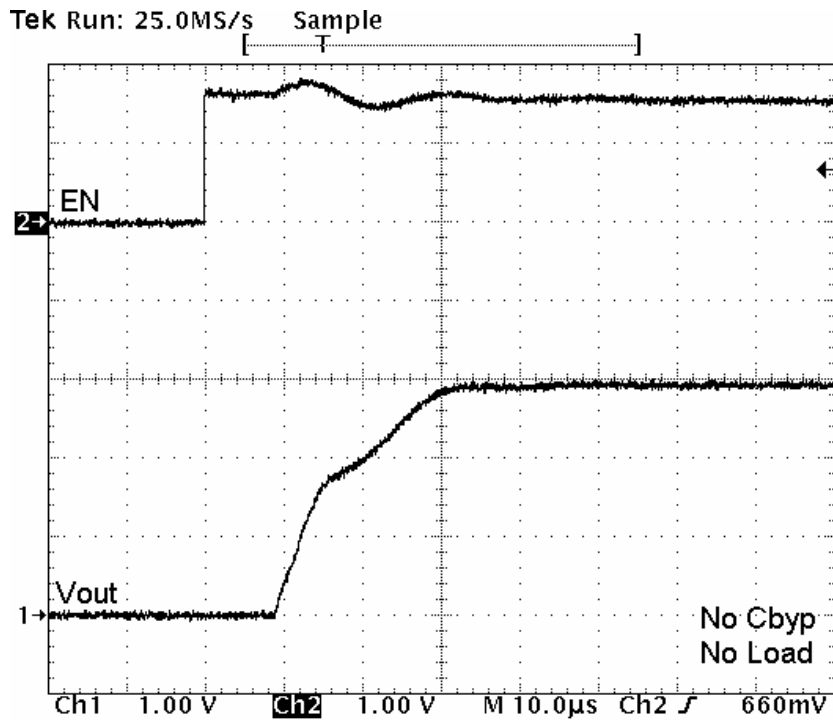


Power Supply Ripple Rejection vs. Frequency



# CM3015 Enable Response Time

*No Bypass Capacitor vs. 100nF Bypass Capacitor*



CM3015 with no load and no bypass capacitor.

CM3015 with no load and 100nF bypass capacitor.



# Pricing & Availability

- Samples are available
- CM3015 is available in production volumes
- Lead-free option scheduled for production release in February 2004

CAMD Product Number	Unit Price @ 1ku
CM3015-xxST	\$0.490
CM3015-xxMA	\$0.660