LGT8F48D/88D/168D/328D

More than Compatibility

More fast instruction efficiency

More accuracy internal frequency

More accuracy voltage reference

More fast timer and PWM

More security PWM timing

More accuracy 12bit ADC

More useful Analog comparator

More useful analog frontend

More easy power control

More packages

More cost friendly!!

FEATURES

More family members

LGT8F48D: 4KB FLASH, 512B SRAM, 1KB Data FLASH
LGT8F88D: 8KB FLASH, 1KB SRAM, 2KB Data FLASH
LGT8F168D: 16KB FLASH, 1KB SRAM, 4KB Data FLASH
LGT8F328D: 32KB FLASH, 2KB SRAM, Shared Data FLASH

More Fast Timers

Two 8bit Timer/Counter with independent prescaler
One 16bit Timer/Counter with independent prescaler
64MHz internal frequency for fast and high resolution PWM
Up to 6 channels PWM **with dead band** support

More accuracy analog modules

8-channel 12bit Analog to Digital Converter (ADC)
Internal independent power monitor channel (VCC/4)
Internal High resolution **1.25V/2.56V** $\pm$**1%** voltage reference
2x Analog comparator with 2x 8bit DAC for internal reference
2x Fixed-gain, dual direction OPA frontend for ADC/AC
2-channel 8bit DAC output

More other improvements

High resolution internal **16MHz** $\pm$**1%** RC oscillator
Low power 32KHz RC oscillator
Low power POR and 3-level Low voltage detector
More efficiency active and sleep power control

Digital Peripherals

SWD Two-wire On Chip Debug & Programming Interface
Programmable Watch dog timer
Async/Sync Universal Receiver/Transmitter (USART)
Master/Slave SPI Interface
Master/Slave Two-wire Interface (TWI), compatible with I2C
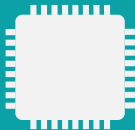
More Robust Working Environment

0~20MHz @ 1.8V ~ 5.5V
-40C ~ +85C
4000V HBM ESD

More packages

All series support following packages:
QFP32L/SSOP28L/SSOP24L/SSOP20L

LGT8F48D
LGT8F88D
LGT8F168D
LGT8F328D

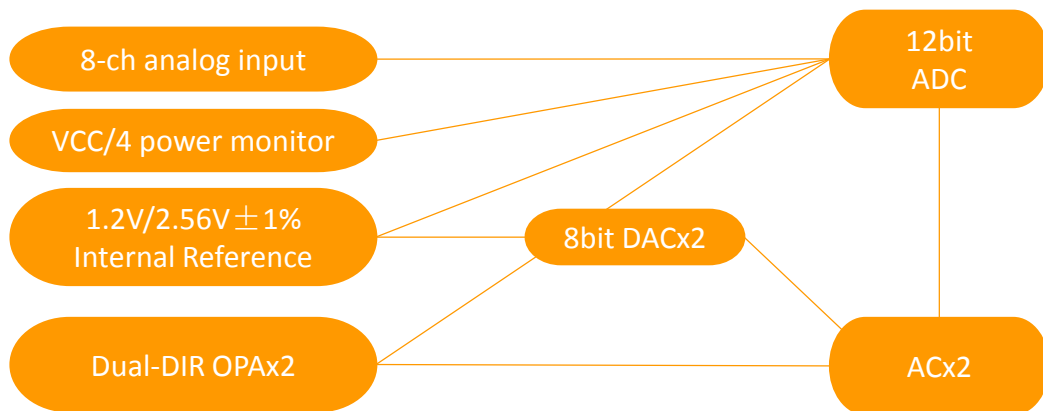## Flash Based 8bit RISC Microcontroller

APPLICATIONS

Home Appliance

Induction Cooker

Microwave Oven

Electronic Rice Cooker

Soybean milk machine

Coffee Maker

Water Heater

Smart Consumer Electronics

Battery Management

Intelligent Appliance

Smart Sensor Node

Electronic Toys

More useful analog modules

8-ch analog input

VCC/4 power monitor

1.2V/2.56V±1% Internal Reference

Dual-DIR OPAx2

8bit DACx2

12bit ADC

ACx2

- Internal voltage reference for ADC and source of DAC
- 8bit DAC output to one channel of Analog comparator
- Each OPA support up to 2 external input channel
- OPA support x12 gain in normal mode and x11 in input-inverting mode
- OPA output can be sampled by ADC
- Analog comparator support flexible filter backend
- Comparator output can be used to disable PWM output automatically
- AC combined with OPA can be used to implement flexible over-current and over-voltage circuits

More fast timer and PWM

RC32M±1%

Timers

Fast Switch/off

FCLKx2

Dead cycle

PWM
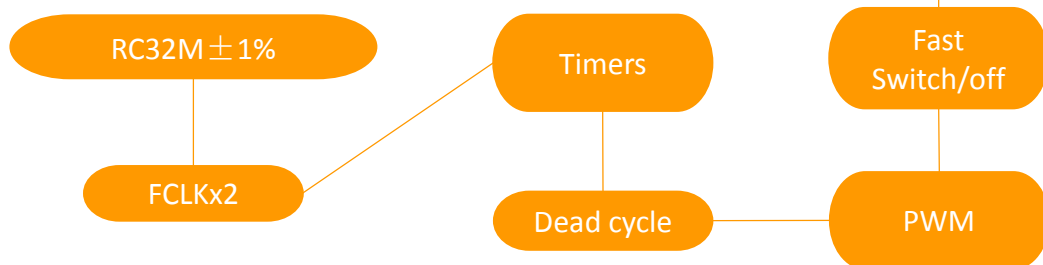
- Internal frequency double generate 64MHz clock for fast timer application
- Up to 500KHz@7bit high resolution PWM
- Dead cycle inserted to protect external MOSFET driver
- PWM can be disabled automatically by analog comparator or other sources
- Up to 6 channel PWM output
- Up to 4 channel support fast PWM and dead cycle insertion
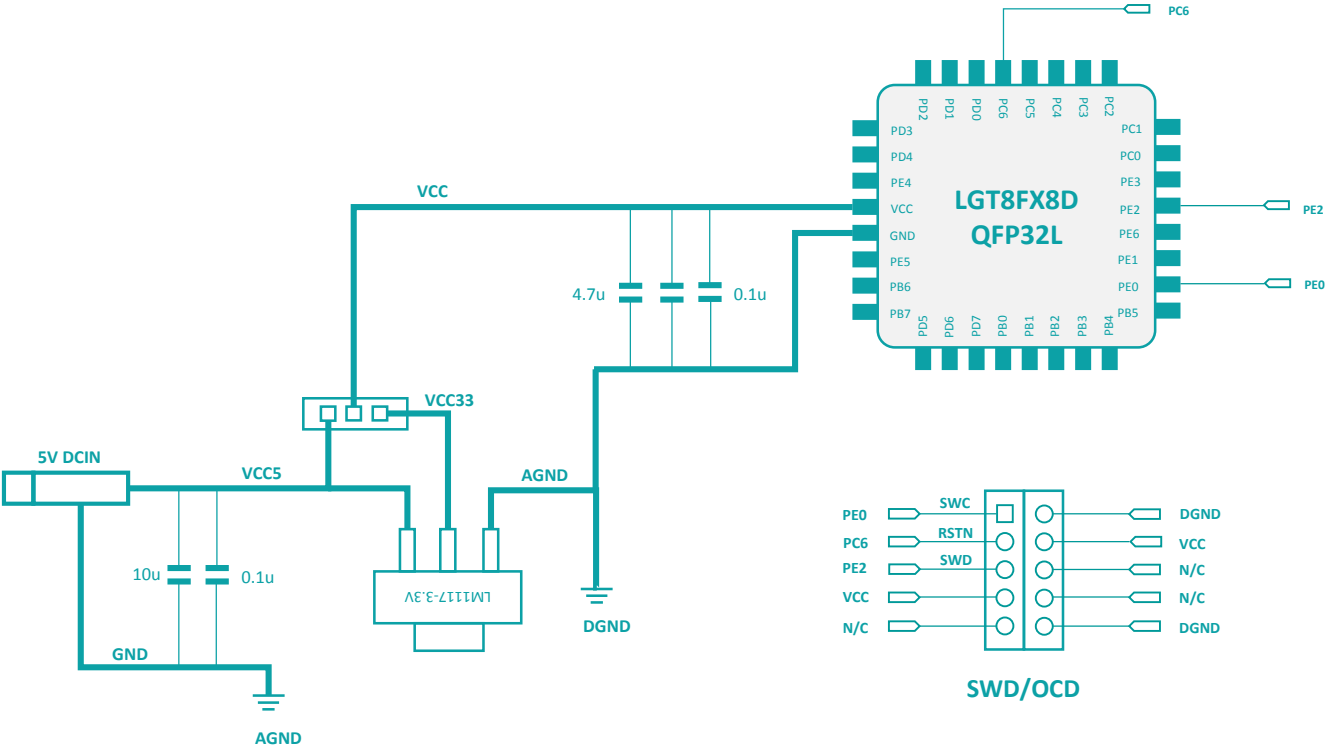
LGT8FX8D Series reference circuit	
Author	LogicGreen TEK
Date	2015/03/15
Version	V1.0.0

ARDUINO SUPPORT

LGT8FX8D series is fully Arduino compatible. LGT8F328D support up to 32KB programmable memory and 2KB SRAM which make kinds of arduino application possible.

With the help of Arduino platform, you can work With all the creators around the world to show your bright ideas and products.

To learn more about Arduino, please refer to arduino.cc

PRODUCTION SELECTIONS

New released at 2015

Type	Package	Program FLASH	Data FLASH	SRAM	ADC	DAC	AC	OPA	Timer	PWM	IRC (1%)	USART A/S	SPI M/S	I2C M/S	Others
LGT8F48D	SSOP20	4K	1K	512B	(8+1)x12	-	2	2		4					
LGT8F88D	QFP32 SSOP28/24/20	8K	2K	1K	(8+1)x12	2x8b	2	2	8bx2 16bx1	6 [dead cycle]	32MHz 32KHz	x1 [SPI*]	x2	x1	LVD WDT OCD INT
LGT8F168D		16K	4K	1K	(8+1)x12	2x8b	2	2							
LGT8F328D		32K	Shared	2K	(8+1)x12	2x8b	2	2							

Released at 2013/4

Type	Package	Program FLASH	Data FLASH	SRAM	ADC	AC	Timer	PWM	IRC (1%)	USART A/S	SPI M/S	I2C M/S	Others
LGT8F08A	QFP32 S/SOP28/24/14/8	4K	504B	512B	8x10	1	8bx2 16bx1	4	16MHz	1	1	-	LVD WDT OCD INT
LGT8F88A	QFP32	8K	504B	1K	8x10 Difference input Thermal Sensor	1		6	32MHz	1	1	1	