

QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 1099

PUSH BUTTON ON/OFF CONTROLLER WITH BATTERY AND SUPPLY MONITORING

LTC2953CDD-1

DESCRIPTION

Demonstration circuit 1099 features the LTC2953, a push button On/Off controller that manages system power via a push button interface. An enable output toggles system power while an interrupt output provides debounced push button status. The interrupt output can be used in menu driven applications to request a system power down.

The length of time that the push button must be held low for a power down is configurable with an external capacitor. The LTC2953 allows a user to force an immediate power down by tying /INT with /KILL and a push button turn off.

The LTC2953 also features input and output supply monitors. An uncommitted power fail comparator provides real time input monitor threshold information, while a de-glitched under voltage lockout comparator gracefully initiates a system power down. The under voltage lockout comparator prevents from powering from a bad battery.

The adjustable supply monitor input is compared against an accurate internal 0.5V reference. The reset output remains low until the supply monitor input has been in compliance for 200ms.

The DC1099 accepts voltages of 2.7V to 27V over the operating range of the LTC2953 input voltage. The LTC2953 draws only 12uA of current. Reverse polarity protection is provided with RPP and CPP on the DC1099. Two versions of the part accommodate either positive or negative enable polarities. For the DC1099, the LTC2953-1 with Enable active high is shown.

On the DC1099, an LT3010 is used to demonstrate a supply with its shutdown pin driven by the enable of the LTC2953.

Design files for this circuit board are available. Call the LTC factory.

LTC is a trademark of Linear Technology Corporation

Table 1. Typical Performance Summary (T_A = 25°C)

PARAMETER	CONDITION	VALUE
Input Voltage Range V _{IN}	Operating Range (Note 1)	2.7V to 27V
DC/DC Out 2P6V	DC/DC LT3010 Enabled through Push Button	2.6V
Power Fail Input Voltage PFI	VIN Threshold, Resistor Divider (R14 + R13) and R12	3.00V
UVLO Monitor Input Voltage	VIN Threshold, Resistor Divider R14 and (R13 + R12)	2.65V
Voltage Monitor VM	Voltage Threshold to VM (2P6V), Resistor Divider R3 and R2	2.33V
Monitor Pins Threshold Voltage	/PFI, VM, UVLO	500mV
UVLO Input Hysteresis	UVLO Pin (Note 1)	30mV
Turn ON Debounce Time	Push Button Turn On	32ms
Turn OFF Debounce Time	JP2 Set to OPEN, Push Button Turn Off	32ms
	JP2 Set to CAP to Connect 0.47uF to PDT Pin (Note 2)	32ms + 3008ms

Note 1: The resistor divider at UVLO sets 2.7V above the UVLO threshold. Supply must first ramp up above 3.0V to exceed the UVLO Input Hysteresis for operation between 2.7V to 3.0V.

Note 2: $0.47\mu\text{F} * (6.4 \text{ seconds} / \mu\text{F}) = 3.008 \text{ seconds}$

QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 1099

PUSH BUTTON ON/OFF CONTROLLER WITH BATTERY AND SUPPLY MONITORING

QUICK START PROCEDURE

Demonstration circuit 1099 is easy to set up to evaluate the performance of the LTC2953. Refer to Figure 1 for proper measurement equipment setup and follow the procedure below.

1. Place jumpers in the following positions:

JP1 UNTIE

JP2 CAP

2. Apply a voltage of 3.0V to 27V across VIN and GND.

3. Push down on Push Button SW1 for a Turn On. 2P6V LED will turn on from the 2.6V output.

4. Push down on Push Button SW1 for over 3 seconds for a turn off. /INT LED will momentarily turn on then turn off along with 2P6V LED.

5. Again, push down on Push Button SW1 for a Turn On.

6. Ramp down supply below 3.0V and no lower than 2.7V. /PFO LED will turn on.

7. Ramp down supply below 2.65V. /INT LED will momentarily turn on, then turn off along with 2P6V LED and /PFO LED.

Additional Tests:

8. Move JP2 to OPEN for a faster Push Button power down time and repeat steps 1 through 8.

9. Move JP1 to TIE for an immediate Push Button shutdown.

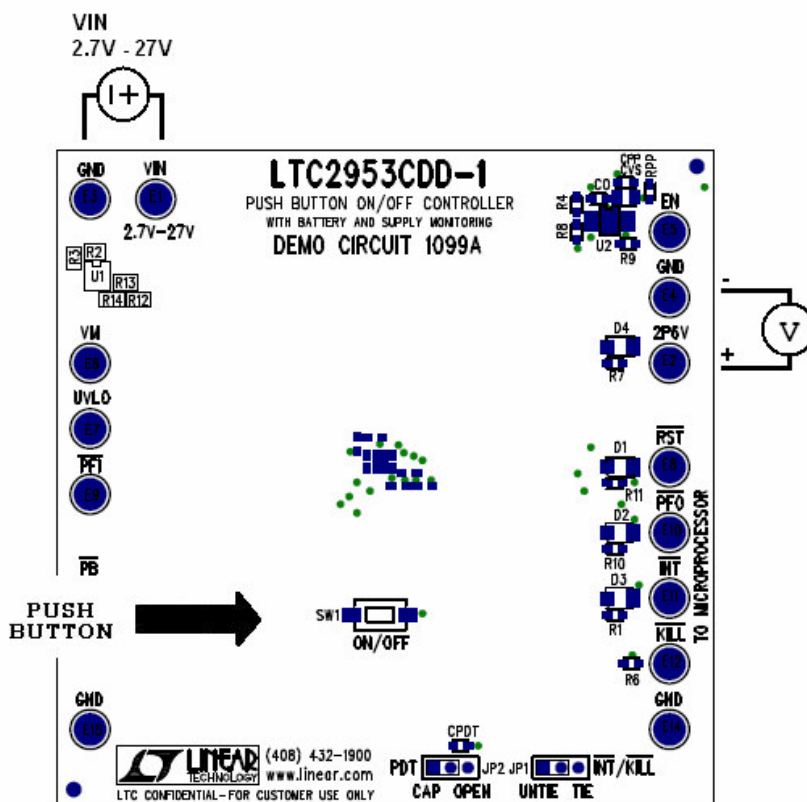
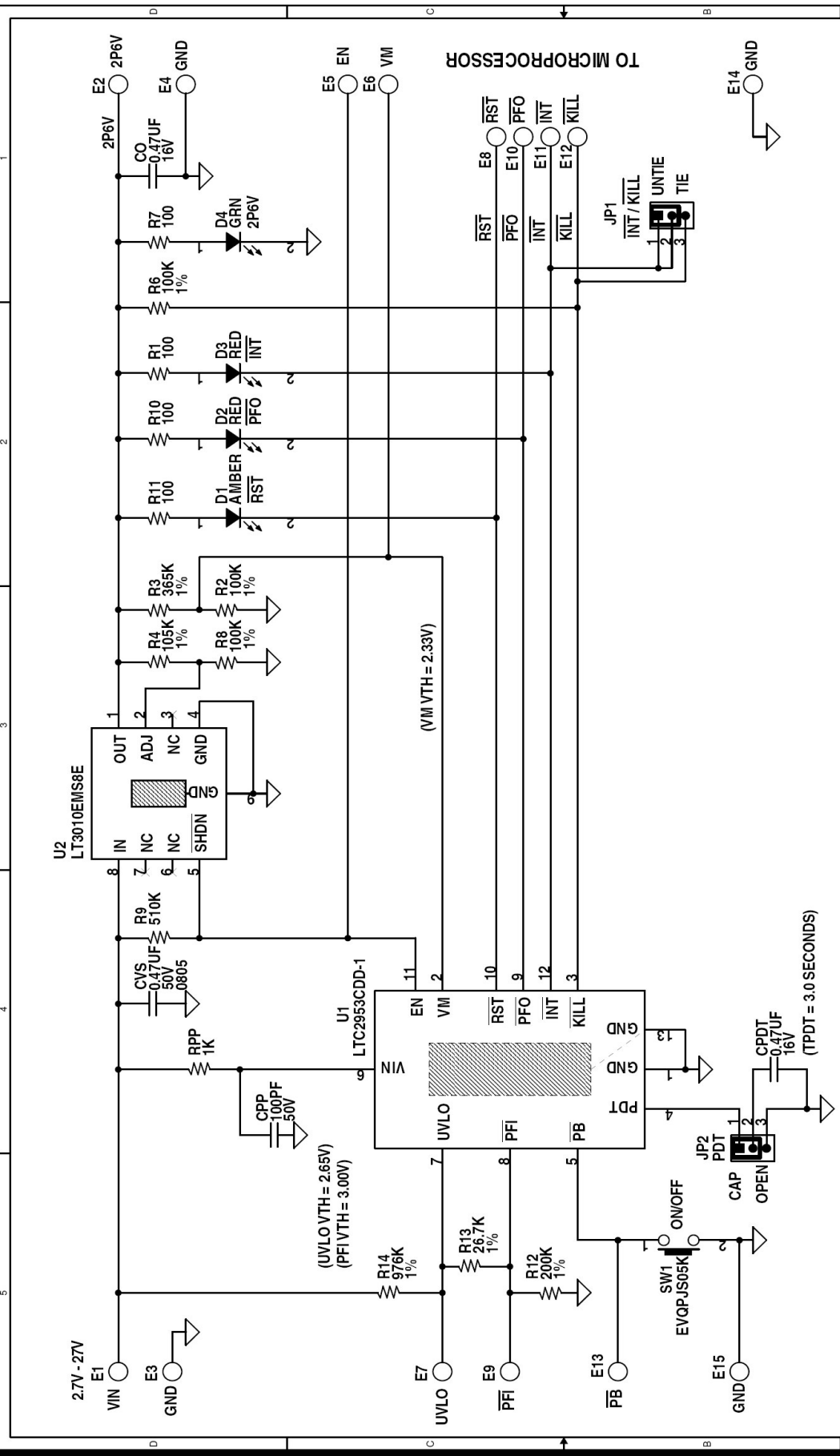


Figure 1. Proper Measurement Equipment Setup

QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 1099

PUSH BUTTON ON/OFF CONTROLLER WITH BATTERY AND SUPPLY MONITORING



CUSTOMER NOTICE

LINEAR TECHNOLOGY HAS MADE A BEST EFFORT TO DESIGN A CIRCUIT THAT MEETS CUSTOMER-SUPPLIED SPECIFICATIONS; HOWEVER, IT REMAINS THE CUSTOMER'S RESPONSIBILITY TO VERIFY PROPER AND RELIABLE OPERATION IN THE ACTUAL APPLICATION. COMPONENT SUBSTITUTION AND PRINTED CIRCUIT BOARD LAYOUT MAY SIGNIFICANTLY AFFECT CIRCUIT PERFORMANCE OR RELIABILITY. CONTACT LINEAR TECHNOLOGY APPLICATIONS ENGINEERING FOR ASSISTANCE.

THIS CIRCUIT IS PROPRIETARY TO LINEAR TECHNOLOGY AND SUPPLIED FOR USE WITH LINEAR TECHNOLOGY PARTS.

1630 McCarthy Blvd.
Milpitas, CA 95035
Phone: (408)432-1900
Fax: (408)434-0507
LTC Confidential-For Customer Use Only



PUSH BUTTON ON/OFF CONTROLLER WITH BATTERY AND SUPPLY MONITORING

CONTRACT NO.	APPROVALS
DRAWN: KIM T.	CHECKED:
APPROVED:	ENGINEER: DILAN R.
DESIGNER:	
SIZE A	DWG NO. DC1099A-2 * LTC2953CDD-1
REV A-2	

DATE: Thursday, March 15, 2007

SHEET 1 OF 1

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL RESISTORS ARE IN OHMS, 0603.
2. INSTALL SHUNT ON JP1-JP2 (1&2).



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.