GreatFET: Making GoodFET Great Again
Michael Ossmann
Great Scott Gadgets
MSP430F2618TPM
Texas Instruments

Description:
16-Bit Ultra-Low-Power MCU, 116kB Flash, 8kB RAM, 12-Bit ADC, Dual DAC, 2 USCI, HW Mult, DMA 64-LQFP -40 to 105

RoHS Code:
RoHS Compliant

PbFree Code:
PbFree

Composite Price:
$9.2247
(28.82% less than high price)

Est. Price At 1000 Units: $8.1672
Est. Price At 1 Unit: $12.9589

View All Prices (13 Distributors)

Total Stock:
3396

Risk Rank

Part Details

Related Parts

Microcontroller
Switching Regulator or Controller
Linear Regulator IC
Operational Amplifier
Headers and Edge Type Connector

Price and Stock

Export to CSV
FT232RL
FUTURE TECHNOLOGY DEVICES INTERNATIONAL (FTDI CHIP)

Description:
PDSO28, 5.30 X 10.20 MM, 0.65 MM PITCH, GREEN, SSOP-28

RoHS Code
PbFree Code

Composite Price
$3.1638
(30.66% less than high price)
Est. Price At 1000 Units: $2.7676
Est. Price At 1 Unit: $4.5629

View All Prices (2 Distributors)

TOTAL STOCK:
14971

Risk Rank
1.5 LOW

Read more about Risk Rank

Part Details

Related Parts

FT232RL-R...
Bus Controller

ATMEGA32...
Microcontroller

LM2596S-A...
Switching Regulator or Controller

492250821
Headers and Edge Type Connector

TPS73618DBVT
Linear Regulator IC

Price and Stock
For development, use your Github account. We no longer use Sourceforge for our repository.

```
git clone https://github.com/travisgoodspeed/goodfet goodfet
```

**HARDWARE**

- GoodFET
  - GoodFET42
  - GoodFET32
- Radio
  - Api-Mote
  - Zolertia Z1
  - TelosB/TMote
  - Next Hope Badge
  - Zigduino
- USB
  - Facedancer21
  - Facedancer11
- CAN Bus
  - GoodThopter12
- Conference Badges
  - No Such Con 2013
  - The Next Hope
- Retired
  - Facedancer20
  - GoodThopter11
  - GoodThopter10
  - Facedancer10
  - GoodFET41
  - GoodFET40
  - GoodFET31
  - GoodFET31L
  - GoodFET22
  - GoodFET21
  - GoodFET20
  - BadFET20
  - GoodFET20
  - GoodFET11
  - GoodFET10
//define SETSDA SPIOUT=SDA
#define CLRSDA SPIOUT="SCL
#define SETSCL SPIOUTI=SCL
#define READSDA (SPIIN & SDA?1:0)
#define SETBOTH SPIOUTI=(SDA|SCL)

#define I2C_DATA_HI() SETSDA
#define I2C_DATA_LO() CLRSDA
#define I2C_CLOCK_HI() SETSCL
#define I2C_CLOCK_LO() CLRCSL

//#warning "Using internal resistors. Won't work on 161x devices."

// Take control of the bus
void I2C_Take()
{
    I2C_CLOCK_HI();
    I2C_DATA_HI();
    SCLOUTPUT;
    SDAOUTPUT;
}

void I2C_Release()
{
    SDAINPUT;
    SCLINPUT;
}

// I2C.Init() initiates the bitbanging port, must be called before using the functions below
void I2C_Init()
{
    I2C_Take();
    //PULLON;
    I2C_DELAY(1);
}
Flash Emulation Tool
How to Design a Neighbor
Michael Ossmann edited this page on Oct 18, 2015 · 7 revisions

This guide will help you design a neighbor, an add-on board for GreatFET.

Use the Template

The easiest way to get started is to copy neighbor-template from the repository and use KiCad to edit the design. The template is a four layer PCB, so you may want to delete the inner two layers under Layer Setup to make a two layer neighbor.

Required Elements

Every neighbor should connect to both of the two 2x20 pin headers (J1 and J2) on GreatFET. You can use female stackable headers mounted on the top of your neighbor, or you can use male headers mounted on the bottom if you do not want your neighbor to be stackable. For mechanical stability, use 2x20 headers (not headers with fewer pins) even if you don’t need to use very many pins. (TODO: stackable header component recommendations)

You may power your neighbor from the 3.3 V supply (VCC) provided by the GreatFET, but you may only draw 150 mA from this supply. If you need more current or a different voltage, use VBUS (the 5 V power supply from the USB host) and implement your own voltage regulation.

Bonus Row

The bonus row of pins (J7) is not required. Design your neighbor without the bonus row if you can.
TOAD
Totally Overengineered Adapter/Detector
Delivered my lightning talk. It was fun. Also, @travisgoodspeed sold the rights to GoodFET to @michaellossmann on stage :D #GreatFET #sellout
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Thank You!

Travis Goodspeed
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Schneider
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Ange Albertini
Gareth
Kenny McElroy

Alvaro Prieto
Mike Walters
Taylor Streetman
Kyle Temkin
Nick Farr
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