

# TWL4030 Power Module



## Overview

The TWL4030 Power Module from Mistral is a development module based on Texas Instruments' power management chip, TWL4030. The TWL4030 is an integrated power-management/audio CODEC device intended for use along with the OMAP 3 Processor. It typically receives its commands either from an applications processor or from a modem and provides power conversion/regulation duties, as well as a complete audio CODEC section. In addition to generic support capabilities, the TWL4030 device is an optimized all-in-one audio and power manager to a host of OMAP processors.

The TWL4030 Power Module is an integral part of the OMAP3 EVM from Mistral. This plug-in power module provides power and audio management features to the OMAP EVM. This module is now available separately for customers, who want to quickly deploy these features to their OMAP3 based product.

The highly integrated TWL4030 combines TI's SmartReflex™ power and performance management technology compliant voltage regulators and converters, a high-fidelity audio/voice codec, class-AB/D audio amplifiers, a high-speed USB 2.0 OTG transceiver, battery charger circuitry, and much more, in a single chip; significantly reducing board space and system cost, while managing power consumption efficiently.

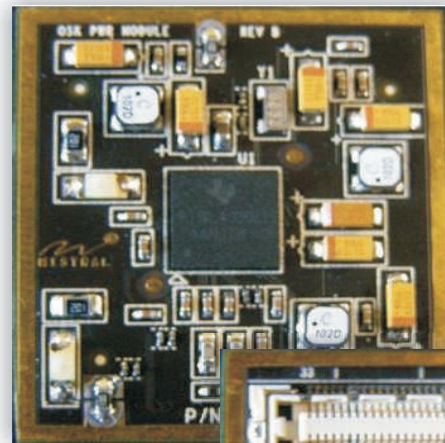
## Hardware

### Board to board connector details:

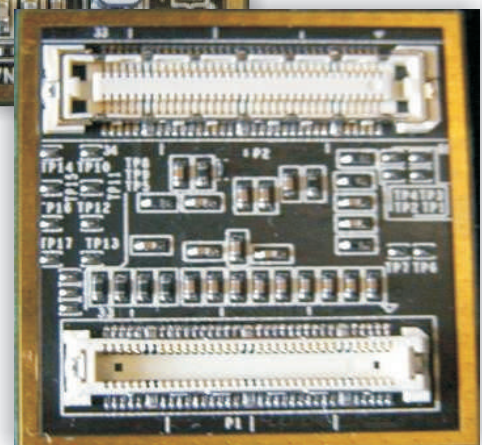
- ▶ Connector P1: FX111LA-60P/6-SV(71) (CONN PLUG 60POS SMD) from Hirose Mates with FX111LA-60S/6-SV(71)
- ▶ Connector P2: FX111LA-60S/6-SV(71) (CONN RECEPT 60POS SMD) from Hirose Mates with FX111LA-60P/6-SV(71).

### Features

- ▶ Power: SmartReflex™ technology compliant LDOs and DC/DC converters
  - Two efficient step-down converters for processor cores
  - One efficient step-down converter for IO power
  - Three LDOs for PLLs and DAC
  - Seven miscellaneous linear regulator supplies for peripherals
- ▶ Interface signals to manage monitoring, operation controlling, regulator voltage setting changes
- ▶ Audio Interface:
  - Voice PCM, Audio I2S/TDM and BT PCM interfaces
  - Stereo Audio: Line-In & Headset -Out
- ▶ USB : High Speed USB 2.0 On-The-Go transceiver
- ▶ Battery Charger
- ▶ High speed I2C
- ▶ Keypad Controller



Top View



Bottom View

- ▶ GPIOs
- ▶ LED driver
- ▶ Monitoring ADCs
- ▶ Board Dimensions: 1.15" x 1.27".

### Customization

Mistral can provide customized services, to help reuse our power module in your design. We can also help in building a design that integrates the power module functionality into a form factor board or a design that integrates the host processor and TWL4030. For more information contact omap@mistralsolutions.com.

### Applications

As a power companion chip in next-generation small form-factor portable devices like:

- ▶ Gaming Devices

- ▶ Biometric Devices
- ▶ Smart Phones
- ▶ Portable Wireless Devices
- ▶ Medical Devices
- ▶ Portable Media Players.

### Ordering

For ordering information please email us at sales@mistralsolutions.com or call +1-972-361-8069 for USA and +91-80-3091 2600 for the rest of the world.

### Deliverables

- ▶ TWL4030 Power Module
- ▶ Documentation CD containing User Manuals.

## About Mistral

Mistral is a CMMi Level 3, ISO 9001:2000 certified premier product realization company providing end-to-end services for product design and development in the embedded space. We offer expert design and development services covering hardware and software, customizable product designs and IPs, System Integration and COTS Solutions that improve quality and accelerate time-to-market for a broad range of embedded systems. Mistral's expert design and development services and

strategic partnerships with leading technology companies help us offer a comprehensive package of end-to-end services ranging from front-end consulting and planning to developing, integrating and managing technology solutions.

Mistral Solutions is a broad market OMAP Technology Center (OTC) offering services in the area of software and hardware design, development and consulting on the OMAP™ platform.



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