DSP Floating-Point 32bit 1GHz Automotive 515-Pin POP-FCBGA Tray

Manufacturer:	Texas Instruments, Inc
Package/Case:	FCBGA515
Product Type:	Embedded Processors & Controllers
RoHS:	RoHS Compliant/Lead free RoHS
Lifecycle:	Active
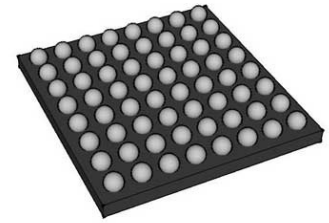
Images are for reference only

Inquiry

General Description

The DM37x generation of high-performance, applications processors are based on the enhanced device architecture and are integrated on TI's advanced 45-nm process technology. This architecture is designed to provide best in class ARM and Graphics performance while delivering low power consumption. This balance of performance and power allow the device to support the following example applications:

Portable Data Terminals
Navigation
Auto Infotainment
Gaming
Medical Imaging
Home Automation
Human Interface
Industrial Control
Test and Measurement
Single board Computers

The device can support numerous HLOS and RTOS solutions including Linux and Windows Embedded CE which are available directly from TI. Additionally, the device is fully backward compatible with previous Cortex-A8 processors and OMAP processors.

This DM3730/25 Digital Media Processor data manual presents the electrical and mechanical specifications for the DM3730/25 Applications Processor. The information contained in this data manual applies to both the commercial and extended temperature versions of the DM3730/25 Digital Media Processor unless otherwise indicated. It consists of the following sections:

A description of the DM3730/25 terminals: assignment, electrical characteristics, multiplexing, and functional description
A presentation of the electrical characteristics requirements: power domains, operating conditions, power consumption, and dc characteristics
The clock specifications: input and output clocks, DPLL and DLL
A description of thermal characteristics, device nomenclature, and mechanical data about the available packaging

Key Features

DM3730, DM3725 Digital Media Processors:

Compatible with OMAP 3 Architecture

ARM microprocessor (MPU) Subsystem

Up to 1-GHz ARM Cortex-A8 Core, Also supports 300, 600, and 800-MHz

NEON SIMD Coprocessor

High Performance Image, Video, Audio (IVA2.2) Accelerator Subsystem

Up to 800-MHz TMS320C64x+ DSP Core

Enhanced Direct Memory Access (EDMA) Controller (128 Independent Channels)

Video Hardware Accelerators

POWER SGX Graphics Accelerator (DM3730 only)

Tile Based Acrchitecture Delivering up to 20 MPoly/sec

Universal Scalable Shader Engine: Multi-threaded Engine Incorporating Pixel and Vertex Shader Functionality

Industry Standard API Support: OpenGLES 1.1 and 2.0, OpenVG1.0

Fine Grained Task Switching, Load Balancing, and Power Management

Programmable High Quality Image Anti-Aliasing

Advanced Very-Long-Instruction-Word (VLIW) TMS320C64x+ DSP Core

Eight Highly Independent Functional Units

Six ALUs (32-/40-Bit); Each Supports Single 32- bit, Dual 16-bit, or Quad 8-bit, Arithmetic per Clock Cycle

Two Multipliers Support Four 16 × 16-Bit Multiplies (32-Bit Results) per Clock Cycle or Eight 8 × 8-bit Multiplies (16-Bit Results) per Clock Cycle

Load-Store Architecture With Non-Aligned Support

64 32-Bit General-Purpose Registers

Instruction Packing Reduces Code Size

All Instructions Conditional

Additional C64x+ Enhancements

Protected Mode Operation

Expectations Support for Error Detection and Program Redirection

Hardware Support for Modulo Loop Operation

C64x+TM L1/L2 Memory Architecture

Recommended For You

TMS320DM642AZNZ6	**TMS320DM648ZUTD9**	**TMS320DM642AGDKA5**
Texas Instruments, Inc	Texas Instruments, Inc	Texas Instruments, Inc
BGA	BGA	FCCSP(GDK)
TMS320DM365ZCE30	**TMS320DM642AZNZA6**	**TMS320DM6446AZWT**
Texas Instruments, Inc	Texas Instruments, Inc	Texas Instruments, Inc
BGA	BGA	BGA
TMS320DM6467CCUT7	**TMS320DM368ZCEDF**	**TMS320DM365ZCE21**
Texas Instruments, Inc	Texas Instruments, Inc	Texas Instruments, Inc
FCBGA529	BGA	BGA
TMS320DM6437ZWTQ6	**DM3730CBP**	**TMS320DM647ZUT7**
Texas Instruments, Inc	Texas Instruments, Inc	Texas Instruments, Inc
BGA	515-WFBGAFCBGA	BGA
TMS320DM8168CCYG	**DMVA2ZCE**	**TMS320DM368ZCED48F**
Texas Instruments, Inc	Texas Instruments, Inc	Texas Instruments, Inc
BGA	BGA	BGA