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APPLICATIONS

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/ i.MX6ULL

i.MX 6ULL Single-Core Processor with Arm® Cortex®-A7 Core

i.MX6ULL Receive alerts (1)

Product
Overview

Details

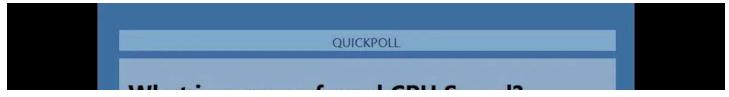
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Buy/PARAMETRICS (/PRODUCTS/PROCESS i.MX GULL Applications Processors for Consumer Products ()

Data Sheet PDF 2.4 MB

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ımbnail/INT -SOM-i.MX6

The i.MX 6ULL is a power efficient and cost-optimized applications processor family featuring an advanced implementation of a single Arm Cortex-A7 core, which operates at speeds up to 900 MHz. The i.MX 6ULL applications processor includes an integrated power management module that reduces the complexity of an external power supply and simplifies power sequencing. Each processor in this family provides various memory interfaces, including 16-bit LPDDR2, DDR3, DDR3L, raw and managed NAND flash, NOR flash, eMMC, Quad SPI and a wide range of other interfaces for connecting peripherals such as WLAN, Bluetooth*, GPS, displays and camera sensors.

DATA SHEET

REFERENCE MANUAL

Product Details

Block Diagram | Features | Applications

Block Diagram

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i.MX 6ULL Block Diagram

System Control	CPU Platform		ť.	Connectivity		Security
Secure JTAG	Arm® Cortex®-A7 Core		П	eMMC 4.5 /	NAND Ctrl	AES-128
PLL, OSC	001/01/01	20 KD D O	П	SD 3.0 x 2	(BCH40)	
RTC and Reset	32 KB I-Cache	32 KB D-Cache	П			DNC
Smart DMA	Arm® Neon™	PTM	П	UART x 8	SPI x 4	RNG
IOMUX	128 KB L2-Cache		Н	l ² C x 4	8 x 8 Keypad	eFuse
Timer x 4						
PWM x 8	Multimedia					
Watch Dog x 3	CSC, Combine, Rotate, Programmable Proc. Engine			OPIO	0/00/57 /0	Secure RTC
Power Management	Togrammasi	CT 100. Engine		GPIO	S/PDIF Tx/Rx	
LDO	24-bit Parallel CSI		}			
Temp Monitor	24-bit Parallel LCD			I2S/SAI x 3	FlexCAN x 2	
ADC	External Memory		-		L	
ADC x 2 (10-ch.) w/ touch ctrl	Parallel NOR FLASH			ASRC	USB2 OTG w/ PHY x 2	
Internal Memory	Duel Channel Outed CDI vid					
96 KB ROM	Dual-Channel Quad SPI x 1			10/100 ENET x 2		
128 KB RAM	16-bit LP-DDR2/DDR3/DDR3L			with IEEE® 1588		

Optional

GET DIAGRAM PDF (/ASSETS/BLOCK-DIAGRAM/EN/I.MX6ULL.PDF)

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Features

CPU Complex	Cortex-A7 core up to 900 MHz, 128 KB L2 cache				
Display	Parallel LCD Display up to WXGA (1366x768)				
	• 8/10/16/24-bit Parallel Camera Sensor Interface				
	 Electrophoretic display controller support direct-driver for E-Ink EPD panel, with up to 2048x1536 resolution at 106 Hz 				
Memory	16-bit LP-DDR2, DDR3/DDR3L				
	 8/16-bit Parallel NOR FLASH / PSRAM Dual-channel Quad-SPI NOR FLASH 				
	8-bit Raw NAND FLASH with 40-bit ECC				
Connectivity	• 2x MMC 4.5/SD 3.0/SDIO Port				
	 2x USB 2.0 OTG, HS/FS, Device or Host with PHY 				
	Audio Interfaces include 3x I2S/SAI, S/PDIF Tx/Rx				
	• 2x 10/100 Ethernet with IEEE 1588				
	• 2x 12-bit ADC, up to 10 input channel total, with resistive touch controller (4-wire/5-wire)				
Advanced Power Management	Partial PMU Integration				
Security	Security Block: TRNG, Crypto Engine (AES with DPA, TDES/SHA/RSA), Secure Boot				
Package	• 14x14 289 MAPBGA 0.8mm pitch				
-	• 9x9 272 MAPBGA 0.5 mm pitch				
Less ^					
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	i.MX 6ULL Applications Processors				

Part numbers include: MCIMX6Y0CVM05AB, MCIMX6Y0DVM05AB, MCIMX6Y1CVK05AB, MCIMX6Y1**dfvMeans, MCIMX**6Y0CVM05AB, MCIMX6Y0DVM05AB, MCIMX6Y1CVK05AB, MCIMX6Y1dfvMeans, MCIMX6Y0CVM05AB, MCIMX6Y0DVM05AB, MCIMX6Y1CVK05AB, MCIMX6Y1dfvMeans, MCIMX6Y1dfvMean $\verb|MCIMX6Y1DVM05AB|, \verb|MCIMX6Y2CVK08AB|, \verb|MCIMX6Y2CVM05AB|, \verb|MCIMX6Y2CVM08AB|, \verb|MCIMX6Y2DVK08AB|, \verb|MC$

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Applications

Automotive

Heating Ventilation and Air Conditioning (HVAC) (/applications/automotive/body-and-vehicle-control/hvac:HEATING-VENTILATION-AIR-CONDITIONING)

Motorcycle Engine Control Unit (ECU) and Small Engine Control (/pages/motorcycle-engine-control-unit-ecu-and-small-engine-control:MOTORCYCLE-ECU-SMALL-ENGINE-CONTROL)

V2X Communications (/applications/automotive/adas-and-safe-driving/v2x-communications:V2X-COMMUNICATIONS)

Communication Infrastructure

Broadband Modem and Residential Gateway (/applications/smart-city/transportation/broadband-modem-and-residential-gateway:BROADBAND-GATEWAY)

Industrial

3-Phase AC Induction Motor (/applications/industrial/aerospace/3-phase-ac-induction-motor:AC-MOTORS)

Air Conditioning (AC) (/applications/smart-home/smart-appliance/air-conditioning-ac:AIR-CONDITIONING)

Avionics

(/applications/industrial/aerospace/avionics:AVIONICS)

Building Safety (/applications/industrial/building-control/building-safety:BUILDING-SAFETY)

Building Security (/applications/smart-city/access/building-security:BUILDING-SECURITY)

Circuit Breaker (/applications/industrial/power-and-energy/circuit-breaker:CIRCUIT-BREAKER)

Energy Gateway (/applications/smartcity/infrastructure/energy-gateway:METERING-DATA-CONCENTRATOR)

Heat Metering (/applications/industrial/power-and-energy/heat-metering:HEAT-METERING)

Industrial HMI (/applications/industrial/factory-automation/industrial-hmi:INDUSTRIAL-HMI)

Smart Lighting (/applications/smart-city/infrastructure/smart-lighting:SMART-LIGHTING-ASP)

Smart Power Socket and Light Switch (/applications/smart-home/home-control-and-security/smart-power-socket-and-light-switch:SMART-POWER-SOCKET-LIGHT)

Solar Photovoltaic (PV) Energy Generation (/applications/industrial/power-and-energy/solar-photovoltaic-pv-energy-generation:ELECTRICITY-GENERATION)

Mobile

Hearables

(/applications/mobile/wearables/hearables:HEARABLES)

Smart Watch (/applications/mobile/wearables/smartwatch:SMARTWATCH)

Wristband

(/applications/mobile/wearables/wristband:WRISTBAND)

Smart City

Automatic Vehicle Identification (/applications/smart-city/transportation/automatic-vehicle-identification:AUTOMATIC-VEHICLE-ID)

Fleet Management (/applications/smart-city/retail/fleet-management:FLEET-MANAGEMENT)

Inventory and Supply Chain Management (/applications/smart-city/retail/inventory-and-supply-chain-management:SUPPLY-CHAIN-MGMT)

Transport Ticketing (/applications/stransport-ticketing:TRANSPORT-TICKETING)

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Smart Home

Home Security and Surveillance (/applications/smart-home/home-control-and-security/home-security-and-surveillance:HOME-SECURITY-SURVEILLANCE)

In-Home Energy Display (/applications/smart-home/home-control-and-security/in-home-energy-display:IN-HOME-ENERGY-DISPLAY)

i.MX 6ULL Applications Processors for Consumer Products (2)

Major Home Appliances (/applications/smart-home/smart-appliance/major-home-appliances:MAJOR-HOME-APPLIANCE)

Robotic Appliance (/applications/smart-home/smart-appliance/robotic-appliance:ROBOTIC-APPLIANCE)

Small and Medium Appliances (/applications/smart-home/smart-appliance/small-and-medium-appliances:SMALL-MEDIUM-APPLIANCE)