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Understanding Embedded - Microprocessors

Embedded microprocessors are specialized computing chips designed to perform specific tasks within an embedded system. Unlike general-purpose microprocessors found in personal computers, embedded microprocessors are tailored for dedicated functions within larger systems, offering optimized performance, efficiency, and reliability. These microprocessors are integral to the operation of countless electronic devices, providing the computational power necessary for controlling processes, handling data, and managing communications.

Applications of **Embedded - Microprocessors**

Embedded microprocessors are utilized across a broad spectrum of applications, making them indispensable in

Details

Product Status	Active
Core Processor	PowerPC e500v2
Number of Cores/Bus Width	1 Core, 32-Bit
Speed	1.067GHz
Co-Processors/DSP	-
RAM Controllers	DDR2, DDR3
Graphics Acceleration	No
Display & Interface Controllers	LCD
Ethernet	10/100/1000Mbps (2)
SATA	SATA 3Gbps (2)
USB	USB 2.0 + PHY (2)
Voltage - I/O	-
Operating Temperature	-40°C ~ 125°C (TA)
Security Features	· ·
Package / Case	689-BBGA Exposed Pad
Supplier Device Package	689-TEPBGA II (31x31)
Purchase URL	https://www.e-xfl.com/pro/item?MUrl=&PartUrl=p1013nxn2lfb

Email: info@E-XFL.COM

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P1013NXN2LFB Information

Product Summary Page

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General Information

Parameter	Value
Part Number	P1013NXN2LFB
Description	1067/533/667 ET TMP NE PBFR
Product Line	GGT1013
PTI	NPHC
Material Type	Tested Packaged Device
Life Cycle Description (code)	PRODUCT RAPID GROWTH
Status	Active
Application/Qualification Tier	COMMERCIAL, INDUSTRIAL

Package Information

Parameter	Value
Package Description and Mechanical Drawing	TEPBGA 689 31*31*2.23 P1
Device Weight (g)	5.24720
Pin/Lead/Ball Count	689
Package Material	Plastic
Mounting Style	Surface Mount
Package Length (nominal) (mm)	31.000
Package Width (nominal) (mm)	31.000
Package Thickness (nominal) (mm)	2.230
Tape & Reel	No

Environmental and Compliance Information

Parameter	Value
Pb-Free	Р

RoHS Compliant	√ RoHS
Halogen Free	Yes
Material Composition Declaration (MCD)	Download MCD Report 🔁 Download MCD Report 🛅
RoHS Certificate of Analysis (CoA)	Download RoHS CoA Report
2nd Level Interconnect	e2
Moisture Sensitivity Level (MSL)	3
Floor Life	168 HOURS
Peak Package Body Temperature (PPT)(°C)	260
Maximum Time at Peak Temperature (s)	40
Number of Reflow Cycles	3
REACH SVHC	Freescale REACH Statement
UL94 (plastics flammability test)	V0: burning stops within 10 seconds on a vertical specimen; no drips allowed

Manufacturing Information

Parameter	Value
Micron Size (µm)	.04

Ordering Information

Parameter	Value
Minimum Package Quantity (MPQ)	1
MPQ Container	TRAY
Preferred Order Quantity (POQ)	135
POQ Container	BOX
Leadtime (weeks)	18
Export Control Classification Number (US)	5A992
Harmonized Tariff (US) Disclaimer	8542.31.0000

Product/Process Change Notice (PCN)

Number	Туре	Title	Issue Date	Effectivity Date
15008	Product Bulletin	ESDHC Host May Not Detect SD Card Insertion/Removal Using DAT3 Signal	13 Feb 2012	14 Feb 2013
14344	Product Bulletin	ERRATUM: E500 CORE ERRONEOUS FLOATING POINT EXCEPTION	20 Oct 2010	21 Oct 2010

Operating Characteristics

Parameter	Value
32-bit Product Family	Power Architecture
Additional Features	ATA Controller Encryption Hardware Accelerato
Ambient Operating Temperature (Min-Max) (°C)	-40 to 125
Bus Frequency (Max) (MHz)	533
Cache (kByte)	32
Communication Protocol	Ethernet
Core: Number of cores (Spec)	1
Core: Operating Frequency Max (Max) (MHz)	1067
Core: Type	e500
Ethernet	10/100/1000 BaseT
External Bus Interface	PCI-Express
External Memory Supported	DDR3 SDRAM DDR2
I/O Pins	87
Junction Operating Temperature (Max) (°C)	125
L2 Cache (Max) (kByte)	256
Sample Exception Availability	Y
Serial Interface - Number of Interfaces	2 2 1 2 1
Serial Interface - Type	I2C UART USB SSI eTSEC TDM
USB	USB 2.0

Reliability Data Lookup