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Understanding Embedded - FPGAs (Field Programmable Gate Array)

Embedded - FPGAs, or Field Programmable Gate Arrays, are advanced integrated circuits that offer unparalleled flexibility and performance for digital systems. Unlike traditional fixed-function logic devices, FPGAs can be programmed and reprogrammed to execute a wide array of logical operations, enabling customized functionality tailored to specific applications. This reprogrammability allows developers to iterate designs quickly and implement complex functions without the need for custom hardware.

Applications of Embedded - FPGAs

The versatility of Embedded - FPGAs makes them indispensable in numerous fields. In telecommunications,

Details

Product Status	Obsolete
Number of LABs/CLBs	5700
Number of Logic Elements/Cells	142500
Total RAM Bits	6543360
Number of I/O	744
Number of Gates	-
Voltage - Supply	0.86V ~ 1.15V
Mounting Type	Surface Mount
Operating Temperature	0°C ~ 85°C (TJ)
Package / Case	1152-BBGA, FCBGA
Supplier Device Package	1152-FBGA (35x35)
Purchase URL	https://www.e-xfl.com/product-detail/intel/ep3sl150f1152c3n

Chapter Revision Dates

The chapters in this book were revised on the following dates. Where chapters or groups of chapters are available separately, part numbers are listed.

Chapter 1   Stratix III Device Family Overview
Revised: *March 2010*
Part Number: *SIII51001-1.8*

Chapter 2   Logic Array Blocks and Adaptive Logic Modules in Stratix III Devices
Revised: *February 2009*
Part Number: *SIII51002-1.5*

Chapter 3   MultiTrack Interconnect in Stratix III Devices
Revised: *October 2008*
Part Number: *SIII51003-1.2*

Chapter 4   TriMatrix Embedded Memory Blocks in Stratix III Devices
Revised: *May 2009*
Part Number: *SIII51004-1.8*

Chapter 5   DSP Blocks in Stratix III Devices
Revised: *March 2010*
Part Number: *SIII51005-1.7*

Chapter 6   Clock Networks and PLLs in Stratix III Devices
Revised: *July 2010*
Part Number: *SIII51006-2.0*

Chapter 7   Stratix III Device I/O Features
Revised: *July 2010*
Part Number: *SIII51007-1.9*

Chapter 8   External Memory Interfaces in Stratix III Devices
Revised: *March 2010*
Part Number: *SIII51008-1.9*

Chapter 9   High-Speed Differential I/O Interfaces and DPA in Stratix III Devices
Revised: *July 2010*
Part Number: *SIII51009-1.9*

Chapter 10 Hot Socketing and Power-On Reset in Stratix III Devices
Revised: *March 2010*
Part Number: *SIII51010-1.7*

Chapter 11 Configuring Stratix III Devices
Revised: *March 2011*
Part Number: *SIII51011-2.0*