
Advanced I/O BC-Link™ Companion

Product Features

- LPC Interface with Clock Run Support
 - Serial IRQ Interface Compatible with Serialized IRQ Support for PCI Systems
 - Three 8-Bit DMA Channels
 - Shadowed write only registers
- Secure PortSwitch™ Interface
 - Hot Plug LPC Docking Interface
 - Secondary Switchblade LPC Interface (3.3V only)
- Advanced Infrared Communications Controller (IrCC 2.0)
 - IrDA V1.2 (4Mbps), HPSIR, ASKIR, Consumer IR Support
 - Two IR Ports
 - Relocatable Base I/O Address
 - Multi-Protocol Serial Communications Controller
 - Full IrDA v1.1 Implementation: 2.4Kbps - 115.2Kbps, .576Mbps, 1.152Mbps & 4Mbps
 - Consumer Infrared (TV Remote Control) Interface
 - SHARP Amplitude Shift Keyed Infrared (ASK IR) Interface
 - Direct Rx/Tx Infrared Diode Control (*Raw*) & General Purpose Data Pins
 - Programmable High-speed Synchronous Communications Engine (SCE) with a 128-byte FIFO and Programmable Threshold
 - Programmable DMA Refresh Counter
 - High-speed NS16C550A-compatible Universal Asynchronous Receiver/Transmitter Interface (ACE UART2) with 16-byte send & receive FIFOs.
 - ISA Single-Byte and Burst-Mode DMA and Interrupt-driven Programmed I/O with *Zero Wait State* and *String Move* Timing
 - 16-bit CRC-CCITT and 32-bit IEEE 802 CRC32 Hardware CRC Generators.
 - Automatic Transceiver Control
 - Transmit Pulse Width Limiter
 - SCE Transmit Delay Timer
 - IR Media Busy Indicator
- Multi-Mode Parallel Port with ChiProtect
 - Standard Mode IBM PC/XT, PC/AT, and PS/2 Compatible Bi-directional Parallel Port
 - Enhanced Parallel Port: EPP 1.7 and EPP 1.9 Compatible (IEEE 1284 Compliant)
 - IEEE 1284 Compliant Extended Capabilities Port (ECP)
 - ChiProtect Circuitry to Prevent Printer Power-On Damage
 - Relocatable to 480 Different Base I/O Addresses
 - 15 IRQ Options
 - 3 DMA Options
 - Microsoft and HP compatible High Speed Mode
- Serial Port
 - High-Speed 16550A-Compatible UART with 16-Byte Send/Receive FIFOs
 - Programmable Baud Rate Generator
 - Modem Control Circuitry Including 230k and 460k Baud
 - Relocatable to 480 Different Base I/O Addresses
 - 15 IRQ Options
- 87 General Purpose I/O Pins
 - 87 BC Bus Addressable I/O Pins
 - 87 Maskable Hardware Wake-Event Capable
 - 87 Programmable Open-Drain/Push-Pull Outputs
 - 16 Pass Through GPIOs
- One Power Plane
 - Low Standby Current in Sleep Mode
- 1.8 Volt Low Power Core Operation
- 3.3 Volt I/O with 5V Input Tolerance
- 128-Pin VTQFP RoHS Compliant Package
- 134-Pin TFBGA RoHS Compliant Package
- 132-Pin DQFN RoHS Compliant Package

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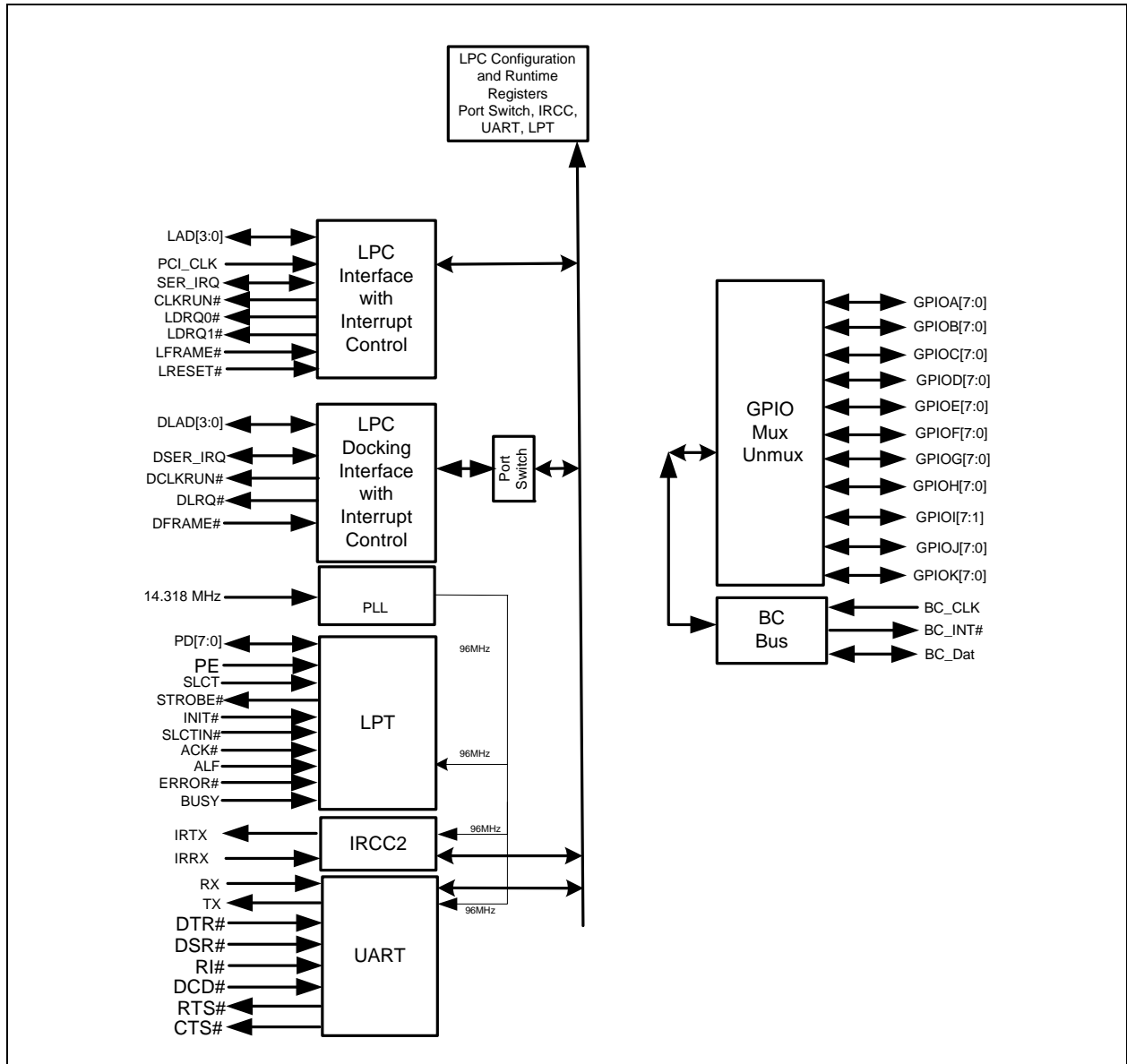
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BLOCK DIAGRAM

FIGURE 1: ECE5028 BLOCK DIAGRAM



PACKAGE OUTLINES

FIGURE 2: 128-PIN VTQFP PACKAGE, 14 X 14 X 1.0MM BODY, 0.4MM PITCH

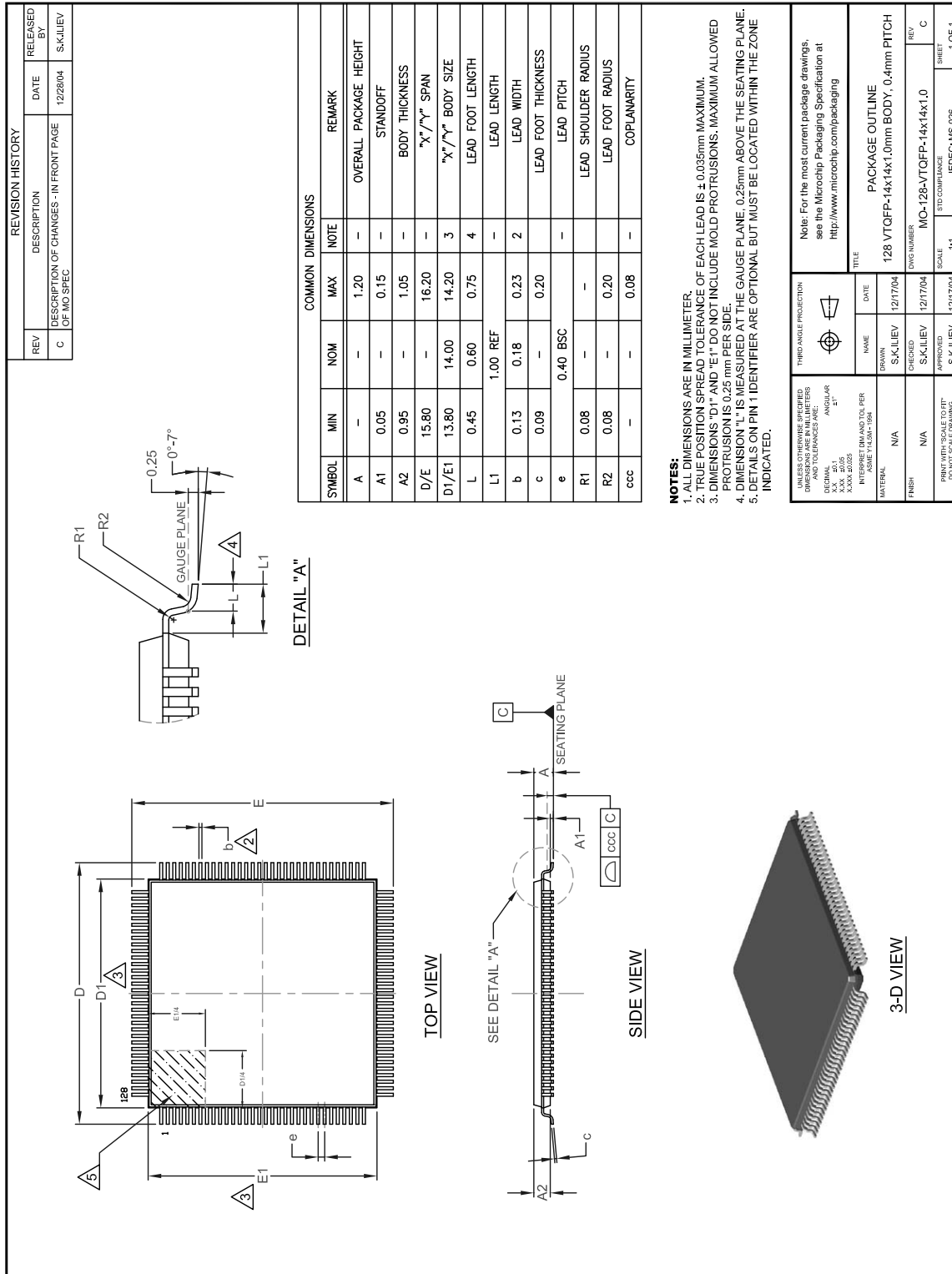


FIGURE 3: 134-PIN TFBGA PACKAGE, 7 X 7MM BODY, 0.50MM PITCH

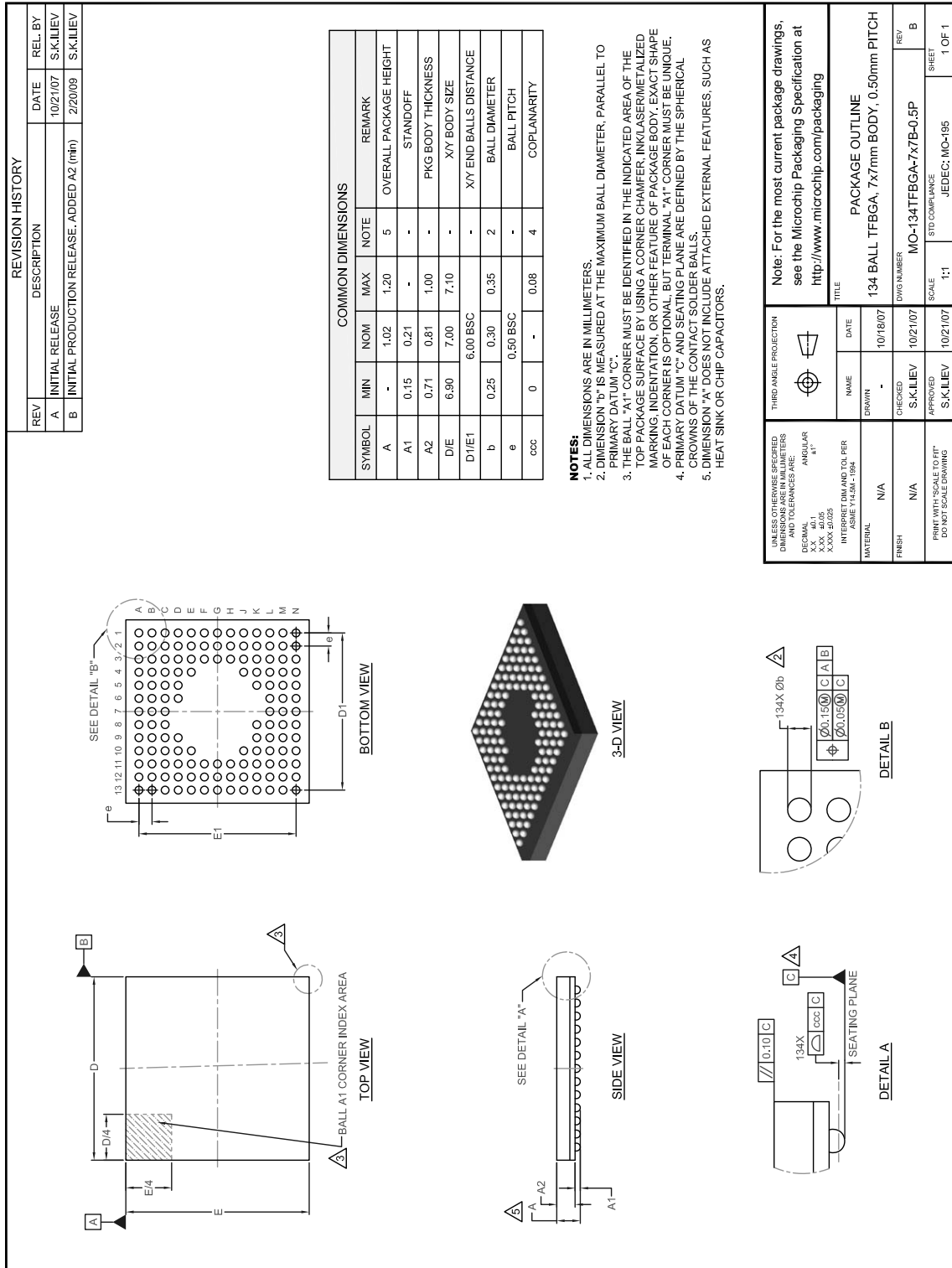


FIGURE 4: 132-PIN DQFN PACKAGE, 11 X 11MM BODY, 0.50/0.65MM LEAD PITCH (PUNCHED)

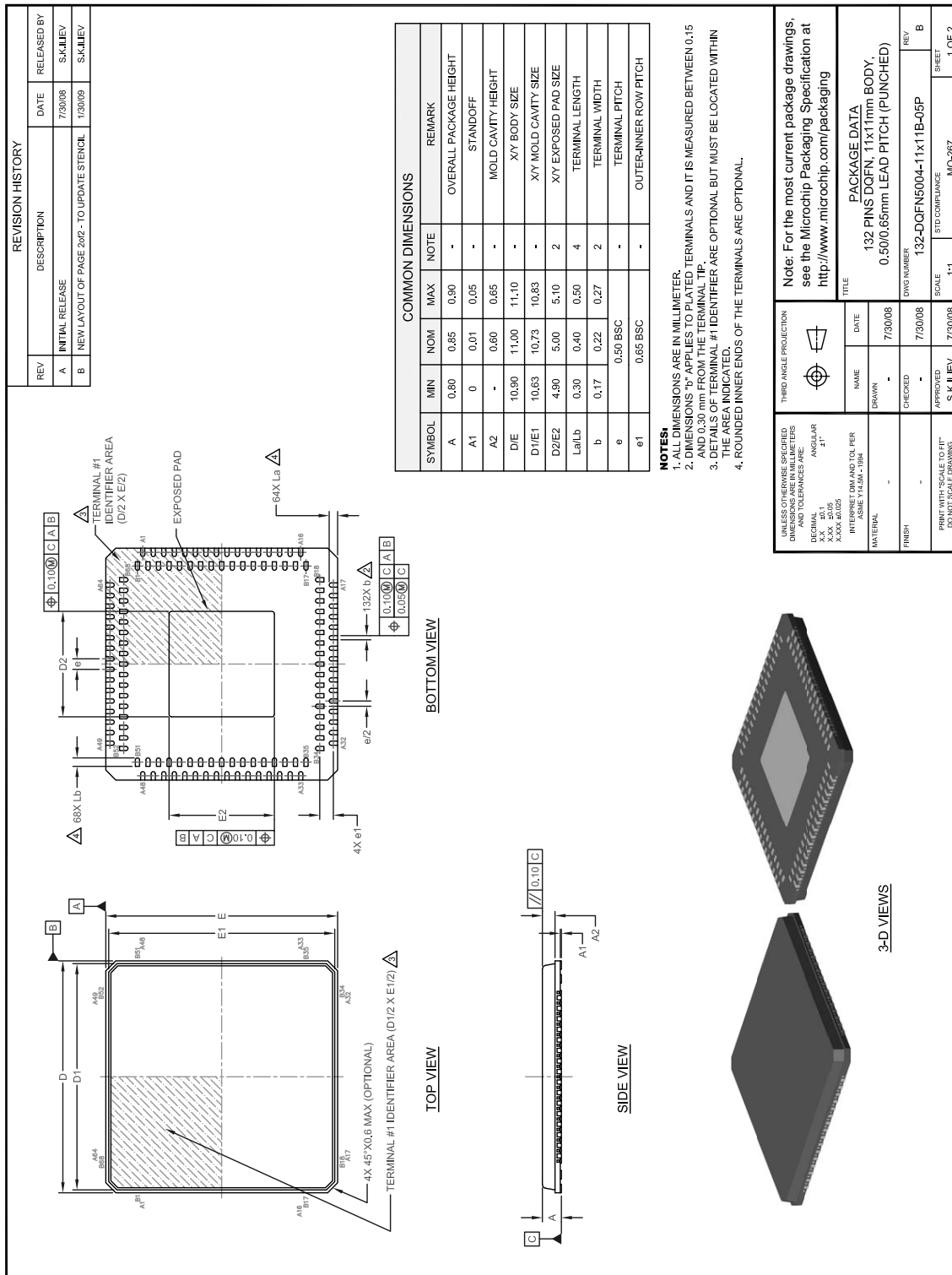
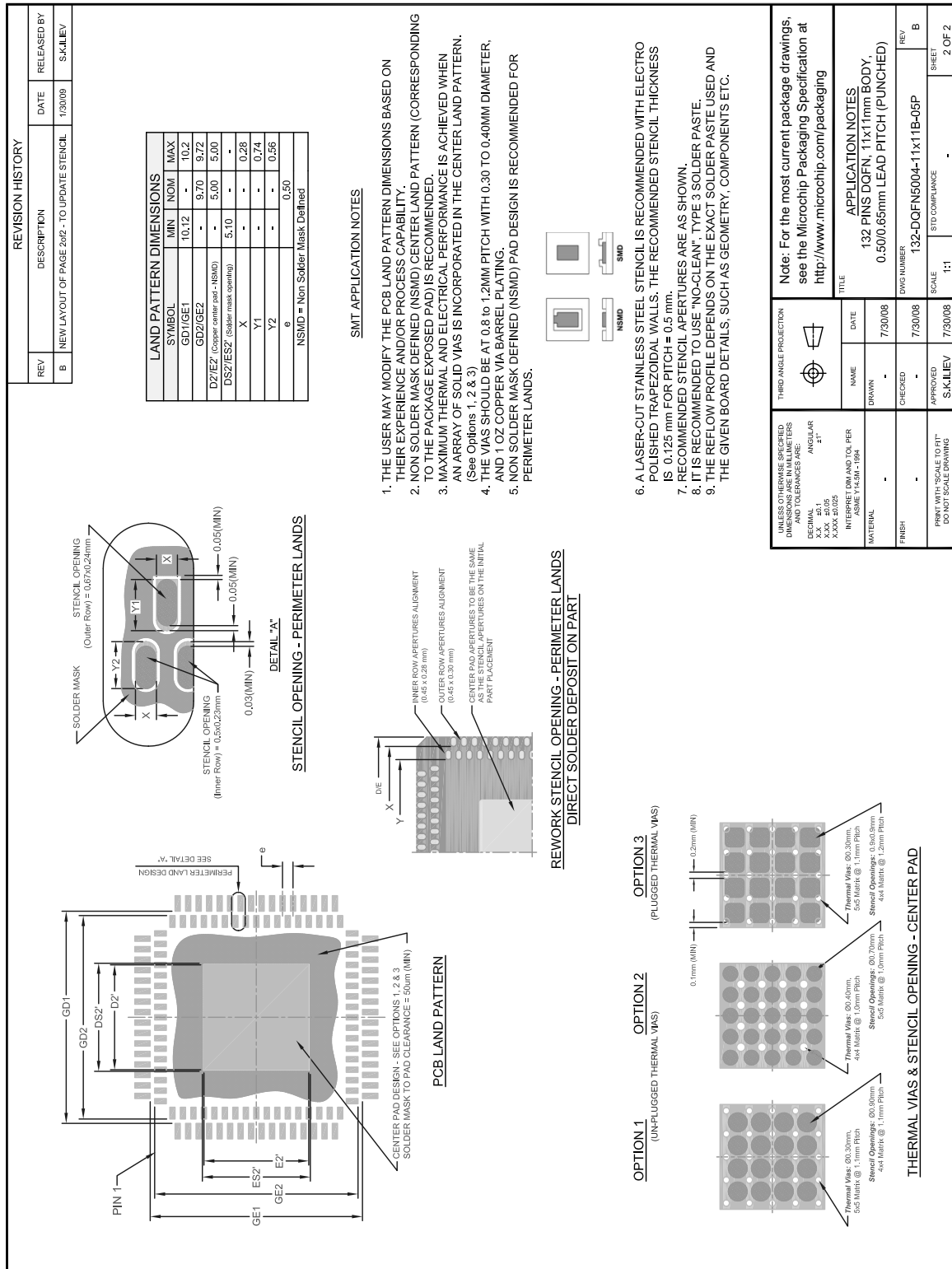


FIGURE 4: 132-PIN DQFN PACKAGE, 11 X 11MM BODY, 0.50/0.65MM LEAD PITCH (PUNCHED) (CONTINUED)



APPENDIX A: PRODUCT BRIEF REVISION HISTORY

TABLE A-1: REVISION HISTORY

Revision	Section/Figure/Entry	Correction
DS00001800A (08-12-14)	Replaces SMSC version Rev. 0.94 (09-19-08)	

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ECE5028

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<u>PART NO.</u> ⁽¹⁾	-	<u>XXX</u> ⁽²⁾	-	<u>IXI</u> ⁽³⁾
Device		Package		Tape and Reel Option
Device:		ECE5028 ⁽¹⁾		
Package:	NU	= 128-pin VTQFP ⁽²⁾		
	ZZV	= 134-pin TFBGA ⁽²⁾		
	LZY	= 132-pin DQFN ⁽²⁾		
Tape and Reel Option:	Blank	= Tray packaging		
	TR	= Tape and Reel ⁽³⁾		

Examples:

- a) ECE5028-NU = 128-pin VTQFP
- b) ECE5028-ZZV = 134-pin TFBGA
- c) ECE5028-LZY = 132-pin DQFN

Note 1: These products meet the halogen maximum concentration values per IEC61249-2-21.

Note 2: All package options are RoHS compliant. For RoHS compliance and environmental information, please visit <http://www.microchip.com/pagehandler/en-us/aboutus/ehs.html>.

Note 3: Tape and Reel identifier only appears in the catalog part number description. This identifier is used for ordering purposes and is not printed on the device package. Check with your Microchip Sales Office for package availability with the Tape and Reel option.

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