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Slimline SATA Presentation

---for 12.7 and 9.5mm Slimline drives

Oct.27.2006

Rev. C

● General description

The Serial ATA Slimline connector is designed to enable connection of a “slimline” form factor drive to the Serial ATA interface. While the specification specifically defines the 9.5 mm and 12.7 mm height slimline drives, some consideration was given to the anticipated 7 mm height design. The connector design accommodates a latching option for 9.5 mm and 12.7 mm slimline drives. A latching option may not be accommodated in 7mm slimline drives.

- Support Gen 1 (1.5 Gb/s) and Gen 2 (3 Gb/s) speeds
- Support for Backplane (Direct Connect) and Cable attachment

● Feature

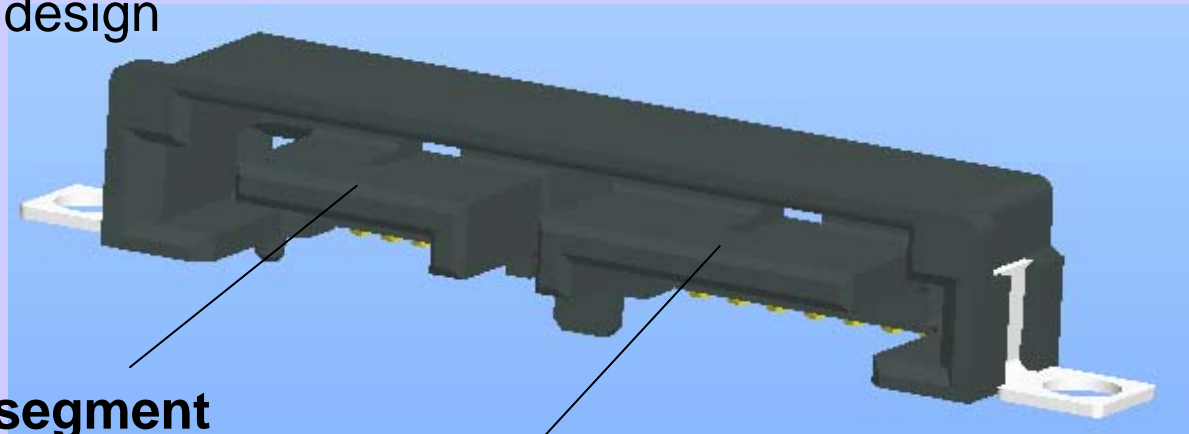
- No change in signal line to minimize signal integrity risk.
- The power port of the connector was reduced to six pins. Both +12V and +3.3V were removed from the connector leaving +5V as the sole power plane(Compare with SATA combo).
- Impose NO additional requirements on HDD designs.
- Warm plug and blind mate required. No hot plug support.

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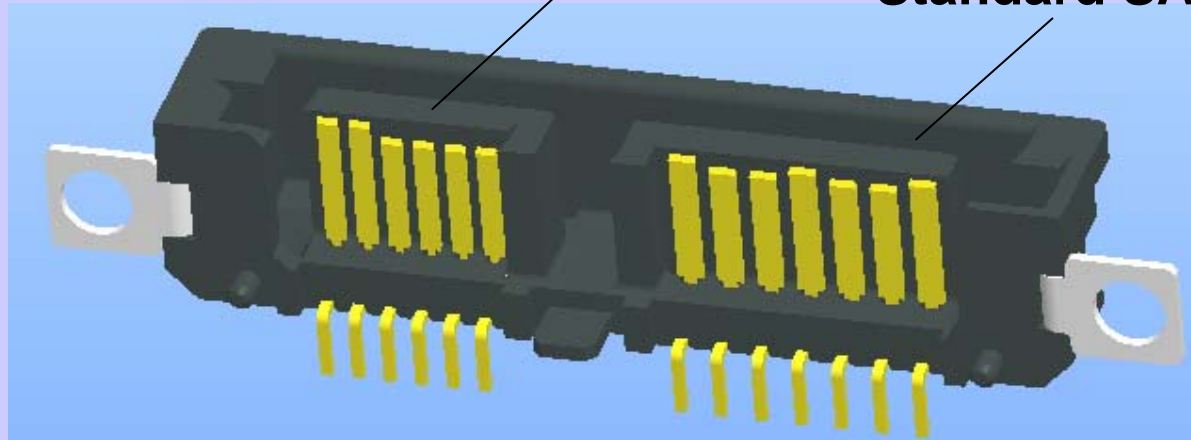
- **Connector design**

- Standard SATA signal segment
- New power segment design



Power segment

Standard SATA single segment



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• Connector design

• Support 12.7 and 9.5mm Slimline drives

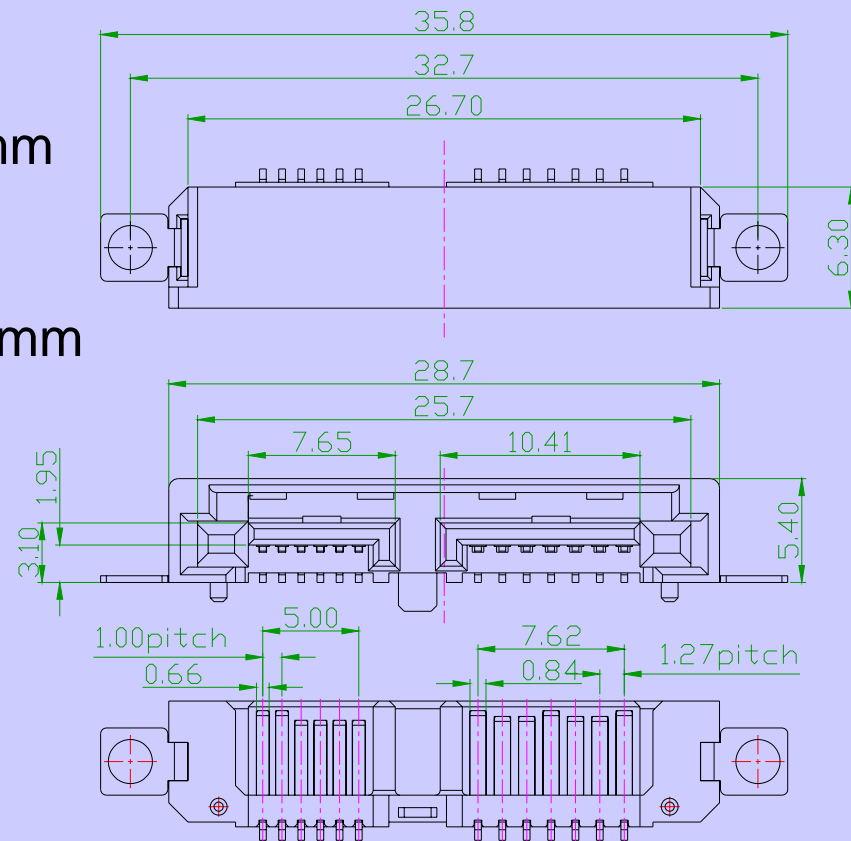
• Connector figure dimension: 28.7mm x 6.3mm x 5.4mm

• Power segment

pin pitch=1.0mm, width=0.66mm

• Signal segment

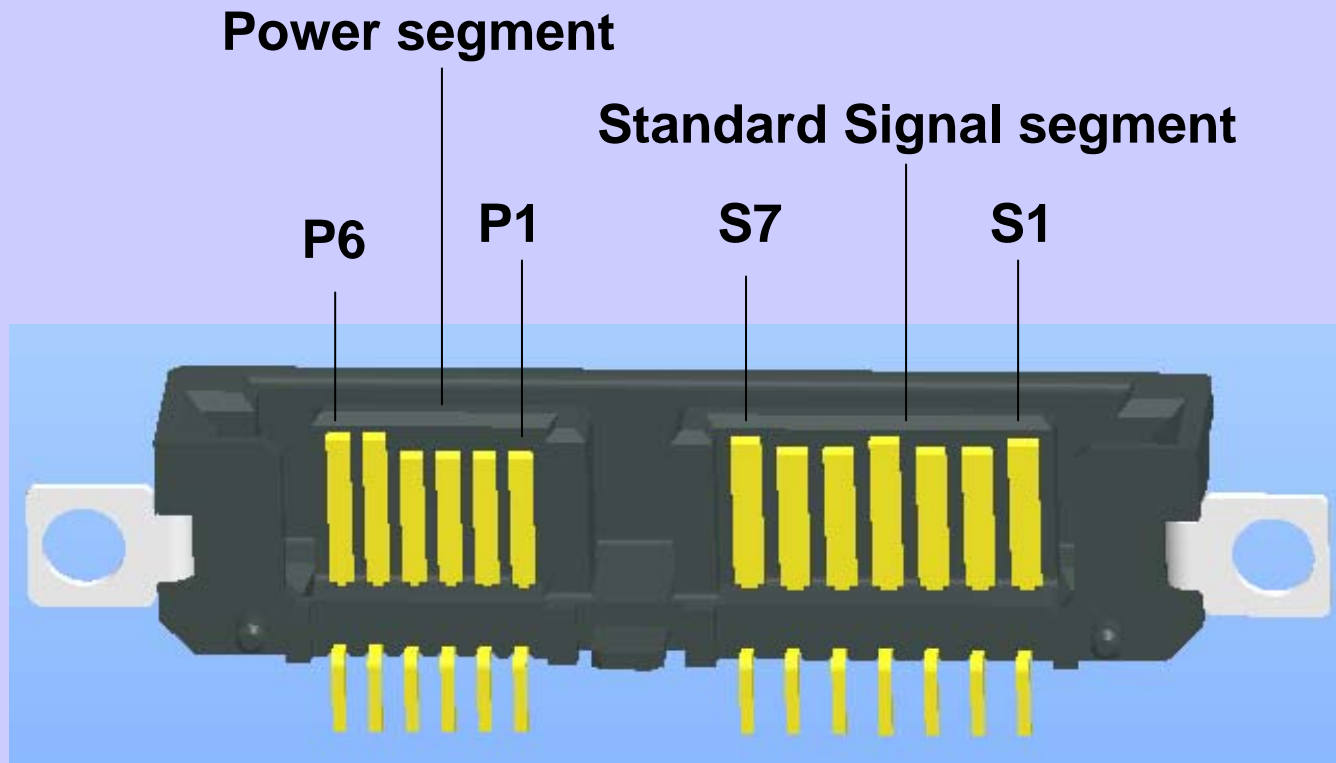
pin pitch=1.27mm, width=0.84mm



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•Slimline Device plug connector pin definition



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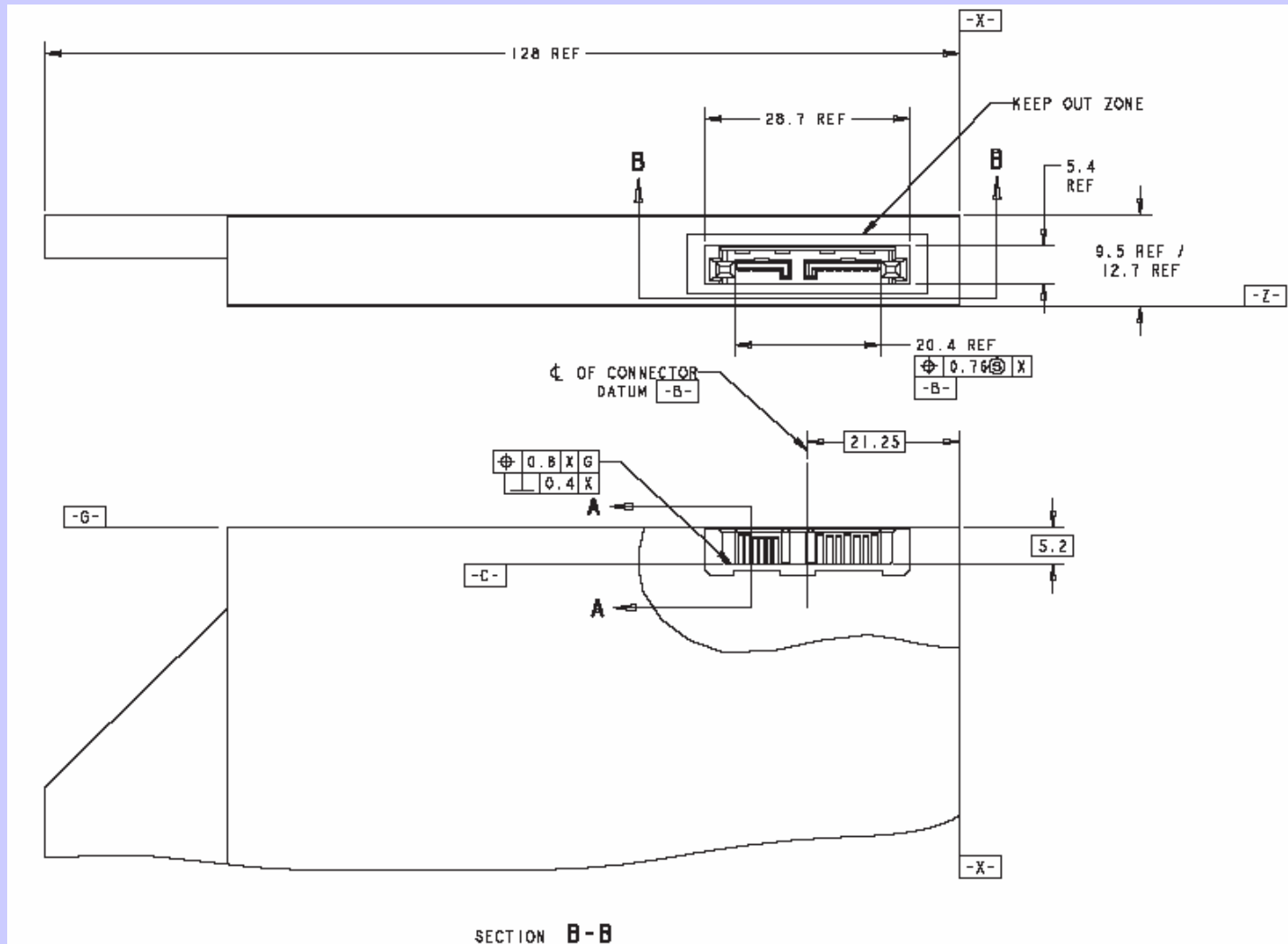
•Slimline Device plug connector pin definition

	PIN		FUNCTION	CABLED USAGE	BACKPLANE USAGE
Signal Segment Key					
Signal Segment	S1	Gnd		1 st mate	1 st mate
	S2	A+	Differential signal pair from host controller.	2 nd mate	2 nd mate
	S3	A-		2 nd mate	2 nd mate
	S4	Gnd		1 st mate	1 st mate
	S5	B-	Differential signal pair to host controller.	2 nd mate	2 nd mate
	S6	B+		2 nd mate	2 nd mate
	S7	Gnd		1 st mate	1 st mate
Signal Segment "L"					
Central Connector Gap					
Power Segment "L"					
Power Segment	P1	DP	Device Present	Last mate	Last mate
	P2	+5V		2 nd mate	2 nd mate
	P3	+5V		2 nd mate	2 nd mate
	P4	MD	Manufacturing Diagnostic	2 nd mate	2 nd mate
	P5	Gnd		1 st mate	1 st mate
	P6	Gnd		1 st mate	1 st mate
Power Segment Key					

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•9.5 and 12.7mm Slimline Drive Connector Locations



•Ampheno Slim SATA Connector

- 1.Slim SATA PLUG,SMT CONNECTOR(Big Solder Tab,with center dip),Part No.:SSATA00102011X
- 2.Slim SATA PLUG,SMT CONNECTOR(Big Solder Tab,with center SMT),Part No.:SSATA00102021X
- 3.Slim SATA PLUG,SMT CONNECTOR(Small Solder Tab,without center Tab),Part No.:SSATA00102031X
- 4.Slim SATA PLUG,SMT CONNECTOR(Small Solder Tab,with center SMT),Part No.:SSATA00102041X
- 5.Slim SATA PLUG,SMT CONNECTOR(Small Solder Tab,with center dip),Part No.:SSATA00102051X
- 6 Slim SATA PLUG,SMT CONNECTOR(Small Solder Tab,with center SMT),Part No.:SSATA00102061X
- 7.Slim SATA Receptacle, Vertical SMT CONNECTOR,Part No.:SSATA10101021X

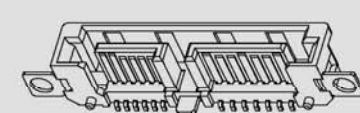
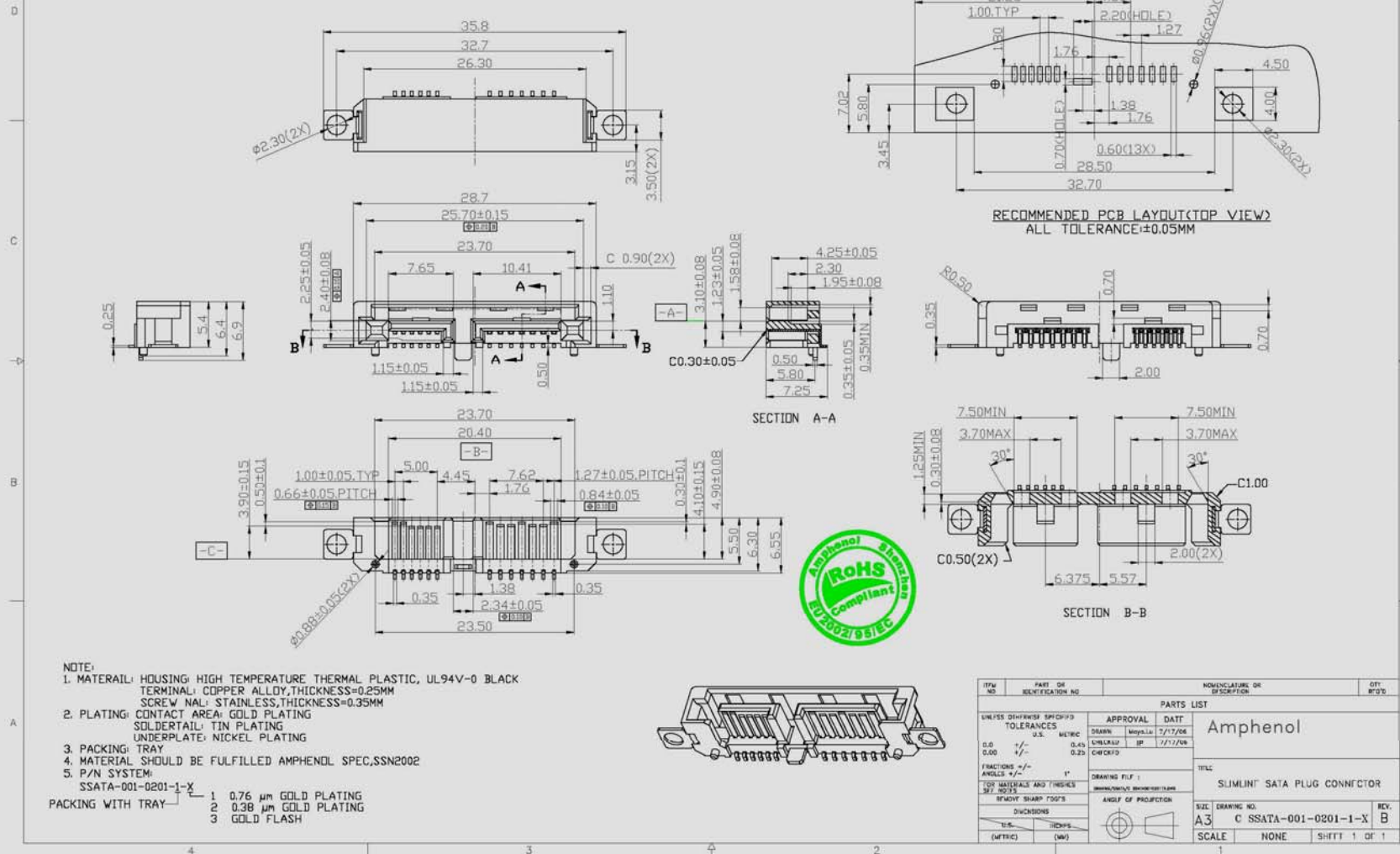
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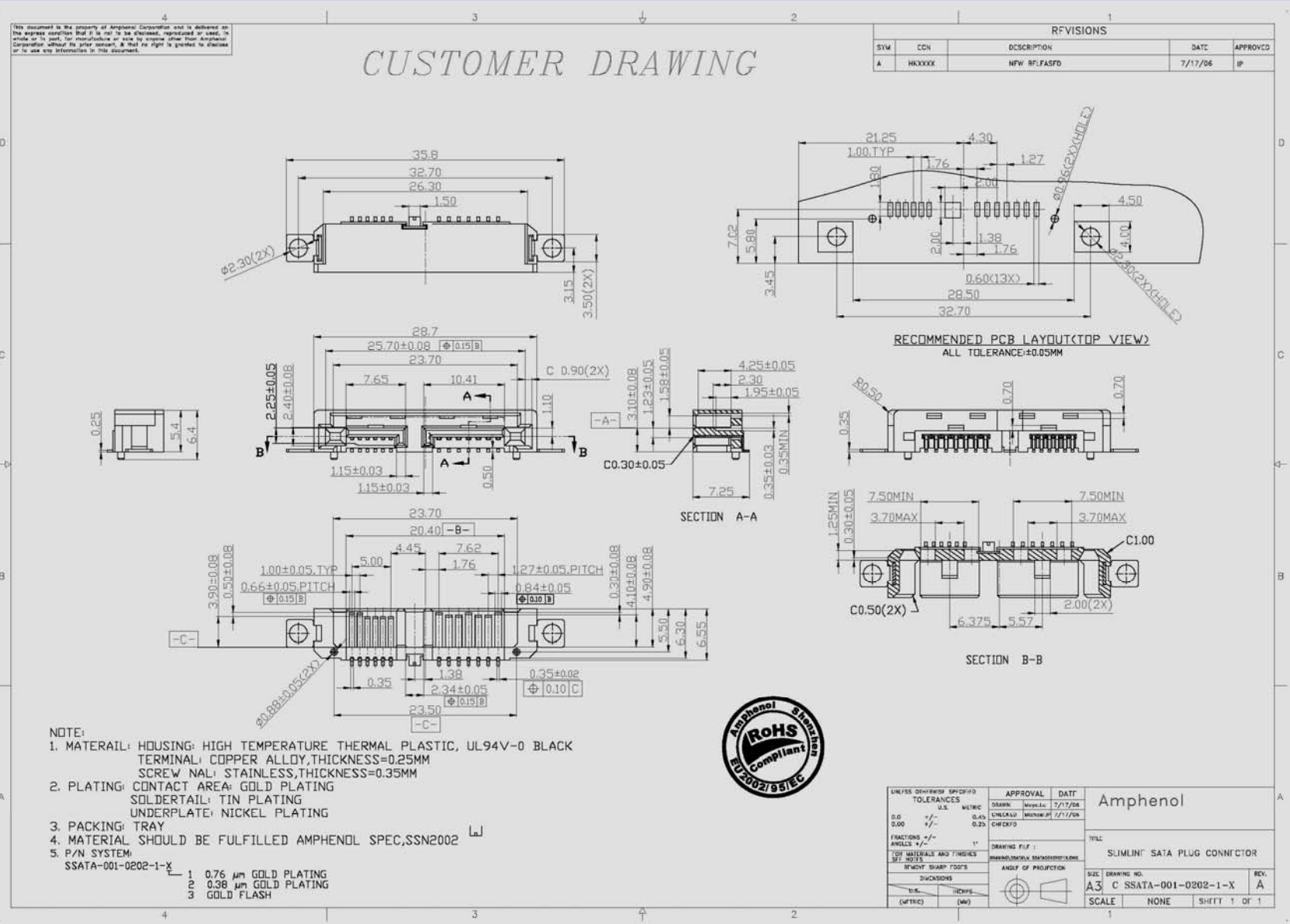
CUSTOMER DRAWING

REVISIONS				
SYM	EN	DESCRIPTION	DATE	APPROVED
A	HK3900	RELEASED TO CUSTOMER	6/7/06	IP
B	HKXXXX	UPDATE THE PCB LAYOUT	7/17/06	IP



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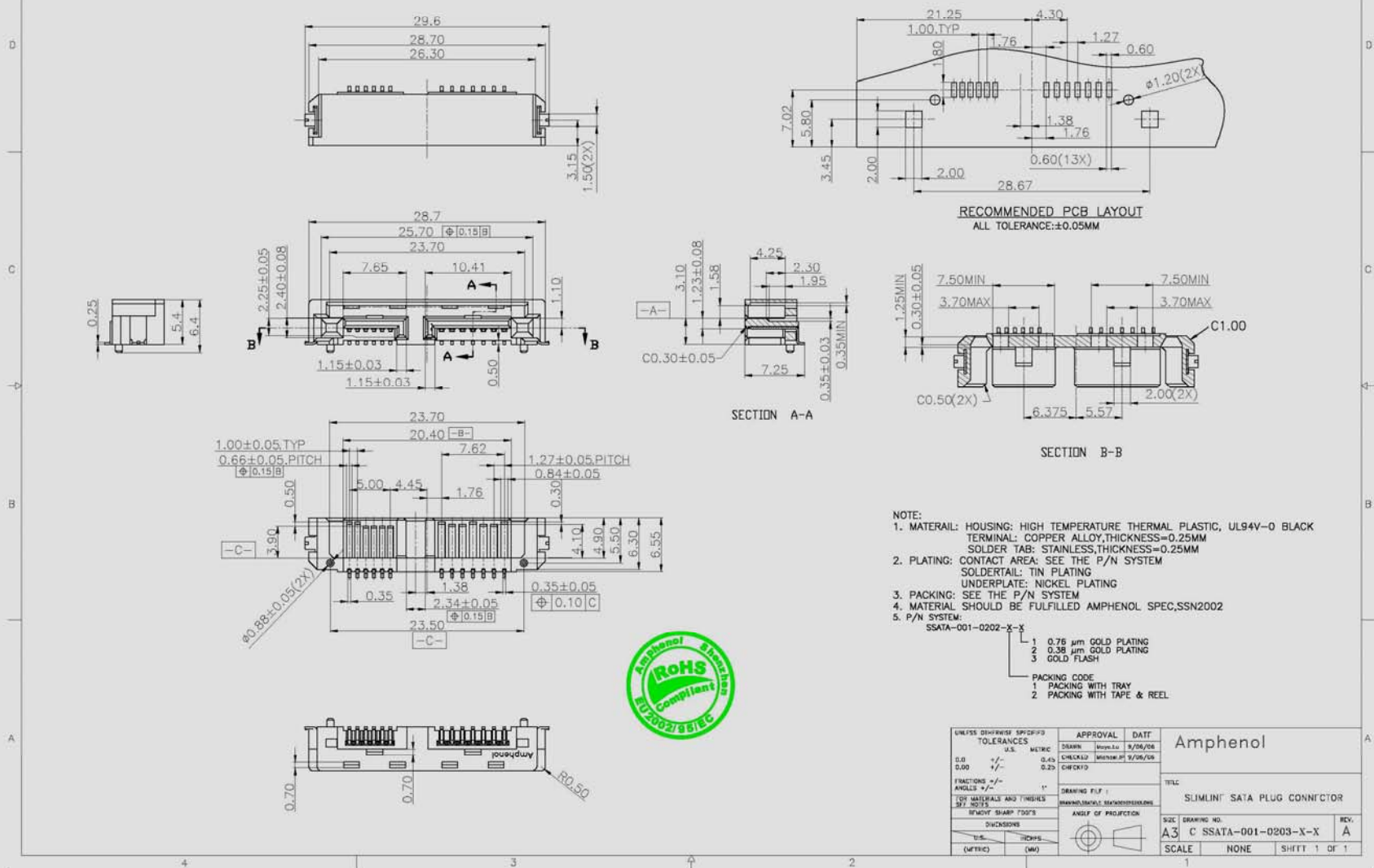
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CUSTOMER DRAWING

REVISIONS				
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A	HXXXX	NFW RFLFASFD	9/06/06	IP

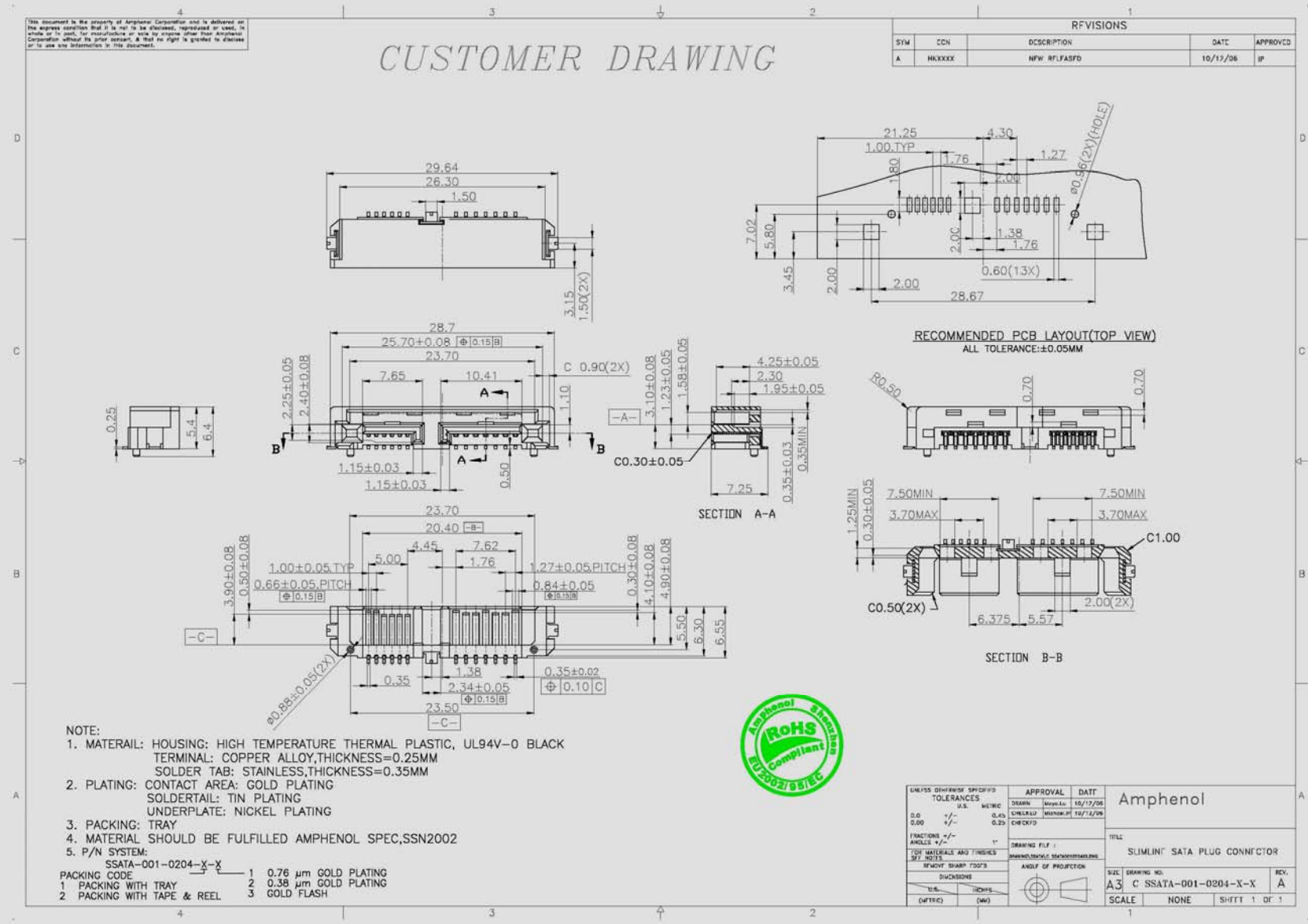


UNLESS OTHERWISE SPECIFIED		APPROVAL		DATE	
TOLERANCES		DRW	INSP	9/06/06	9/06/06
INCH	METRIC	CHK	CHK	DATE	DATE
0.0	+/-	0.45	0.25		
0.00	+/-				
FRACTIONS +/-		DRAWING FILE :			
ANGLE +/-		REVISIONS: INITIALS/DATE/DESCRIPTION			
FOR MATERIALS AND FINISHES SEE NOTE		ANGLE OF PROJECTION			
REMOVE SHARP EDGES					
DIMENSIONS					
U.S.		INCHES			
(METRIC)		(MM)			

TITL		Amphenol	
TITL		SULMIN™ SATA PLUG CONNECTOR	
SIZE	DRAWING NO.	REV.	
A3	C SSATA-001-0203-X-X	A	
SCALE	NONE	SHIFT	1 OF 1

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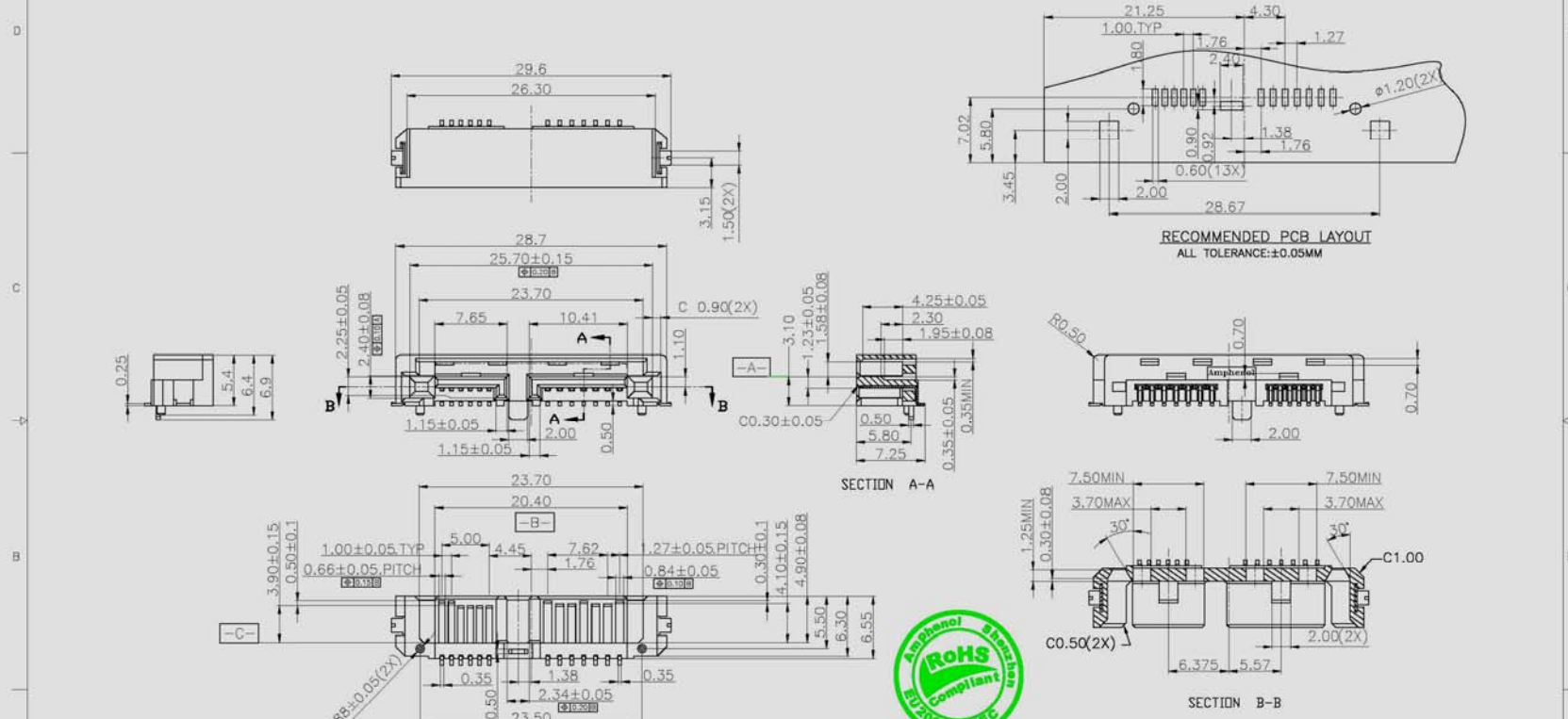
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CUSTOMER DRAWING

REVISIONS				
SYM	CDN	DESCRIPTION	DATE	APPROVED
A	HXXXX	RPLASFD TO CUSTOMR	10/17/06	IP



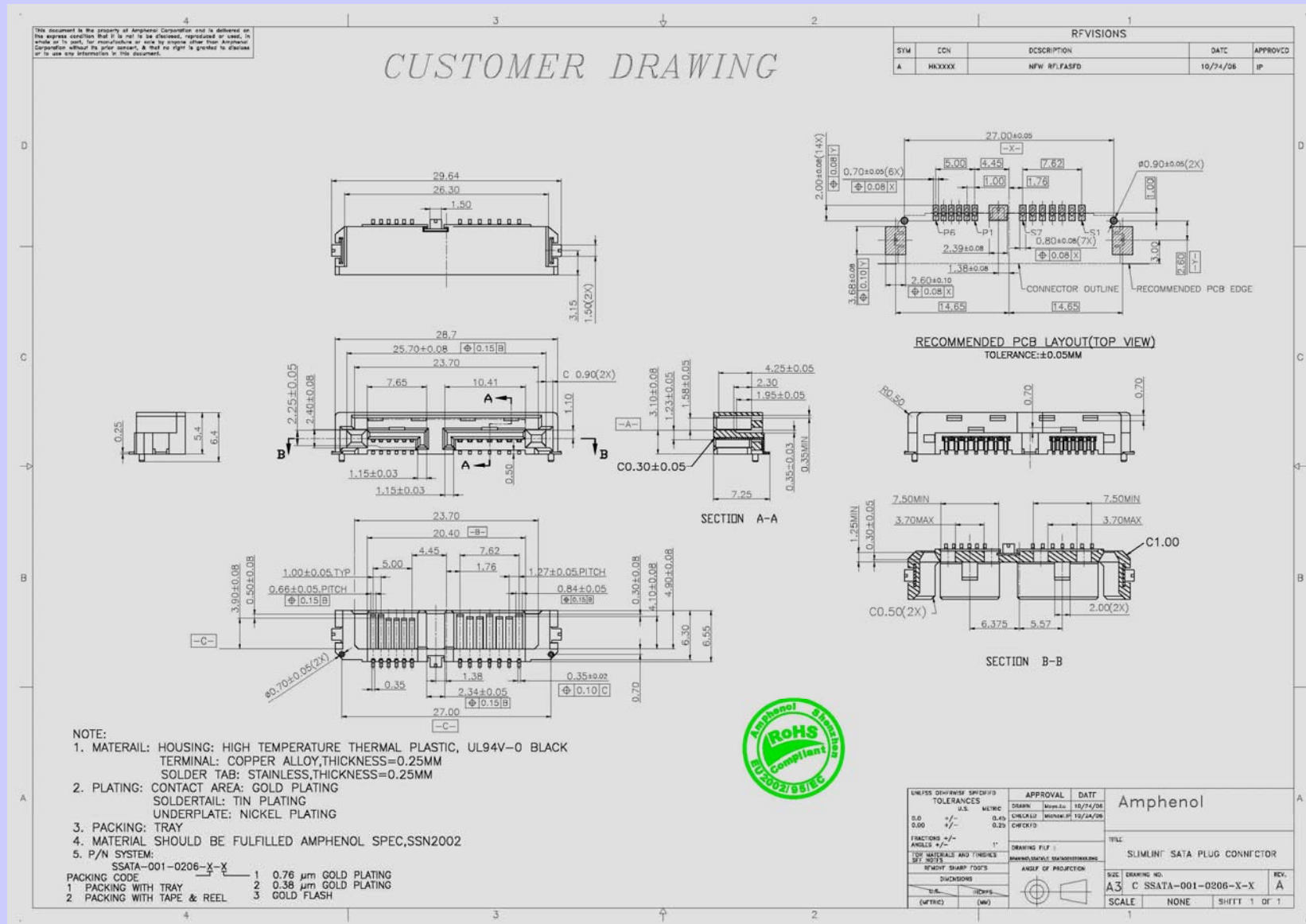
- NOTE:
- MATERIAL: HOUSING: HIGH TEMPERATURE THERMAL PLASTIC, UL94V-0 BLACK
TERMINAL: COPPER ALLOY, THICKNESS=0.25MM
SCREW NAL: STAINLESS, THICKNESS=0.35MM
 - PLATING: CONTACT AREA: GOLD PLATING
SOLDERTAIL: TIN PLATING
UNDERPLATE: NICKEL PLATING
 - PACKING: TRAY
 - MATERIAL SHOULD BE FULFILLED AMPHENOL SPEC, SSN2002
 - P/N SYSTEM:
SSATA-001-0205-X-X

- PACKING WITH TRAY
- | | |
|---|---------------------------|
| 1 | 0.76 μ m GOLD PLATING |
| 2 | 0.38 μ m GOLD PLATING |
| 3 | GOLD FLASH |
- 1: TRAY
2: TAPE AND REEL

UNLESS OTHERWISE SPECIFIED		APPROVAL		DATE	
TOLERANCES		DRWN: MaysLx	10/17/06	Amphenol	
0.0	±0.05	CHECKED: IP	10/17/06	TITLE	
0.00	±0.02	CHECK'D		SLIMLINE SATA PLUG CONNECTOR	
FRACTIONS: -/-	1"	DRAWING FILE:		SIZE: DRAWING NO.	
ANGLES: -/-		DRAWING NO.:		A3 C SSATA-001-0205-X-X	
OF MATERIALS AND FINISHES	SEE NOTES	ANGLES OF PROJECTION		SCALE	
KEY: SHARP TIPS		FIRST ANGLE		NONE	
DIMENSIONS		REV. A		SHIFT 1 OF 1	
INCHES					
METRIC					

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