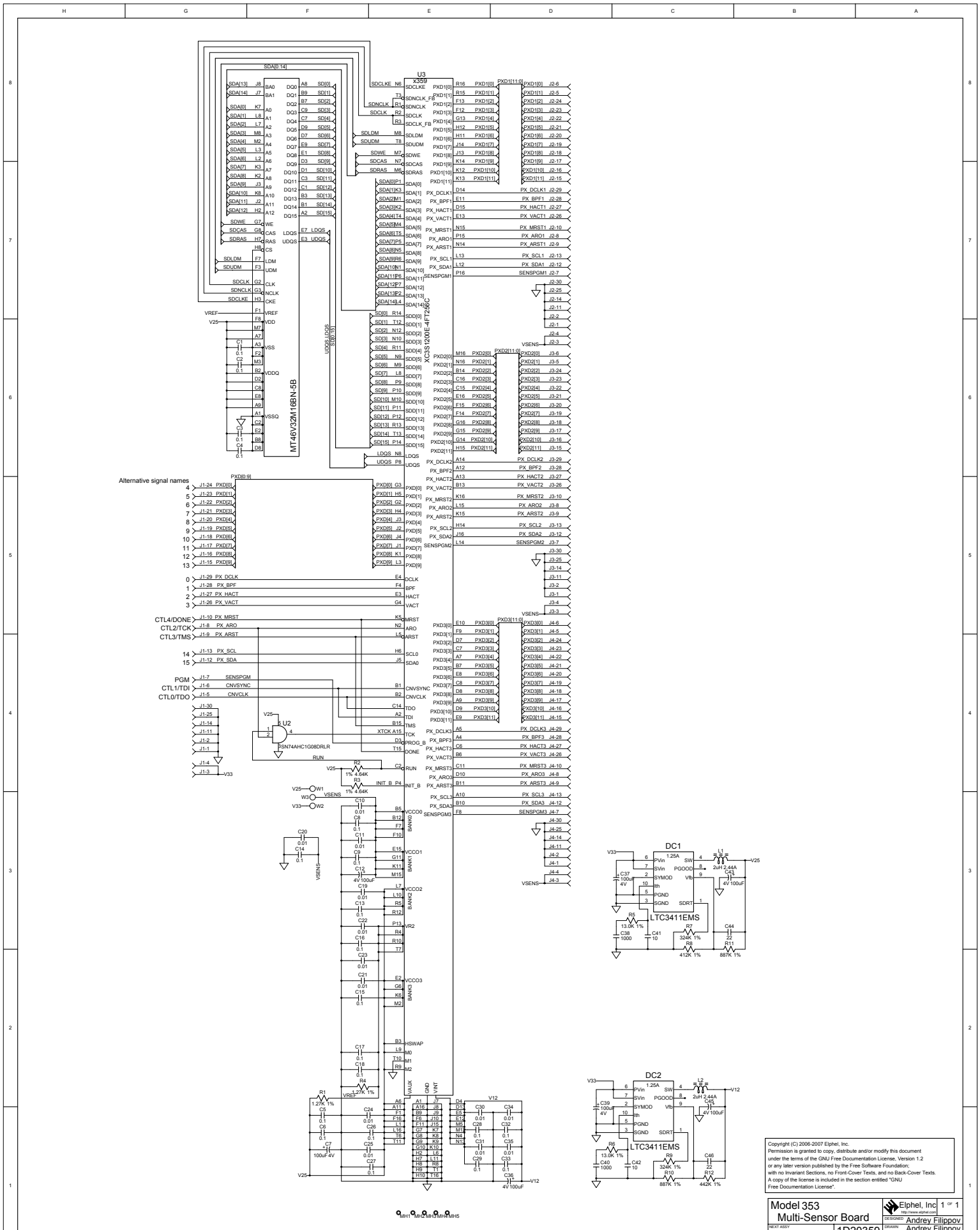
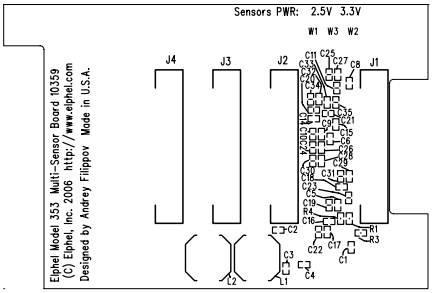


Copyright (C) 2006-2007 Elphel, Inc.
Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.2 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled "GNU Free Documentation License".

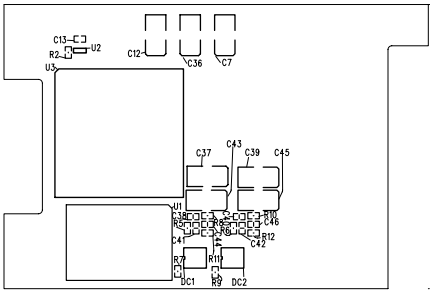
Model 353 Multi-Sensor Board		Elphel, Inc. http://www.elphel.com	1 OF 1
NEXT ASSY	1D20359	DESIGNED	Andrey Filippov
USED	QTY 1	DRAWN	Andrey Filippov
FILE 10359	10359 REV 0 ECN# DATE	DATE	12/11/2006
		PRINTED	2/28/2007 AT 9:49:10 PM

					SUB-ASSEMBLY								
					----------		-----						
	USAGE	#		NO.	**4A20359**	RELEASE DATE	**12/12/06**	P/L	REV.	REV.	Units to	Total	Cost per
	____	___			_____		_____	DATE	LTR	DATE	Build	Cost	Unit
	353	1		TITLE	**Model 353 Multi-Sensor Board**			-------	---------	--------	--------	--------	--------
					PCB Assembly 10359	JOB#	**N/A**	12/11/2006	0		**1**	**$135.61**	**$135.61**
					_____		_____						
			# TO	MFGR	**1**	WORK ORDER #	**N/A**						
					----------		_____						
			NEXT	ASSY	4A-?????	NON STANDARD							
					_____	NOTATIONS							
DESIGNATOR NUMBER	ITEM #	QTY REQ	EXT QTY	STK CHK	DESCRIPTION	PART #	MANUFACTURER	VENDOR	VENDOR PART #	PURCH QTY	UNIT PRICE	TOTAL	NEW STOCK
---	---	---	---	---	---	---	---	---	---	---	---	---	---
---	---	---	---	---	**Related Documents**	---	---	---	---	---	---	---	---
	0.5	1	1		Schematic 10359 (10359), Model 353	1D20359 Rev.0	Designed by Andrey Filippov						
	20	1	1		Fabrication (10359), Model 353	4F20359 Rev.0							
	21	1	1		Artwork (10359), Model 353	4G20359 Rev.0							
---	---	---	---	---	**Integrated Circuits**	---	---	---	---	---	---	---	---
U1	40	1	1		DDR Synchronous DRAM, 512Mbit (32Mx16), **32MX16**, **2.5V**, FBGA-60W, marked as **D9GCL**	MT46V32M16BN-5B	Micron	Edge Electronics		1	10	10	0
U2	41	1	1		Single 2-AND Gate, SOT-553, marked as **AE?**	SN74AHC1G08DRLR	Texas Instruments	Digi-Key	296-19376-1-ND	1000	0	0	999
U3	42	1	1		Spartan 3E FPGA, 1.2 M gates, FT256, programmed as **x359**	XC3S1200E-4FT256C	Xilinx	Insight Electronics		1	81	81	0
---	---	---	---	---	**Power Supply Modules**	---	---	---	---	---	---	---	---
DC1-DC2	43	2	2		Step-Down DC/DC Converter, Synchronous, 4MHz, **1.25A**, MS10, marked	LTC3411EMS	Linear Technology	Arrow		2	3.78	7.56	0
---	---	---	---	---	**Resistors**	---	---	---	---	---	---	---	---
R1, R4	44	2	2		Resistor, **1.27KΩ**, **±1%**, SMD 0402, marked as **1271**	ERJ-2RKF1271X	Panasonic	Digi-Key	P1.27KLCT-ND	10	0.098	0.98	8
R2-R3	45	2	2		Resistor, **4.64KΩ**, **±1%**, SMD 0402, marked as **4641**	9C04021A4641FLHF3	Yageo	Digi-Key	311-4.64KLCT-ND	10	0.094	0.94	8
R5-R6	46	2	2		Resistor, **13KΩ**, **±1%**, SMD 0402, marked as **1302**	RC0402FR-0713KL	Yageo	Digi-Key	311-13.0KLRCT-ND	10	0.094	0.94	8
R7, R9	47	2	2		Resistor, **324KΩ**, **±1%**, SMD 0402, marked as **3243**	ERJ-2RKF3243X	Panasonic	Digi-Key	P324KLCT-ND	10	0.098	0.98	8
R8	48	1	1		Resistor, **412KΩ**, **±1%**, SMD 0402, marked as **4123**	ERJ-2RKF4123X	Panasonic	Digi-Key	P412KLCT-ND	10	0.098	0.98	9
R12	49	1	1		Resistor, **442KΩ**, **±1%**, SMD 0402, marked as **4423**	ERJ-2RKF4423X	Panasonic	Digi-Key	P442KLCT-ND	10	0.098	0.98	9

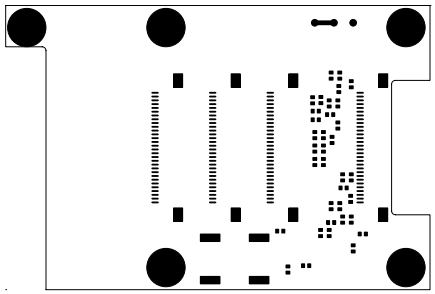
DESIGNATOR NUMBER	ITEM #	QTY REQ	EXT QTY	STK CHK	DESCRIPTION	PART #	MANUFACTURER	VENDOR	VENDOR PART #	PURCH QTY	UNIT PRICE	TOTAL	NEW STOCK
R10-R11	50	2	2		Resistor, **887KΩ**, **±1%**, SMD 0402, marked as **8873**	ERJ-2RKF8873X	Panasonic	Digi-Key	P887KLCT-ND	10	0.098	0.98	8
					Capacitors								
C7, C12, C36-C37, C39, C43, C45	51	7	7		Low ESR Tantalum Chip Capacitor with Polymer Electrode, **100µF**, **4V**, SMD B	T520B107M004ASE070	Kemet	Digi-Key	399-3167-1-ND	7	1.1	7.7	0
C1-C6, C8-C9, C13-C18, C26-C29, C32-C33	52	20	20		Capacitor, Ceramic Chip, **0.1µF**, **10V**, C-0402D	C0402C104K8PACTU	Kemet	Digi-Key	399-3027-1-ND	20	0.083	1.66	0
C10-C11, C19-C25, C30-C31, C34-C35	53	13	13		Capacitor, Ceramic Chip, **0.01µF**, **25V**, C-0402	C0402C103K3RACTU	Kemet	Digi-Key	399-1278-1-ND	13	0.055	0.715	0
C38, C40	54	2	2		Capacitor, Ceramic Chip, **1000pF**, **50V**, C-0402	C0402C102K5RACTU	Kemet	Digi-Key	399-1032-1-ND	10	0.055	0.55	8
C41-C42	55	2	2		Capacitor, Ceramic Chip, **10pF**, C-0402	CC0402JRNPO9BN100	Yageo	Digi-Key	311-1014-1-ND	10	0.077	0.77	8
C44, C46	56	2	2		Capacitor, Ceramic Chip, **22pF**, C-0402	CC0402JRNPO9BN220	Yageo	Digi-Key	311-1018-1-ND	10	0.088	0.88	8
					Inductors and LC filters								
L1-L2	57	2	2		SMD Inductor, **2µHn**, **2.44A**, D62CB	A920CY-2R0M	Toko	Digi-Key	TKS5512CT-ND	2	3.22	6.44	0
					Connectors								
J2-J4	58	3	3		0.5 mm-Pitch Slide-Lock FPC Connector, bottom contact, 30 pos., FH12-30S-0.5SHCOMBO	FH12-30S-0.5SH55	Hirose	Digi-Key	HFJ130CT-ND	3	2.97	8.91	0
J1	59	1	1		0.5 mm-Pitch Slide-Lock FPC Connector, top contact, 30 pos., FH12A-30S-0.5SHCOMBO	FH12A-30S-0.5SH55	Hirose	Digi-Key	HFK130CT-ND	1	2.64	2.64	0



SILKSCREEN TOP			

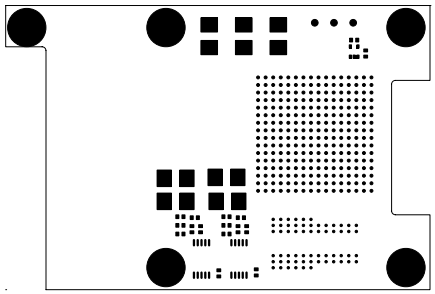


SILKSCREEN BOTTOM			



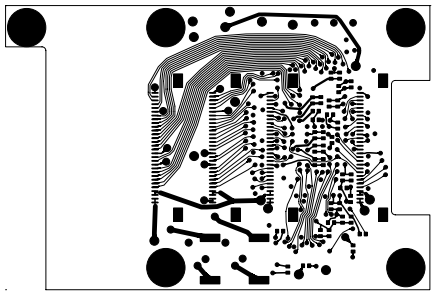
	SOLDER MASK TOP		

SolderTop.pho - Tue Dec 12 10:05:05 2006

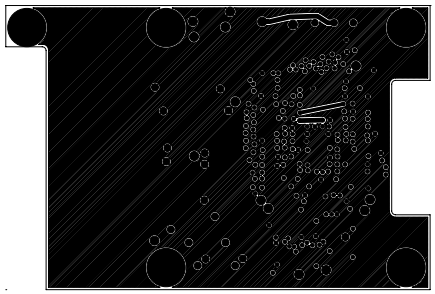


		SOLDER MASK BOTTOM	

SolderBottom.pho - Tue Dec 12 10:05:30 2006

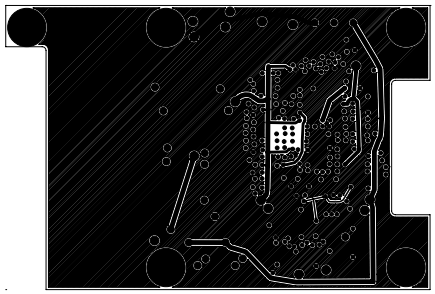


TOP SIDE (LAYER-1)			
	COMPONENT COPPER TOP (L-18)		



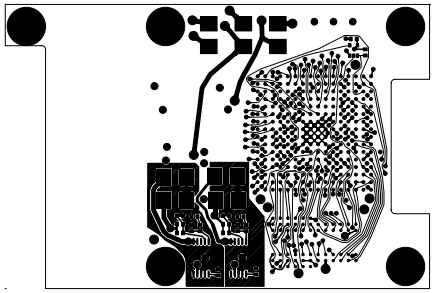
	GND PLANE (LAYER-2)		

RoutingGround.pho - Tue Dec 12 10:06:30 2006

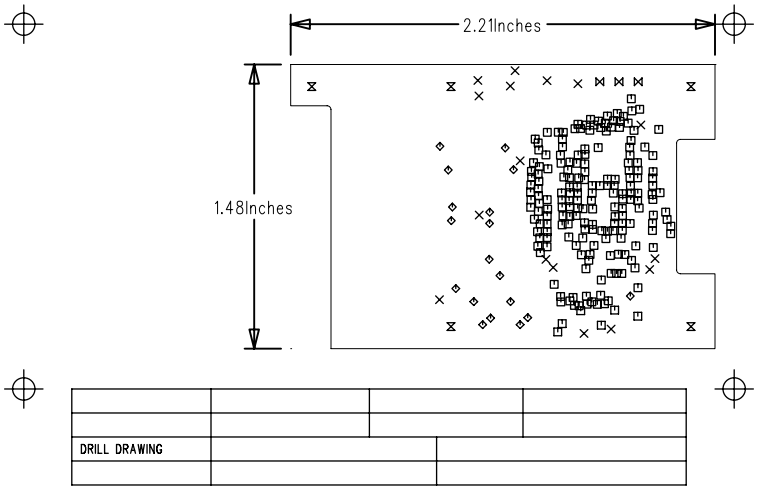


		PWR PLANE (LAYER-3)	

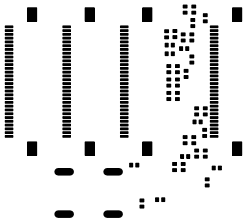
RoutingPower.pho - Tue Dec 12 10:07:17 2006



			BOTTOM SIDE (LAYER-4)
		COMPONENT COPPER BOTTOM (L-19)	

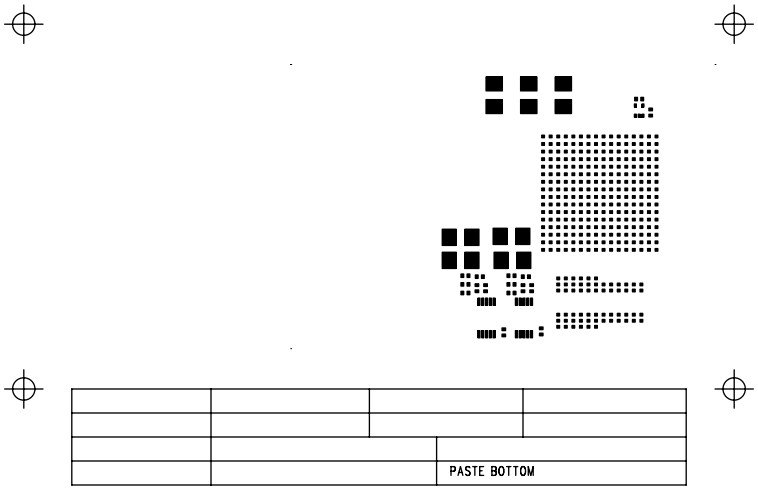


SIZE	QTY	SYM	PLTD
32	16	╳	PLTD
10	192	⊡	PLTD
22	18	◇	PLTD
120	5	⧖	NPLTD
25	3	⋈	PLTD



	PASTE TOP		

PasteTop.pho - Tue Dec 12 10:09:07 2006



PasteBottom.pho – Tue Dec 12 10:09:39 2006