

Name: Circuit Board Assembly
Number: 100508

SCS CORPORATION

Revision: -
Revision Date:

ITEM NO.	QTY	REF. DES.	DESCRIPTION	SIMPLE DESCRIPTION	SCS P/N	MANUFACTURER	PART NO.	UNIT COST	EXTENDED COST	DISTRIBUTORS	DIST. PART NO.
0	NEXT			Scanner	100504	SCS	100504				
1	26	C2,C3,C7,C18,C20,C27,C35,C41,C48,C56,C78,C82,C91,C107,C113,C117,C126,C127,C130,C131,C138,C139,C147,C168,C169,C193	0.1UF, +80%-20%, 50V, Y5V, 0805	Capacitor	C1C-122	Samsung	CL21F104ZBNC	\$0.09	\$2.31	Garrett	CL21F104ZBNC
2	23	C8,C16,C22,C28,C31,C34,C42,C51,C70,C77,C87,C88,C89,C96,C105,C111,C115,C118,C119,C120,C132,C137,C180	1000PF, 10%, 50V, X7R, 0805	Capacitor	C1C-74	Samsung	CL21B102KBNC	\$0.03	\$0.69	Garrett	CL21B102KBNC
3	7	C1,C9,C14,C122,C146,C194,C195	33UF, 10%, 16V, Tant., 7343	Capacitor	CT14	Matsuo	267M1602336K-720	\$0.52	\$3.64	Garrett	267M1602336K-720
4	35	C5,C10,C12,C15,C19,C26,C33,C38,C43,C45,C50,C60,C62,C64,C68,C74,C76,C80,C86,C92,C93,C95,C106,C109,C114,C116,C121,C133,C142,C149,C176,C178,C189,C190,C199	33PF, 5%, 50V, NPO, 0805	Capacitor	C1C-38	Samsung	CL21C330JCNC	\$0.03	\$1.05	Garrett	CL21C330JCNC
5	1	C99	2.7PF, +/-0.5PF, 50V, NPO, 0603	Capacitor	C2C-12	Samsung	CL10C2R7CBNC	\$0.03	\$0.03	Garrett	CL10C2R7CBNC
6	1	C61	0.22UF, +80%-20%, 25V, Y5V, 0805	Capacitor	C1B-130	Samsung	CL21F224ZBNE	\$0.10	\$0.10	Garrett	CL21F224ZBNE
7	15	C123,C125,C141,C150,C153,C156,C159,C161,C164,C167,C171,C173,C174,C179,C188	0.01UF, 10%, 50V, X7R, 0805	Capacitor	C1C-98	Samsung	CL21B103KBNC	\$0.03	\$0.45	Garrett	CL21B103KBNC
8	5	C66,C134,C143,C177,C183	680PF, 5%, 50V, NPO, 0805	Capacitor	C1C-70	Samsung	CL21C681JCNC	\$0.03	\$0.15	Garrett	CL21C681JCNC
9	1	C67	8200PF, 10%, 50V, X7R, 0805	Capacitor	C1C-96	Samsung	CL21B822KBNC	\$0.03	\$0.03	Garrett	CL21B822KBNC
10	3	C13,C46,C65	120PF, 5%, 50V, NPO, 0805	Capacitor	C1C-52	Samsung	CL21C121JCNC	\$0.03	\$0.09	Garrett	CL21C121JCNC
11	1	C63	100PF, 5%, 50V, NPO, 0805	Capacitor	C1C-50	Samsung	CL21C101JCNC	\$0.03	\$0.03	Garrett	CL21C101JCNC
12	3	C25,C58,C102	10PF, +/-0.5PF, 50V, NPO, 0805	Capacitor	C1C-26	Samsung	CL21C100DCNC	\$0.03	\$0.09	Garrett	CL21C100DCNC
13	31	C4,C11,C17,C32,C44,C52,C55,C71,C72,C73,C81,C97,C108,C112,C124,C128,C129,C140,C151,C152,C157,C158,C160,C162,C163,C172,C175,C187,C191,C198	1.0UF, +80%-20%, 16V, Y5V, 0805	Capacitor	C1A-146	Samsung	CL21F105ZONE	\$0.06	\$1.86	Garrett	CL21F105ZONE
14	4	C135,C148,C170,C186	150PF, 5%, 50V, NPO, 0805	Capacitor	C1C-54	Samsung	CL21C151JCNC	\$0.03	\$0.12	Garrett	CL21C151JCNC
15	1	C136	15PF, 5%, 50V, NPO, 0805	Capacitor	C1C-30	Samsung	CL21C150JCNC	\$0.03	\$0.03	Garrett	CL21C150JCNC
16	2	C144,C184	820PF, 5%, 50V, NPO, 0805	Capacitor	C1C-72	Samsung	CL21C821JCNC	\$0.03	\$0.06	Garrett	CL21C821JCNC
17	5	C85,C145,C154,C166,C185	0.33UF, +80%-20%, 50V, Y5V, 0805	Capacitor	C1C-134	Samsung	CL21F334ZBNE	\$0.10	\$0.50	Garrett	CL21F334ZBNE
18	2	C192,C196	100UF, 10%, 10V, Tant., 7343	Capacitor	CT15	Matsuo	267M1002107K-720	\$0.82	\$1.64	Garrett	267M1002107K-720
19	3	C21,C59,C103	1000PF, 10%, 50V, X7R, 0603	Capacitor	C2C-74	Samsung	CL10B102KNBC	\$0.02	\$0.06	Garrett	CL10B102KNBC
20	3	C24,C57,C101	8.2PF, +/-5PF, 50V, NPO, 0805	Capacitor	C1C-24	Maruwa	CE8R2D2NO-T1	\$0.02	\$0.06	Garrett	CE8R2D2NO-T1
21	9	C29,C40,C49,C83,C90,C94,C98,C104,C182	33PF, 5%, 50V, NPO, 0603	Capacitor	C2C-38	Samsung	CL10C330JBNC	\$0.02	\$0.18	Garrett	CL10C330JBNC
22	1	C75	12PF, 5%, 50V, NPO, 0603	Capacitor	C2C-28	Samsung	CL10C120JBNC	\$0.02	\$0.02	Garrett	CL10C120JBNC
23	2	C197,C200	1000UF, 20%, 10V, 10X10.5	Capacitor	EC-3	Nippon Ind.	NACE102M10V10X10.5TR13	\$0.60	\$1.20	PUI	NACE102M10V10X10.5TR13
24	3	C23,C54,C100	5.6PF, +/-5PF, 50V, NPO, 0805	Capacitor	C1C-20	Samsung	CL21C5R6DBNC	\$0.02	\$0.06	Garrett	CL21C5R6DBNC
25	1	D1	Schottky Diode, SOT-23	Diode	D10	HP	HSMS-8202	\$1.24	\$1.24	Future	
26	1	J1	RF Edge Mount Connector	Connector	J10	Johnson Components	142-0701-871	\$5.00	\$5.00	Richardson	
27	2	L1,L17	10UH Power Inductor	Inductor	L14	Coil Craft	D03316P-103	\$1.25	\$2.50		
28	3	L2,L8,L11	8.8NH	Inductor	L15	Coil Craft	1606-9K	\$0.73	\$2.19		
29	3	L3,L5,L9	10NH, 10%, 0805	Inductor	L16	TOKO	LL2012-F10NK	\$0.63	\$1.89	Digi-Key	TKS2369CT-ND
30	3	L4,L6,L10	2.7NH, 300mA, 0603	Inductor	L17	Samsung	CIH10T2N7SNC	\$0.35	\$1.05	Garrett	CIH10T2N7SNC
31	1	L7	22NH, 0805	Inductor	L9	TOKO	LL2012-F22NK	\$0.31	\$0.31	Digi-Key	TKS237CT-ND
32	2	L13,L15	180UH, 10%, 1812	Inductor	L5	Miller	PM40-181K	\$0.39	\$0.78	Garrett	PM40-181K
33	2	L14,L16	82UH, 10%, 1812	Inductor	L3	Miller	PM40-820K	\$0.39	\$0.78	Garrett	PM40-820K
34	1	L12	10UH, 20%, PM43	Inductor	L2	Miller	PM43-100M	\$0.93	\$0.93	Garrett	PM43-100M
35	2	P1,P2	Filter pin DB25F Connector	Connector	J12	Metuchen Capacitors	56-524-014-GBL	\$15.22	\$30.44	Ramsgate Tech.	
36	1	PCB1	Printed Circuit Board	PCB	100513	RCM	100513	\$30.00	\$30.00		
37	5	Q2,Q3,Q4,Q6,Q8	NPN Transistor	Transistor	Q2	Diodes Inc.	MMBT3904LT1	\$0.04	\$0.19	Future	
38	3	Q1,Q5,Q7	PNP Transistor	Transistor	Q1	Diodes Inc.	MMBT3906LT1	\$0.05	\$0.15	Future	
39	9	R3,R10,R15,R36,R40,R41,R70,R110,R134,R2,R48,R94,R98,R100,R112,R116,R117,R125,R127,R138	2K, 5%, 0805	Resistor	R1-81	ROHM	MCR10J202	\$0.02	\$0.18	Garrett	MCR10J202
40	11	R117,R125,R127,R138	10K, 5%, 0805	Resistor	R1-98	ROHM	MCR10J103	\$0.02	\$0.22	Garrett	MCR10J103
41	6	R31,R39,R59,R64,R65,R102	4.7K, 5%, 0805	Resistor	R1-90	ROHM	MCR10J472	\$0.02	\$0.12	Garrett	MCR10J472
42	8	R5,R7,R14,R19,R22,R61,R109,R115	1K, 5%, 0805	Resistor	R1-74	ROHM	MCR10J102	\$0.02	\$0.16	Garrett	MCR10J102
43	2	R4,R18	390, 5%, 0805	Resistor	R1-64	ROHM	MCR10J391	\$0.02	\$0.04	Garrett	MCR10J391
44	7	R38,R52,R53,R58,R84,R96,R128,R25,R26,R43,R45,R49,R83,R88,R92,R101,R106,R107,R113,R119,R129,R132,R141	100, 5%, 0805	Resistor	R1-50	ROHM	MCR10J101	\$0.02	\$0.14	Garrett	MCR10J101
45	16		10, 5%, 0805	Resistor	R1-26	ROHM	MCR10J100	\$0.02	\$0.32	Garrett	MCR10J100
46	1	R27	1M, 5%, 0805	Resistor	R1-146	ROHM	MCR10J105	\$0.02	\$0.02	Garrett	MCR10J105
47	4	R21,R63,R73,R80	0, 5%, 0603	Resistor	R2-1	ROHM	MCR03J000	\$0.02	\$0.08	Garrett	MCR03J000
48	3	R37,R93,R124	300, 5%, 0805	Resistor	R1-61	ROHM	MCR10J301	\$0.02	\$0.06	Garrett	MCR10J301
49	2	R99,R105	4.7, 5%, 0805	Resistor	R1-90	ROHM	MCR10J4R7	\$0.02	\$0.04	Garrett	MCR10J4R7
50	1	R54	51K, 5%, 0805	Resistor	R1-115	ROHM	MCR10J513	\$0.02	\$0.02	Garrett	MCR10J513
51	1	R55	390K, 5%, 0805	Resistor	R1-136	ROHM	MCR10J394	\$0.02	\$0.02	Garrett	MCR10J394
52	3	R35,R60,R108	100K, 5%, 0805	Resistor	R1-122	ROHM	MCR10J104	\$0.02	\$0.06	Garrett	MCR10J104
53	8	R8,R23,R69,R76,R77,R78,R111,R135	200, 5%, 0805	Resistor	R1-57	ROHM	MCR10J201	\$0.02	\$0.16	Garrett	MCR10J201

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54	10	R9,R17,R24,R33,R44,R46,R50,R66, R82,R91 R29,R86,R89,R90,R104,R121,R122, R130,R131,R133	0, 5%, 0805	Resistor	R1-1	ROHM	MCR10J000	\$0.02	\$0.20	Garrett	MCR10J000
55	10	R130,R131,R133	51, 5%, 0805	Resistor	R1-43	ROHM	MCR10J510	\$0.02	\$0.20	Garrett	MCR10J510
56	3	R87,R118,R136	20K, 5%, 0805	Resistor	R1-105	ROHM	MCR10J203	\$0.02	\$0.06	Garrett	MCR10J203
57	6	R95,R103,R114,R123,R126,R137	470, 5%, 0805	Resistor	R1-66	ROHM	MCR10J471	\$0.02	\$0.12	Garrett	MCR10J471
58	1	R11	3.9K,5%,0805	Resistor	R1-88	Nippon Ind.	NRC10J392	\$0.10	\$0.10	Garrett	NRC10J392
59	2	R56,R47	150,5%,0805	Resistor	R1-54	ROHM	MRC10J151	\$0.01	\$0.02	Garrett	MRC10J151
60	1	R51	36.5%,0603	Resistor	R2-39	SEI	RMC1/6-360JR	\$0.01	\$0.01	PLI	RMC1/6-360JR
61	3	R62,R74,R75	120,5%,0805	Resistor	R1-52	ROHM	MCR10J121	\$0.01	\$0.03	Garrett	MCR10J121
62	1	R72	51.5%,0603	Resistor	R2-43	Samsung	RC1608J510CS	\$0.01	\$0.01	Garrett	RC1608J510CS
63	1	R140	1.5K,5%,0805	Resistor	R1-78	ROHM	MCR10J152	\$0.01	\$0.01	Garrett	MCR10J152
64	1	R97	39K,5%,0805	Resistor	R1-112		9C08052A3902JLHFT	\$0.02	\$0.02	Garrett	9C08052A3902JLHFT
65	1	R34	75.5%,0805	Resistor	R1-47	ROHM	MCR10J750	\$0.01	\$0.01	Garrett	MCR10J750
66	15	TP1,TP2,TP3,TP4,TP5,TP6,TP7, TP8,TP9,TP10,TP11,TP12,TP13, TP14, TP15	Test Point	Test Point	M16	E-Mark	02-1004	\$0.10	\$1.50		
67	2	U1,U26	Resistor Array	Resistor Array	U27	CTS	745C101103JCT-ND	\$0.28	\$0.56	Digi-Key	
68	1	U2	3A Adjustable Voltage Regulator	Regulator	U58	Micrel	MIC29302	\$3.19	\$3.19	Future	MIC29302BU
69	3	U3,U11,U20	3V GSM Power Amplifier	AMP	U59	RF Micro Devices	RF2173	\$3.91	\$11.73	RF Micro Devices	RF2173
70	1	U4	Socket, 40 pin DIP	Socket	U29	Aries	A411-ND	\$1.82	\$1.82	Digikey	
71	1	U5	FPGA	FPGA	U30	Xilinx	XCS20-3VQ100C	\$22.55	\$22.55	Insight	
72	1	U6	Directional Coupler	Coupler	U61	Alpha Ind. Inc.	DC09-73	\$2.11	\$2.11	Nu Horizons	
73	4	U7,U8,U19,U24	Splitter	Splitter	U62	Soshin	GSC774-DVD0900	\$2.34	\$9.36	Spectrant	GSC774-DVD0900
74	1	U9	Circulator	Circulator	U63	Sonoma Scientific Inc.	CX8M45	\$60.00	\$60.00		
75	1	U10	Hex Inverter	Inverter	U32	Motorola	MC74HCU04AD	\$0.18	\$0.18	Future	
76	1	U12	Var. Gain AMP	AMP	U60	RF Micro Devices	RF2302	\$3.19	\$3.19		
77	1	U13	Variable Controlled Oscillator	VCO	U64	Princeton Elec.Sys. Inc.	PV-860	\$10.75	\$10.75		
78	1	U14	Frequency Synthesizer	Synthesizer	U12	National	LMX2325TM	\$4.89	\$4.89	Future	
79	1	U15	Socket, 32 pin PLCC	PLCC	U34	AMP	822273-1	\$0.41	\$0.41	Digikey	A2146-ND
80	2	U16,U18	Limiter	Limiter	U65	Micro Semi	GC47508-251A	\$3.92	\$7.84	Spectrant	
81	1	U17	Dual Operational Amplifier	Amp	U35	Motorola	MC33202D	\$0.63	\$0.63	Future	
82	1	U22	1M Static RAM	RAM	U37	Toshiba	TC551001CFT-85L	\$2.60	\$2.60	Insight	
83	1	U21	Digital Potentiometer	Potentiometer	U38	Analog Devices	ADB402AR10	\$1.95	\$1.95	Future	
84	1	U23	Octal Latch	Latch	U39	TI	SN74HCT373DW	\$0.22	\$0.22	Future	
85	1	U27	RS-232 Line Driver	Driver	U40	Sipex	SP232EEN	\$1.09	\$1.09	Falcon Sales	
86	2	U28,U29	Mixer	Mixer	U66	M/A Com	ESMD-C50H	\$7.67	\$15.34	Richardson Electronics	
87	2	U30,U37	High Speed Multiplier	Multiplier	U41	Analog Devices	AD835AR	\$8.95	\$17.90	Future	
88	1	U31	Quad 2-Input OR Gate	OR Gate	U42	TI	SN74HCT32D	\$0.12	\$0.12	Future	
89	1	U32	Quad 2-Input NAND Gate	NAND Gate	U43	TI	SN74HCT00D	\$0.12	\$0.12	Future	
90	1	U33	High Speed Comparator	Comparator	U45	National	LM319M-ND	\$0.65	\$0.65	Digikey	
91	1	U34	Dual Operational Amplifier	Amp	U46	Maxim	MAX4182ESA	\$2.50	\$2.50	N/A	
92	1	U35	Quad Operational Amplifier	Amp	U47	Maxim	MAX4020ESD	\$2.41	\$2.41	N/A	
93	1	U36	Quadrature Splitter	Splitter	U67	Mini Circuits	HPQ-10W	\$5.95	\$5.95		
94	1	U38	Micro Supervisory Circuit, 4.5V Low SOT23	Supervisory Circuit	U68	Microchip	MCP120	\$0.47	\$0.47	Digi-Key	MCP120T-450/TTCT-ND
95	1	U25	High Speed Buffer Amplifier	Amp	U49	Burr-Brown	BUF634U	\$3.10	\$3.10	Insight	
96	1	Y1	20 MHz Crystal	Crystal	U50	Fox	FPX200-20	\$1.10	\$1.10	Future	
97	1	U4	8-Bit Microcontroller, 20 MHz	Micro	100288	SCS	100288	\$3.77	\$3.77		
98	1	U15	1M Flash ROM	ROM	100289	SCS	100289	\$2.60	\$2.60		
99	6		Screw, machine thread 4-40 x 1/4", pan head, Phillips, SS	Screw	HW8			\$0.03	\$0.18	Pellmell	
100	1		Nut, hex, machine thread, 4-40, 1/4" span, SS	Nut	HW12			\$0.02	\$0.02	Pellmell	
101	2		Lock washer, split ring, #4, SS	Lockwasher	HW10			\$0.01	\$0.02	Pellmell	
102	1		Fabrication Drawing, Heat Sink	Heat Sink	100278	Krewsun	100278	\$10.00	\$10.00		
103	REF		Assembly Procedure, Circuit Board Assembly	Procedure	100510		100510				
104	REF		Test Procedure, Circuit Board Assembly	Procedure	100509		100509				
105	REF		Schematic Diagram, Circuit Board Assembly	Schematic	100507		100507				

Total Cost \$307.15

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