

**Agilent N3303A
Component Level
Information**

Agilent N3303A

250W Electronic Load Module

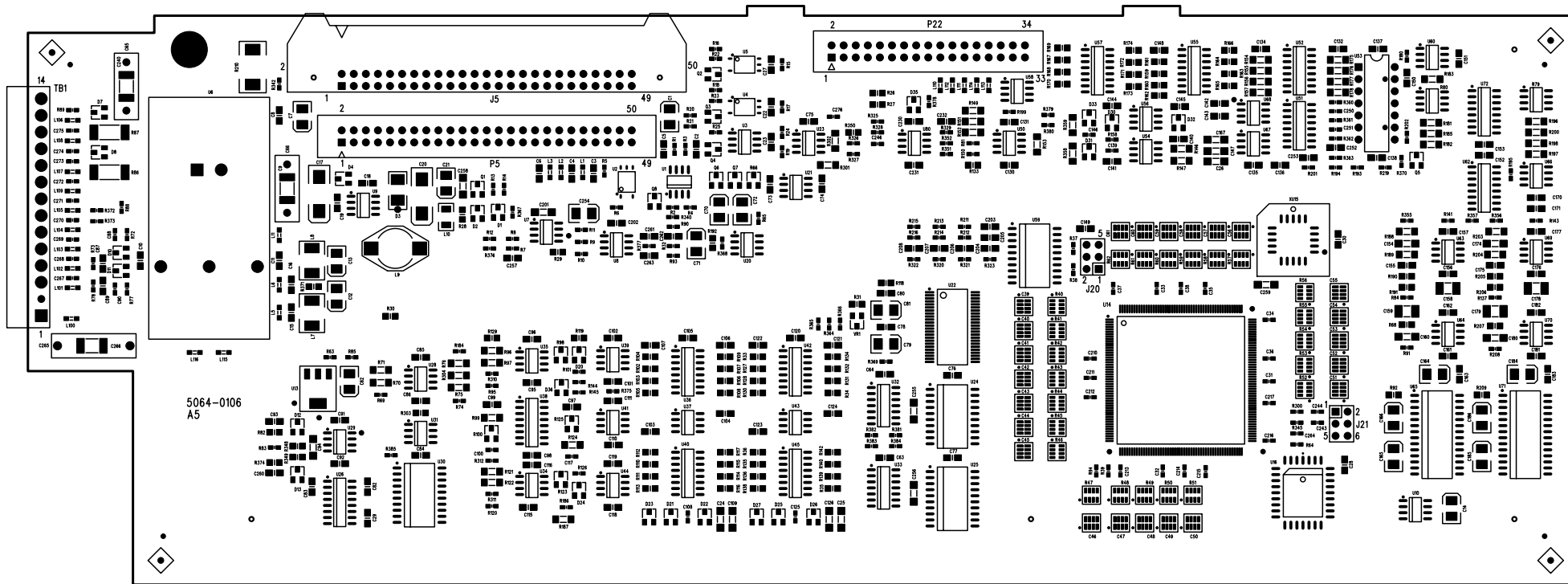
Component Level Information

Information in this packet applies to the following assemblies:

- 1. 5064-0106 Control Board**
- 2. 5064-0109 250W Power Board**

The following is included in this packet:

- 1. Component Locators**
- 2. Schematics**
- 3. Parts lists with Agilent and manufacturer's part numbers**

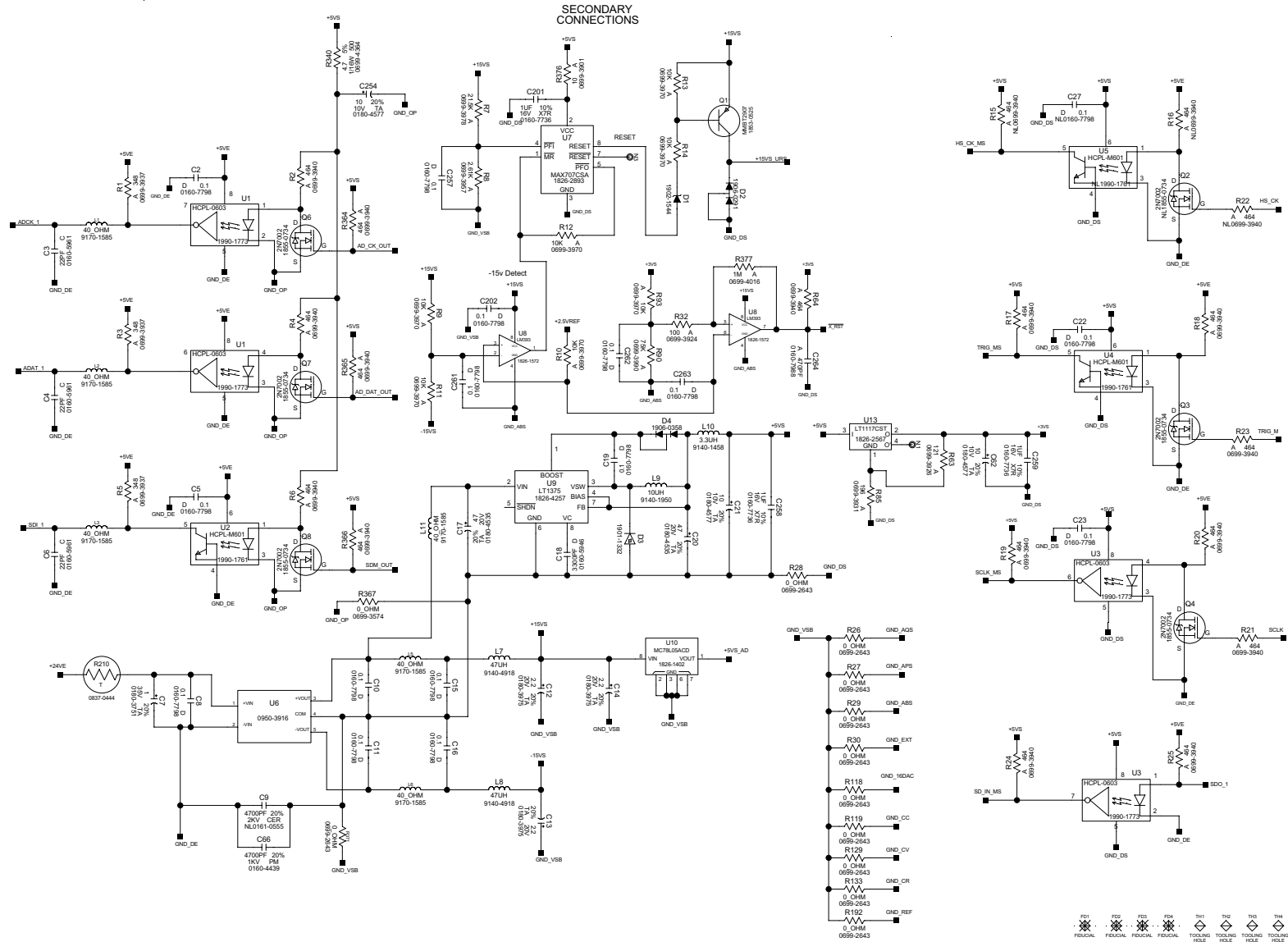
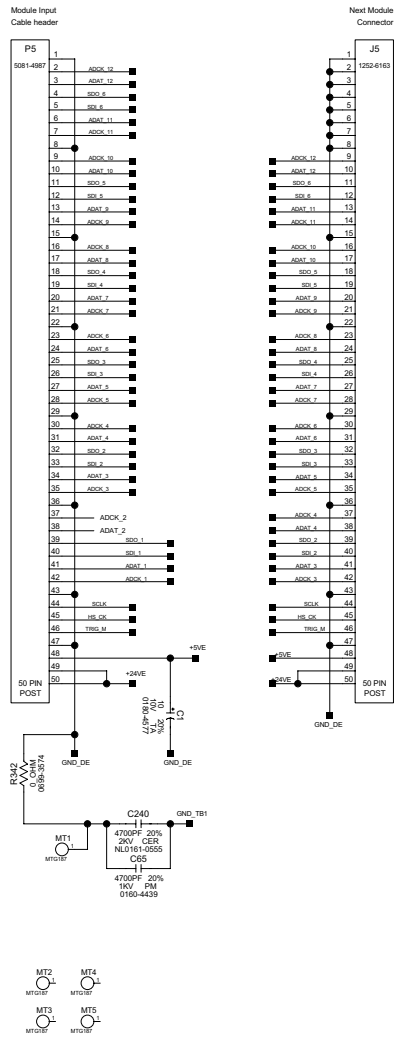


GRAPHICS (TOP SIDE)

NOTE: Magnify to see component reference designators.

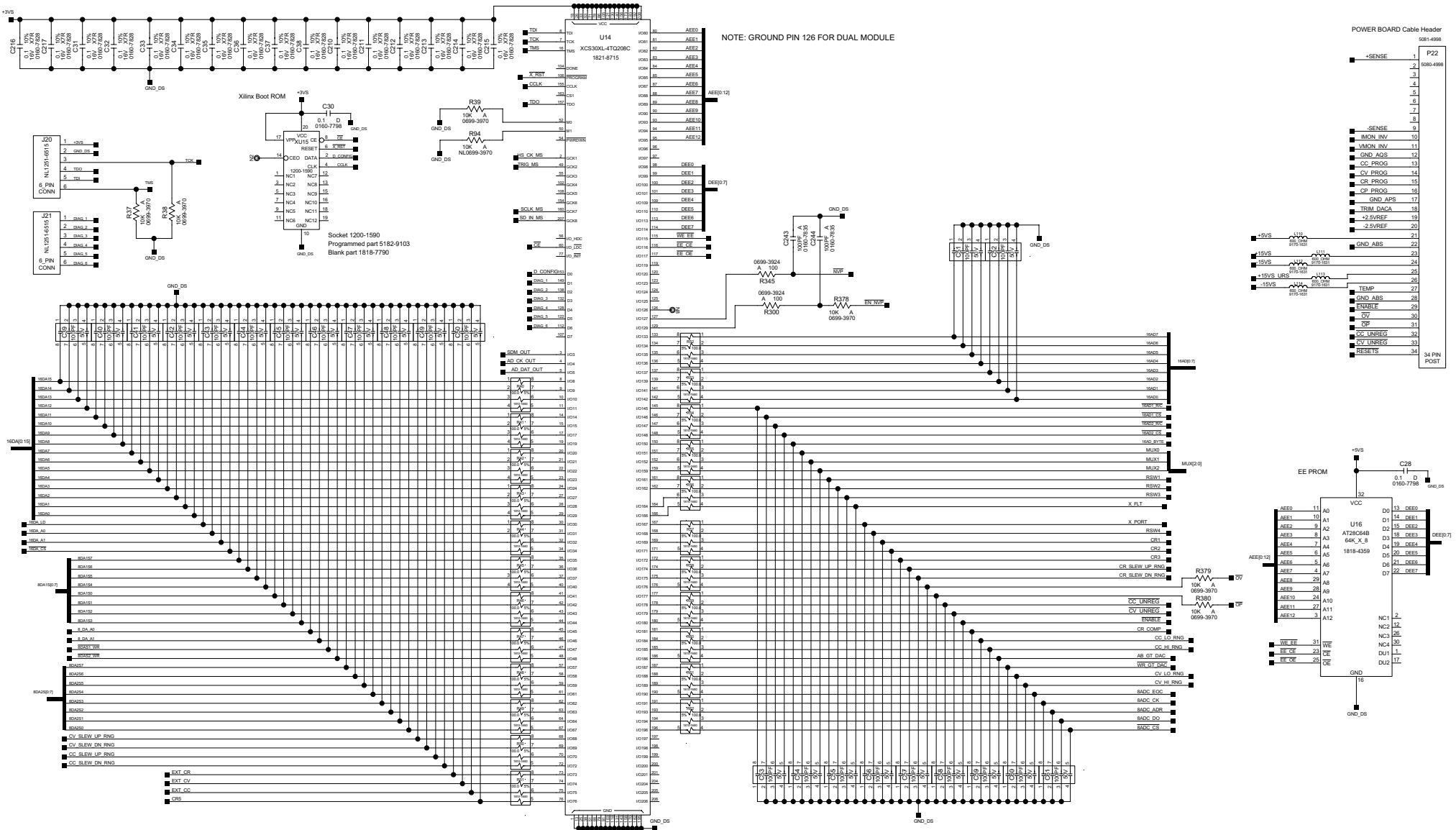
**Agilent N3303A
250W Electronic Load Module**

**5064-0106
Control Board PC Assembly
Component Locator**



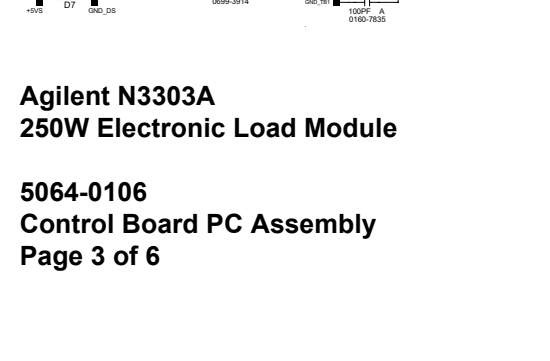
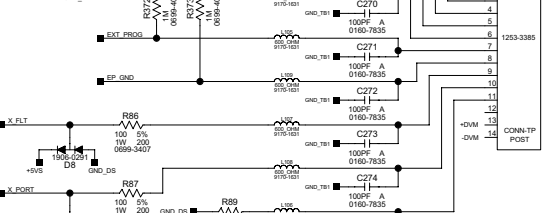
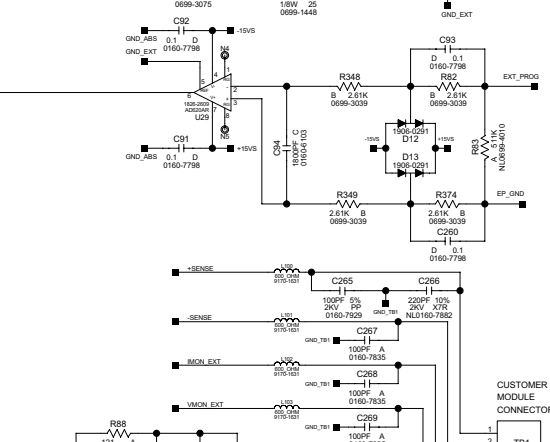
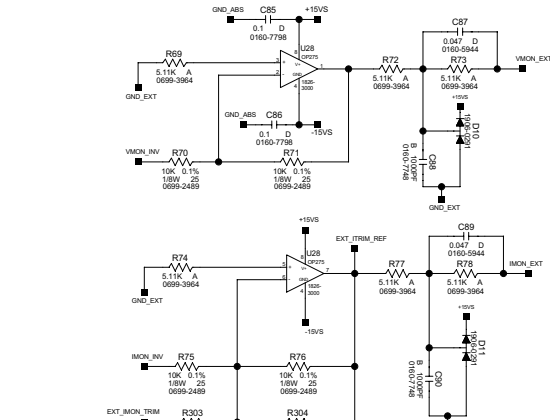
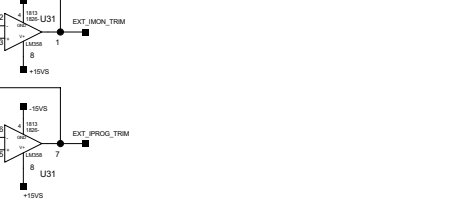
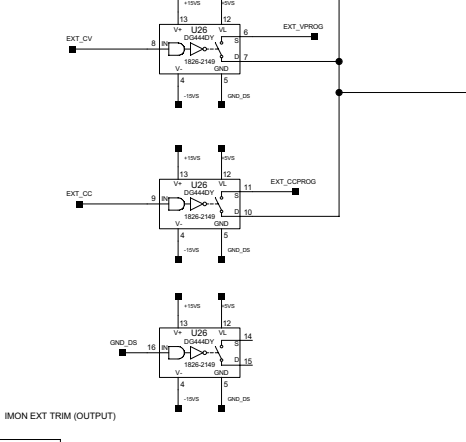
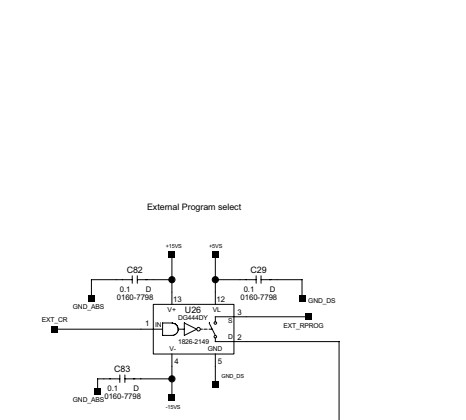
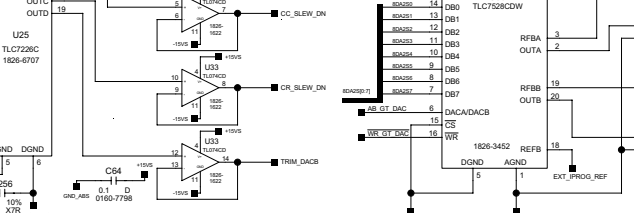
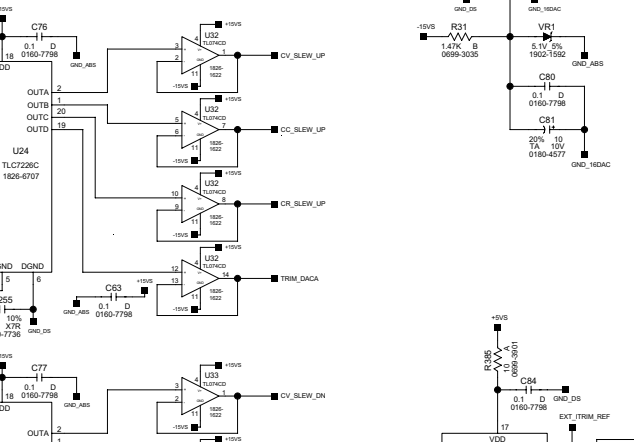
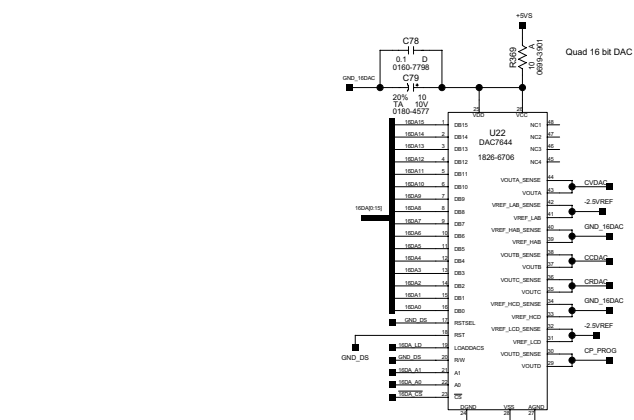
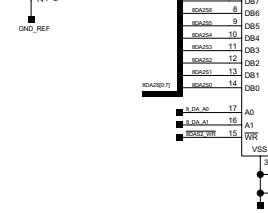
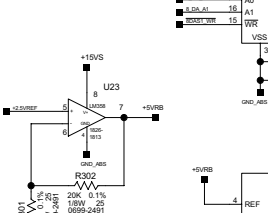
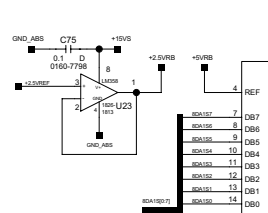
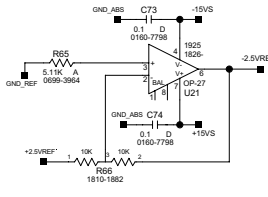
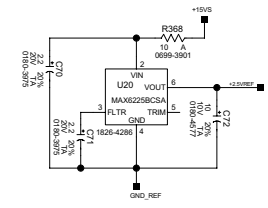
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Control Board PC Assembly
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250W Electronic Load Module**

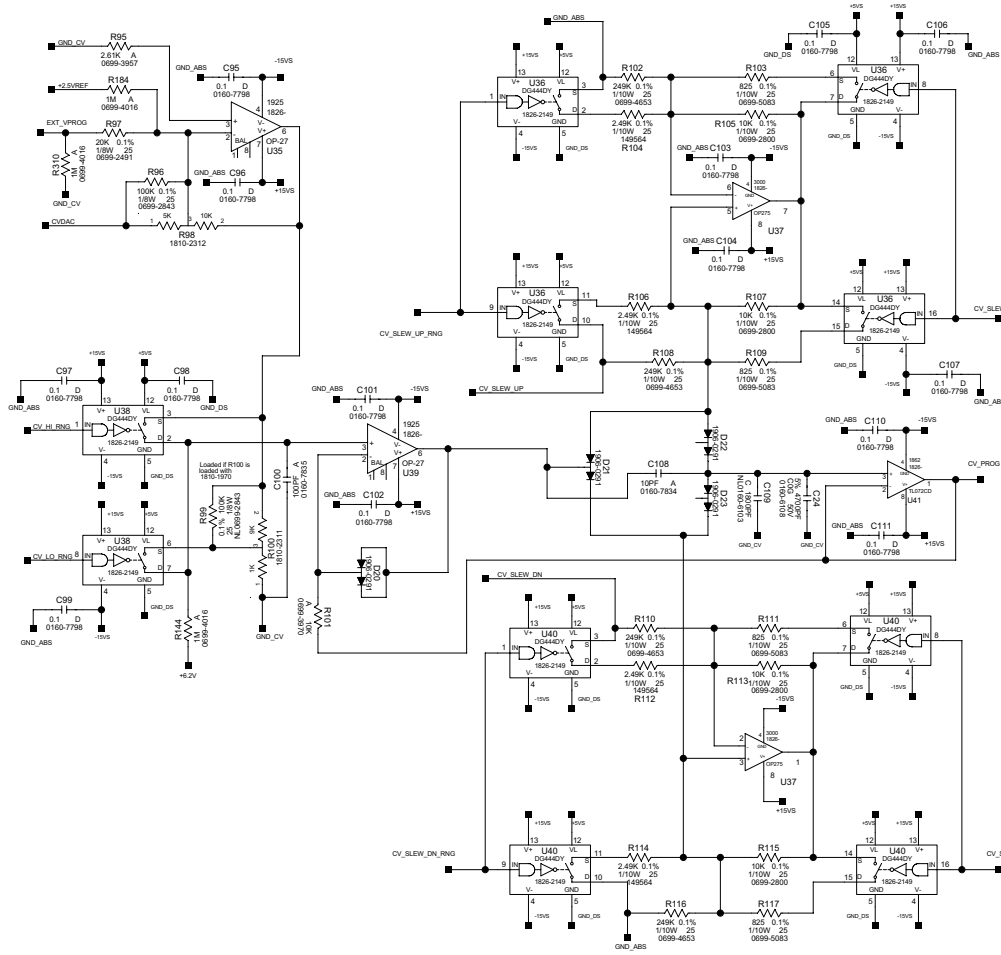
**5064-0106
Control Board PC Assembly
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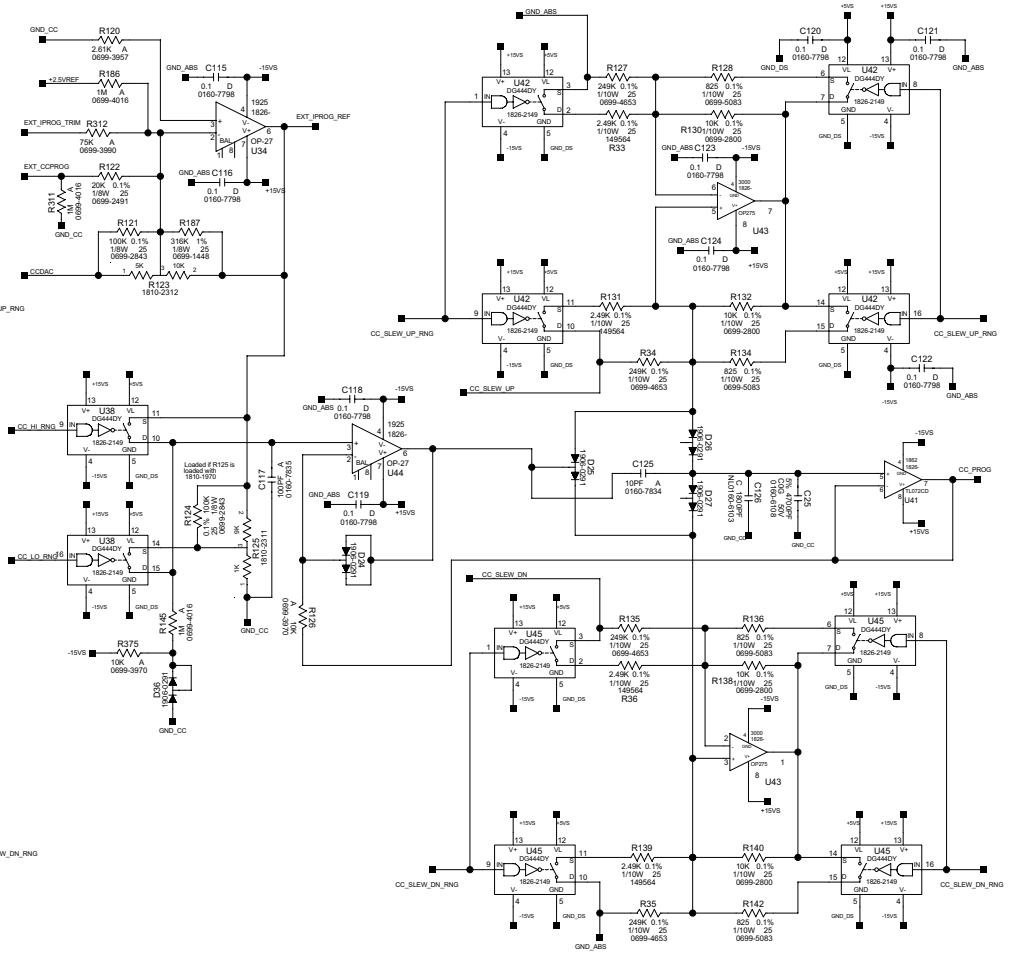
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250W Electronic Load Module**

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CV RANGE AND SLEW CIRCUITS

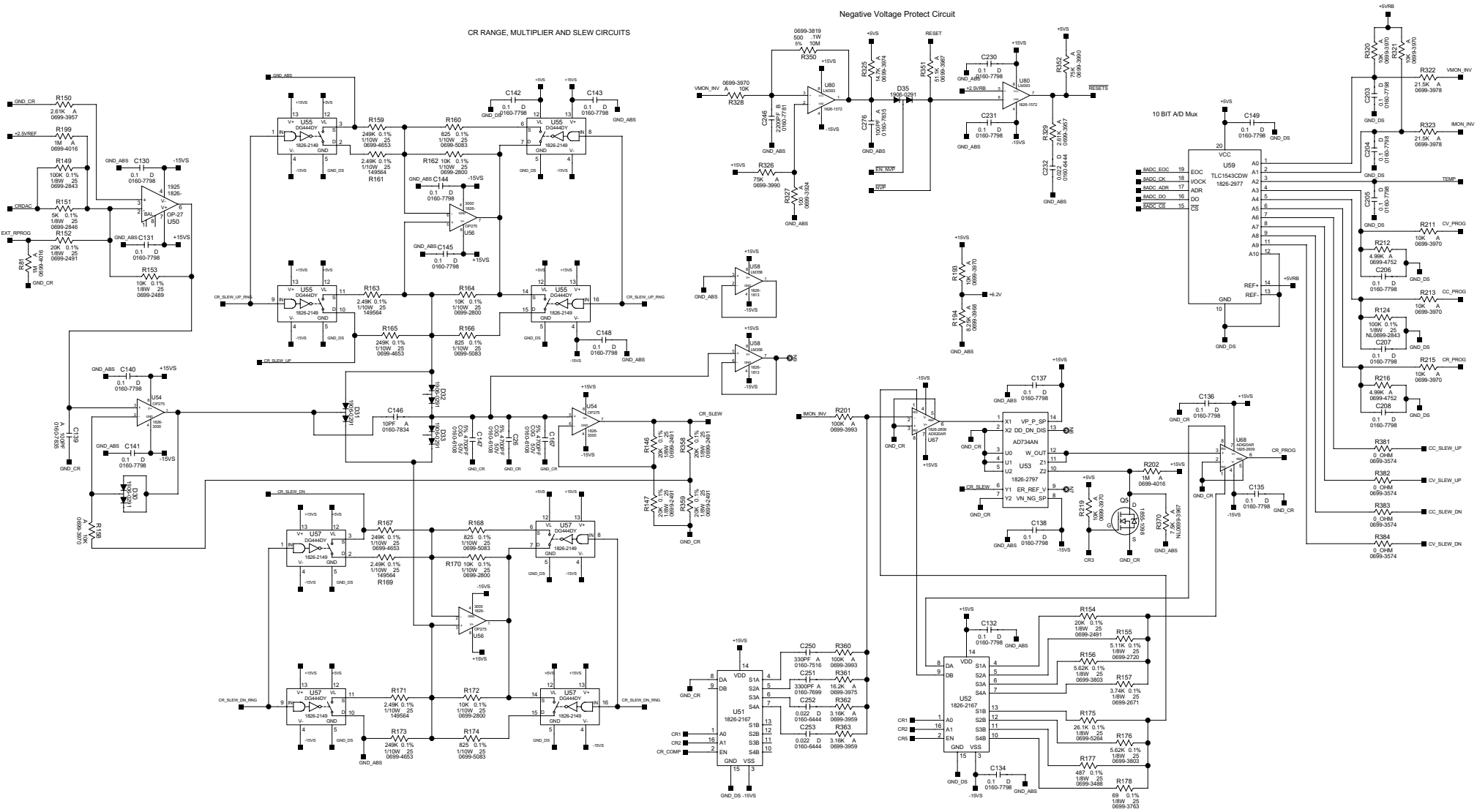


CC RANGE AND SLEW CIRCUITS



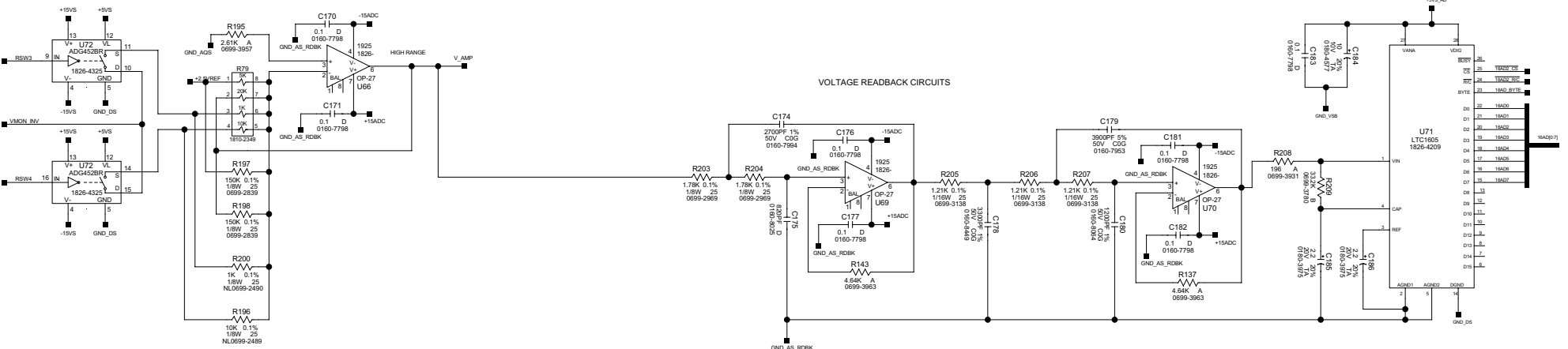
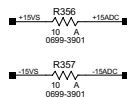
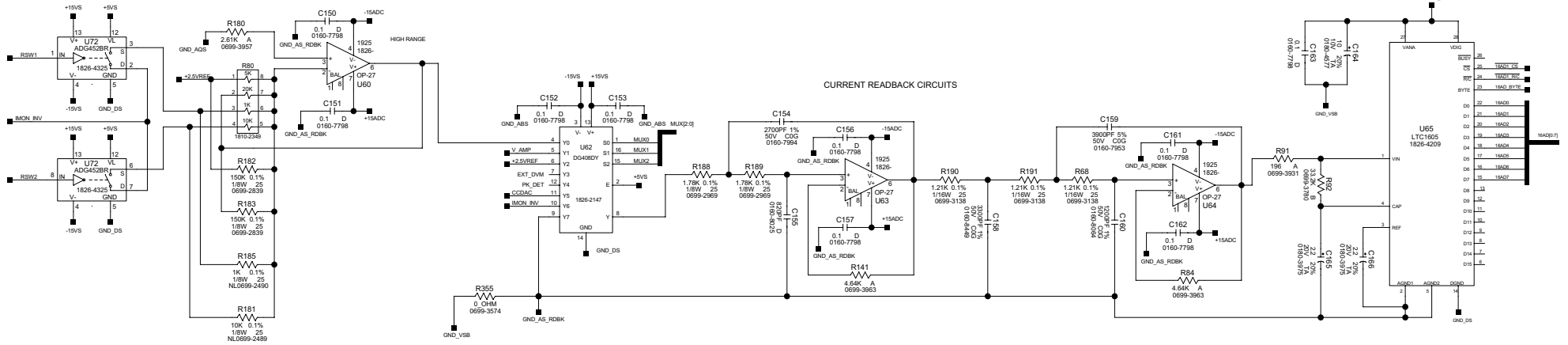
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250W Electronic Load Module

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**Agilent N3303A
250W Electronic Load Module**

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Control Board PC Assembly
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5064-0106 Control Board Parts List (Electronic Load Module)

Reference Designator	Qty	Agilent P/N	Description	MPN	Manufacturer
C1, C164, C184, C21, C254, C62, C72, C79, C81	9	0180-4577	CAPACITOR-FIXED 10uF +-20PCT 10V TA	TAJB106M010R 293D106X0010B2E3 ESVB21A106M T491B106M010AS	AVX VISHAY NEC ELECTRONICS KEMET ELECTRONICS
C10, C101-C107, C11, C110, C111, C115, C116, C118-C124, C130-C132, C134-C138, C140-C145, C148, C149, C15, C150-C153, C156, C157, C16, C161-C163, C170, C171, C176, C177, C181-C183, C19, C2, C202-C208, C22, C23, C230, C231, C257, C260-C263, C28, C29, C30, C5, C63, C64, C73-C78, C8, C80, C82-C86, C91-C93, C95-C99	99	0160-7798	CAP-FXD 0.1uF +-10PCT 50V CER X7R	GRM21BR71H104KA11L VJ0805Y104KXAMT 08055C104KAT_A C0805C104K5RAC C2012X7R1H104K	MURATA MANUFACTURING VISHAY AVX KEMET ELECTRONICS TDK
C100, C117, C139, C243, C244, C267, C268, C269, C270, C271, C272, C273, C274, C275, C276	15	0160-7835	CAP-FXD 100pF +-5PCT 50V CER C0G	GRM1885C1H101JA01D C1608C0G1H101J 06035A101JAT C0603C101J5GAC VJ0603A101JXA	MURATA MANUFACTURING TDK AVX KEMET ELECTRONICS VISHAY
C108, C125, C146	3	0160-7834	CAP-FXD 10pF +-5PCT 50 V CER C0G	C1608COG1H100D 06035A100JAT GRM1885C1H100JD01D C0603C100J5GAC	TDK AVX MURATA MANUFACTURING KEMET ELECTRONICS
C12, C13, C14, C165, C166, C167	9	0180-3975	CAP-FXD 2.2uF +-20PCT 20V TA	TAJB225M020 293D225X0020B2E3 49MC225B020M0AS ESVB21D225M T491B225M020AS	AVX VISHAY VISHAY BC COMPONENTS NEC ELECTRONICS KEMET ELECTRONICS
C147, C167, C24, C25, C26	5	0160-6108	CAP-FXD 4700pF +-5pct 50 V CER C0G	C1206C472J5GAC GRM3195C1H472JA01D	KEMET ELECTRONICS MURATA MANUFACTURING
C154, C174	2	0160-7994	CAP-FXD 2700pF +-1pct 50 V CER C0G	12065A272FAT_A C1206C272F5GAC	AVX KEMET ELECTRONICS

5064-0106 Control Board Parts List (Electronic Load Module)

Reference Designator	Qty	Agilent P/N	Description	MPN	Manufacturer
C155, C175	2	0160-8025	CAP-FXD 820pF +-1pct 50 V CER C0G	08055A821FATA 500R15N821FV2 C0805C821F5GAC	AVX JOHANSON DIELECTRICS KEMET ELECTRONICS
C158, C178	2	0160-8449	CAP-FXD 3300pF +-1pct 50 V CER C0G	C1210C332F5GAC	KEMET ELECTRONICS
C159, C179	2	0160-7953	CAP-FXD 3900pF +-1pct 50 V CER C0G	C1210C392F5GAC 12105A392FAT_A	KEMET ELECTRONICS AVX
C160, C180	2	0160-8064	CAP-FXD 1200pF +-1pct 50 V CER C0G	C1206C122F5GAC 12065A122FAT_A GRM3195C1H122FD01D	KEMET ELECTRONICS AVX MURATA MANUFACTURING
C17, C20	2	0180-4535	CAP-FXD 47uF +-20pct 20 V TA	593D476X0020E2S072 T495X476M020ASE150 TPSE476M020R0150	VISHAY KEMET ELECTRONICS AVX
C18	1	0160-5946	CAP-FXD 3300pF +-10pct 50 V CER X7R	08055C332KAT_A C0805C332K5RAC C2012X7R1H332K GRM2165C1H332JA01D	AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING
C201, C255, C256, C258, C259	5	0160-7736	CAP-FXD 1uF +-10PCT 16 V CER X7R	1206YC105KAT C1206C105K4RAC GRM31MR71C105KA01L	AVX KEMET ELECTRONICS MURATA MANUFACTURING
C210-C217, C31-C38	16	0160-7828	CAP-FXD 0.1uF +-10PCT 16 V CER X7R	CC0603KRX7R7BB104 0603YC104KATA C0603C104K4RAC C1608X7R1C104K GRM188R71C104KA01J	YAGEO AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING
C232, C252, C253	3	0160-6444	CAP-FXD 0.022uF +-10pct 50 V CER X7R	08055C223KAT C0805C223K5RAC C2012X7R1H223K GRM40X7R223K50	AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING
C246	1	0160-7781	CAP-FXD 2200pF +-10pct 50 V CER X7R	06035C222KAT C0603C222K5RAC C1608X7R1H222KT	AVX KEMET ELECTRONICS TDK
C250	1	0160-7516	CAP-FXD 330pF +-5pct 50 V CER C0G	C0603C331J5GAC C1608COG1H331J GRM1885C1H331JA01D	KEMET ELECTRONICS TDK MURATA MANUFACTURING

5064-0106 Control Board Parts List (Electronic Load Module)

Reference Designator	Qty	Agilent P/N	Description	MPN	Manufacturer
C251	1	0160-7699	CAP-FXD 3300pF +-10pct 50 V CER X7R	06035C332KAT C0603C332K5RAC C1608X7R1H332K GRM188R71H332KA01D	AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING
C264	1	0160-7988	CAP-FXD 470pF +-5PCT 50 V CER C0G 0603	06035A471JAT_A C0603C471J5GAC C1608COG1H471J GRM1885C1H471JA01	AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING
C265	1	0160-7929	CAP-FXD 100pF +-5pct 2 kV POLYP-FL	FKP1 100PF/+5%/2000VDC	WIMA
C3, C4, C6	3	0160-5961	CAP-FXD 22pF +-5pct 50 V CER C0G	08055A220JAT A C0805C220J5GAC C2012COG1H220J GRM2165C1H220JD01D VJ0805A220JXAMT	AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING VISHAY
C39-C61	23	0160-8497	CAP-FXD 100pF +-10pct 50 V CER C0G	CKCA43COG1H101K 221461636 W3A45A101KAT 221461636	TDK PHILIPS AVX NXP
C65, C66	2	0160-4439	CAP-FXD 4700pF +-20pct 1 kV PPR-MET	PME271Y447MR30	EVOX/RIFA
C7	1	0180-3751	CAP-FXD 1uF +-20PCT 35V TA	TAJB105M035 293D105X0035B2E3 ESVB21V105M SK-1V105M-RB	AVX VISHAY NEC ELECTRONICS ELNA
C87, C89	2	0160-5944	CAP-FXD 0.047uF +-10pct 50 V CER X7R	08055C473KAT A C0805C473K5RAC C2012X7R1H473K	AVX KEMET ELECTRONICS TDK
C88, C90	2	0160-7748	CAP-FXD 1000pF +-10PCT 50V CER X7R 0603	06035C102KAT 223858615614 C0603C102K5RAC C1608X7R1H102KT GRM188R71H102KA01D VJ0603Y102KXA	AVX YAGEO KEMET ELECTRONICS TDK MURATA MANUFACTURING VISHAY
C94	1	0160-6103	CAP-FXD 1800pF +-5pct 50 V CER C0G	12065A182JATRA C1206C182J5GAC C3216CH1H182J GRM3195C1H182JD01D	AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING

5064-0106 Control Board Parts List (Electronic Load Module)

Reference Designator	Qty	Agilent P/N	Description	MPN	Manufacturer
D1	1	1902-1544	DIODE-ZNR 10V 5PCT TO-236(SOT-23) PD-.35V	BZX84C10 BZX84C10LT1G BZX84C10	PHILIPS ON SEMICONDUCTOR NXP
D2, D7, D8, D10-D13, D20-D27, D30-D33, D35, D36,	21	1906-0291	DIODE-DUAL 70V 100MA T0-236AA	BAV99 BAV99 BAV99LT1G BAV99____X_ BAV99	PHILIPS FAIRCHILD SEMICONDUCTOR ON SEMICONDUCTOR INFINEON TECHNOLOGIES NXP
D3	1	1901-1332	DIODE-PWR-S 40V 1A D0-214AA	10BQ040PBF SK14 SS24 STPS140U MBRS140T3G	INTERNATIONAL RECTIFIER MICROSEMI VISHAY STMICROELECTRONICS ON SEMICONDUCTOR
D4	1	1906-0358	DIODE-DUAL 100V 100MA TO-236AB (SOT-23)	MMBD1203	FAIRCHILD SEMICONDUCTOR
J5	1	1252-6163	CONN-POST TYPE .100-PIN-SPCG-MTG-END	N3433-5202RB	3M
L1, L11, L2, L3, L5, L6	6	9170-1585	CORE-SHIELDING BEAD	FCM2012V-400 MMZ2012S400A_ MI0805K400R-10	TAI-TECH ADVANCED TDK STEWART
L10	1	9140-1458	INDUCTOR 3.3uH +-5pct 2.8W-mmX3.4LG-mm	NLV32T-3R3J -PF KL32T___3R3J	TDK KOA
L100-L116	17	9170-1631	CORE-SHIELDING BEAD	MMZ2012S601A	TDK
L7, L8	2	9140-4918	INDUCTOR 47uH +20pct -20pct	UP0.4C-470 P0770.473	COOPER INDUSTRIES TECHNITROL
L9	1	9140-1950	INDUCTOR 10uH +20pct -20pct	DT3316P-103ML	COILCRAFT
P22	1	5081-4998	CABLE-RIBBON	5081-4998 5081-4998	FREEDOM ELECTRONICS MICROTEK
P5	1	5081-4987	CABLE-RIBBON		
Q1	1	1853-0525	TRANSISTOR PNP SI TO-236AA PD=200MW	MMBT2907 PMBT2907A MMBT2907ALT1G PMBT2907A	FAIRCHILD SEMICONDUCTOR PHILIPS ON SEMICONDUCTOR NXP

5064-0106 Control Board Parts List (Electronic Load Module)

Reference Designator	Qty	Agilent P/N	Description	MPN	Manufacturer
Q3, Q4, Q6, Q7, Q8	5	1855-0734	TRANSISTOR MOSFET 2N7002 N-CHAN E-MO	2N7002-T1-E3 2N7002 2N7002 SN7002N____X_ 2N7002	VISHAY FAIRCHILD SEMICONDUCTOR PHILIPS INFINEON TECHNOLOGIES NXP
Q5	1	1855-1098	TRANSISTOR MOSFET N-CHAN E-MODE SOT-23	MMBF0201NLT1G	ON SEMICONDUCTOR
R1, R3, R5	3	0699-3937	RES-FXD 348 +-1PCT .063W TKF TC=0+-200	CRCW0603348RFKE_ RK73H1JT_3480F MCR03__FX3480 232270463481	VISHAY KOA ROHM YAGEO
R10, R101, R11, R12, R126, R13, R14, R158, R193, R211, R213, R215, R219, R320, R321, R328, R37, R375, R378, R379, R38, R380, R39, R9, R93	25	0699-3970	RESISTOR 10K +-1pct .063W TKF TC=0+-200	CRCW060310K0FKE_ RK73H1JT_1002F 232270461003L MCR03__FX1002	VISHAY KOA YAGEO ROHM
R100, 125	2	1810-2311	NET-RES 2 1K OHM 3-PIN MULTI-VAL	MPM1001/9001F	VISHAY
R102, R108, R110, R116, R127, R135, R159, R165, R167, R173, R34, R35	12	0699-4653	RES 249K .1pct .1W	PTN0805E2493BB W0805R032493B	VISHAY TT ELECTRONICS
R103, R109, R111, R117, R128, R134, R136, R142, R160, R166, R168, R174	12	0699-5083	RES-FXD 825 OHM +-0.1PCT 0.1W TC 0+-25 0805	TNPW08058250BT-9 RN732AT_8250B25	VISHAY KOA
R104, R106, R112, R114, R131, R139, R161, R163, R169, R171, R33, R36	12	0699-6699	RES-FXD 2.49K +-0.1PCT 0.1W TC 0+-25 0805	RN732AT_2491B25 2312-241-72492 2312-241-72492 PFC-W0805R-03-2491-B	KOA VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R105, R107, R113, R115, R130, R132, R138, R140, R162, R164, R170, R172	12	0699-2800	RES-FXD 10K OHM +- 0.1PCT 0.1W TC 0+-25	TNPW08051002BT-9 RN732AT_1002B25 RG2012P-103-B-__	VISHAY KOA SUSUMU
R118, R119, R129, R133, R192, R26, R27, R28, R29, R30, R371	11	0699-2643	RES-FXD 0 OHM +-5PCT .1W TC 0+-300	CRCW08050000ZSE_ CR21-000-ZL MCR10__J000 RK73Z2AT 232273091002L ZC0805-TW	VISHAY ASJ ROHM KOA YAGEO RCD COMPONENTS

5064-0106 Control Board Parts List (Electronic Load Module)

Reference Designator	Qty	Agilent P/N	Description	MPN	Manufacturer
R120, R150, R180, R195, R329, R8, R95	7	0699-3957	RESISTOR 2.61K +-1pct .063W TKF TC=0+-200	CRCW06032K61FKE_ RK73H1JT_2611F 232270462612L MCR03__FX2611	VISHAY KOA YAGEO ROHM
R122, R146, R147, R152, R154, R301, R302, R358, R359, R97	10	0699-2491	RESISTOR 20K +-0.1pct .125W TF TC=0+-25	RN732BT_2002B25 BLU-1206 20K .1% 25PPM MCA1206-25 0, 1% P5 20K MCA1206-25 0, 1% P5 20K PCF-W1206LF-03-2002-B_- -	KOA RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R123, R98	2	1810-2312	NET-RES 2 10.0K OHM 3-PIN MULTI-VAL	MPM5001/1002F	VISHAY
R137, R141, R143, R84	4	0699-3963	RESISTOR 4.64K +-1pct .063W TKF TC=0+-200	CRCW06034K64FKE_ RK73H1JT_4641F 232270464642L MCR03__FX4641	VISHAY KOA YAGEO ROHM
R144, R145, R184, R186, R199, R310, R311, R372, R373, R377, R81	11	0699-4016	RES-FXD 1MOHM +-1PCT .063W TC 0+-200	RK73H1JT__1004F RC0603F_-__1ML CRCW06031M00FKE MCR03__FX1004	KOA YAGEO VISHAY ROHM
R151	1	0699-2846	RESISTOR 5K +-0.1pct .125W TF TC=0+-25	RN732BT_5001B25 2322741X5002 BLU-1206 5K .1% 25PPM MCA1206-25 0, 1% P5 5K TNPW12065001BT-9 PCF-W1206LF-03-5001-B_- -	KOA YAGEO RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R153, R70, R71, R75, R76	5	0699-2489	RESISTOR 10K +-0.1pct .125W TF TC=0+-25	RN732BT_1002B25 BLU-1206 10K .1% 25PPM MCA1206-25 0, 1% P5 10K MCA1206-25 0, 1% P5 10K PCF-W1206LF-03-1002-B_- -	KOA RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R155	1	0699-2720	RESISTOR 5.11K +-0.1pct .125W TF TC=0+-25	RN732BT_5111B25 BLU-1206 5110 .1% 25PPM PCF-W1206LF-03-5111-B_- -	KOA RCD COMPONENTS TT ELECTRONICS

5064-0106 Control Board Parts List (Electronic Load Module)

Reference Designator	Qty	Agilent P/N	Description	MPN	Manufacturer
R156, R176	2	0699-3803	RES-FXD 5.62K +-0.1PCT .125W TC 0+-25	RN732BT_5621B25 MCA1206-25 0, 1% P5 5.62K MCA1206-25 0, 1% P5 5.62K PCF-W1206LF-03-5621-B_- -	KOA VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R157	1	0699-2671	RESISTOR 3.74K +-0.1pct .125W TF TC=0+-25	RN732BT_3741B25 BLU-1206 3K74 .1% 25PPM MCA1206-25 0, 1% P5 3.74K MCA1206-25 0, 1% P5 3.74K PCF-W1206LF-03-3741-B_- -	KOA RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R17, R18, R19, R2, R20, R21, R23, R24, R25, R364, R365, R366, R4, R6, R64	15	0699-3940	RES-FXD 464 +-1PCT .063W TKF TC 0+-200	CRCW0603464RFKE_ RK73H1JT_4640F 232270464641L MCR03___FX4640	VISHAY KOA YAGEO ROHM
R175	1	0699-5264	RESISTOR 26.1K +-0.1pct .125W TKF TC=0+-25	RN73E2B2612B	KOA
R177	1	0699-3488	RESISTOR 487 +-0.1pct .125W TF TC=0+-25	RN732BT_4870B25 MCA1206-25 0, 1% P5 487R PTN1206E4870BB PCF-W1206LF-03-4870-B_- -	KOA VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R178	1	0699-3763	RESISTOR 69 +-0.1pct .125W TF TC=0+-25	RN732BT_69R0B25 2322741X6909 BLU-1206 69R0 .1% 25PPM TNPW1206690BT-9 PCF-W1206LF-03-69R0- B	KOA YAGEO RCD COMPONENTS VISHAY TT ELECTRONICS

5064-0106 Control Board Parts List (Electronic Load Module)

Reference Designator	Qty	Agilent P/N	Description	MPN	Manufacturer
R182, R183, R197, R198	4	0699-2839	RESISTOR 150K +-0.1pct .125W TF TC=0+-25	RN732BT_1503B25 BLU-1206 150K .1% 25PPM MCA1206-25 0, 1% P5 150K PTN1206E1503BB PCF-W1206LF-03-1503-B_- -	KOA RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R187, R304	2	0699-1448	RESISTOR 316K +-1pct .125W TKF TC=0+-100	CRCW1206316KFKE_ RK73H2BT_3163F MCR18__F3163 232272463164	VISHAY KOA ROHM YAGEO
R188, R189, R203, R204	4	0699-2969	RESISTOR 1.78K +-0.1pct .125W TF TC=0+-25	RN732BT_1781B25 MCA1206-25 0, 1% P5 1.78K PTN1206E1781BB PCF-W1206LF-03-1781-B_- -	KOA VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R190, R191, R205, R206, R207, R68	6	0699-3138	RES-FXD 1.21K .1PCT 0.1W TC 0+-25 0805	TNPW0805 1211BT9 RN732AT_1211B25 RR1220P-1211-B-M	VISHAY KOA SUSUMU
R194	1	0699-3968	RESISTOR 8.25K +-1pct .063W TKF TC=0+-200	CRCW06038K25FKE_ RK73H1JT_8251F MCR03__FX8251 232270468252	VISHAY KOA ROHM YAGEO
R201, R360	2	0699-3993	RESISTOR 100K +-1pct .063W TKF TC=0+-200	CRCW0603100KFKE_ RK73H1JT_1003F 232270461004L MCR03__FX1003	VISHAY KOA YAGEO ROHM
R202	1	0699-4003	RESISTOR 261K +-1pct .063W TKF TC=0+-200	RK73H1JT_2613F MCR03__FX2613 MC06032613-FT RC0603F_-__261KL	KOA ROHM RCD COMPONENTS YAGEO

5064-0106 Control Board Parts List (Electronic Load Module)

Reference Designator	Qty	Agilent P/N	Description	MPN	Manufacturer
R208, R85, R91	3	0699-3931	RESISTOR 196 +-1pct .063W TKF TC=0+-200	CRCW0603196RFKE_ RK73H1JT_1960F 232270461961L MCR03__FX1960	VISHAY KOA YAGEO ROHM
R209, R92	2	0699-3780	RESISTOR 33.2K +-1pct .1W TKF TC=0+-100	CRCW080533K2FKE_ RK73H2AT_3322F 232273463323L MCR10__F3322 MC08053322-FT	VISHAY KOA YAGEO ROHM RCD COMPONENTS
R210	1	0837-0444	THERMISTOR-SWITCHING SMT, PTC RESISTOR	SMD075F-2 MF-SM075-99	TYCO INTERNATIONAL BOURNS
R212, R214, R216	3	0699-4752	RESISTOR 4.99K +-1PCT .063W TKF TC=0+-200	CRCW06034K99FKE_ RK73H1JT_4991F MCR03__FX4991 232270464992 MC06034991-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R300, R32, R327, R345	4	0699-3924	RES-FXD 100 +-1PCT .063W TKF TC=0+-200	CRCW0603100RFKE_ CR16-1000-JL RK73H1JT_1000F MCR03__FX1000 232270461001 MC06031000-FT	VISHAY ASJ KOA ROHM YAGEO RCD COMPONENTS
R303	1	0699-3075	RESISTOR 147K +-1pct .1W TKF TC=0+-100	CRCW0805147KFKE_ RK73H2AT_1473F MCR10__F1473 232273461474 MC08051473-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R31	1	0699-3035	RESISTOR 1.47K +-1pct .1W TKF TC=0+-100	CRCW08051K47FKE_ RK73H2AT_1471F MCR10__F1471 232273461472	VISHAY KOA ROHM YAGEO
R312, R326, R352, R90	4	0699-3990	RES-FXD 75K +-1PCT 0.063W TC 0+-200 0603	CRCW060375K0FKE_ RK73H1JT_7502F MCR03__FX7502 2322704_7503	VISHAY KOA ROHM YAGEO

5064-0106 Control Board Parts List (Electronic Load Module)

Reference Designator	Qty	Agilent P/N	Description	MPN	Manufacturer
R322, R323, R7	3	0699-3978	RESISTOR 21.5K +-1pct .063W TKF TC=0+-200	CRCW060321K5FKE_ RK73H1JT_2152F 232270462153L MCR03__FX2152	VISHAY KOA YAGEO ROHM
R325	1	0699-3974	RESISTOR 14.7K +-1pct .063W TKF TC=0+-200	CRCW060314K7FKE_ CR16-1472-FL RK73H1JTTD1472F RK73H1JTTD1472F 232270461473	VISHAY ASJ KOA ROHM YAGEO
R340	1	0699-4364	RESISTOR 4.7 +-5PCT .063W TKF TC=0+-500	RK73B1JT_4R7J MCR03__J4R7 232270260478 MC06034R70-JT	KOA ROHM YAGEO RCD COMPONENTS
R342, R355, R367, R381, R382, R383, R384	7	0699-3574	RESISTOR 0 .0625W TKF	CRCW06030000ZSE_ RK73Z1JT 232270296001L MCR03__J000 CJ10-000	VISHAY KOA YAGEO ROHM KYOCERA
R348, R349, R374, R82	4	0699-3039	RESISTOR 2.61K +-1pct .1W TKF TC=0+-100	CRCW08052K61FKE_ RK73H2AT_2611F MCR10__F2611 232273462612 MC08052611-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R350	1	0699-3819	RESISTOR 10M +-5PCT .1W TKF TC 0+-500 0805	CRCW080510M0JNE_ RK73B2AT_106J MCR10__J106 MC08051005-JTW	VISHAY KOA ROHM RCD COMPONENTS
R351	1	0699-3987	RESISTOR 51.1K +-1pct .063W TKF TC=0+-200	CRCW060351K1FKE_ CR16-5112-FL RK73H1JT_5112F 232270465113L MCR03__FX5112	VISHAY ASJ KOA YAGEO ROHM

5064-0106 Control Board Parts List (Electronic Load Module)

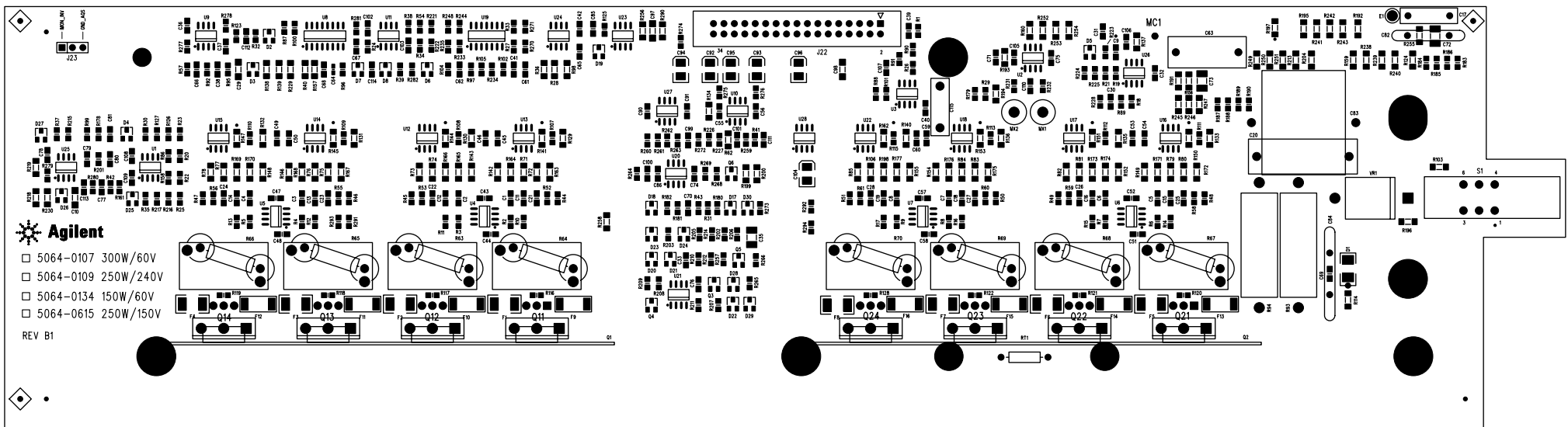
Reference Designator	Qty	Agilent P/N	Description	MPN	Manufacturer
R356, R357, R368, R369, R376, R385	6	0699-3901	RES-FXD 10 +-1PCT .063W TKF TC=0+-200	CRCW060310R0FKE_ RK73H1JT_10R0F 232270461009L MCR03__FX10R0 MC060310R0-FT	VISHAY KOA YAGEO ROHM RCD COMPONENTS
R361	1	0699-3975	RESISTOR 16.2K +-1pct .063W TKF TC=0+-200	CRCW060316K2FKE_ RK73H1JT_1622F 232270461623L MCR03__FX1622	VISHAY KOA YAGEO ROHM
R362, R363	2	0699-3959	RESISTOR 3.16K +-1PCT .063W TKF TC=0+-200	CRCW06033K16FKE_ RK73H1JT_3161F 232270463162L MCR03__FX3161	VISHAY KOA YAGEO ROHM
R40-R62	23	1810-1680	NET-RES 4 100.0 OHM	CN1J4T_101J MNR14__J101 235003410101 742083101J CRA06S0803101J	KOA ROHM YAGEO CTS VISHAY
R63, R88	2	0699-3926	RESISTOR 121 +-1pct .063W TKF TC=0+-200	CRCW0603121RFKE_ RK73H1JT_1210F 232270461211L MCR03__FX1210 CR16-1210-FF	VISHAY KOA YAGEO ROHM ASJ
R65, R69, R72-R74, R77, R78	7	0699-3964	RESISTOR 5.11K +-1pct .063W TKF TC=0+-200	CRCW06035K11FKE_ RK73H1JT_5111F 232270465112L MCR03__FX5111	VISHAY KOA YAGEO ROHM
R66	1	1810-1882	NET-RES 2 10.0K OHM	MPM2002F	VISHAY
R79, R80	2	1810-2349	NET-RES	108-095	VISHAY
R86, R87	2	0699-3407	RES-FXD 100 OHM +-5PCT 1W TC 0+-200 2512	CRCW2512100RJNE_ RK73B3AT_101J MCR100__J101	VISHAY KOA ROHM
R89	1	0699-3914	RESISTOR 34.8 +-1pct .063W TKF TC=0+-200	CRCW060334R8FKE_ RK73H1JT_34R8F MCR03__FX34R8 232270463489	VISHAY KOA ROHM YAGEO

5064-0106 Control Board Parts List (Electronic Load Module)

Reference Designator	Qty	Agilent P/N	Description	MPN	Manufacturer
R96,R149,R121	3	0699-2843	RESISTOR 100K +-0.1pct .125W TF TC=0+-25	RN732BT_1003B25 BLU-1206 100K .1% 25PPM MCA1206-25 0, 1% P5 100K TNPW12061003BT-9 PCF-W1206LF-03-1003-B_- -	KOA RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
TB1	1	1253-3385	CONN-POST TYPE 3.5MM-PIN-SPCG-MTG- END	1844333	PHOENIX TECHNOLOGIES
U1, U3	2	1990-1773	OPTO-ISOLATOR LED-IC GATE IF=15MA-MAX	HCPL-0630-500E	AVAGO TECHNOLOGIES
U10	1	1826-1402	IC PWR MGT-V-REG-FXD-POS 4.8/5.2V 8 PINS	UA78L05ACD MC78L05ACDR2G LM78L05ACM NOPB	TEXAS INSTRUMENTS ON SEMICONDUCTOR NATIONAL SEMICONDUCTOR
U13	1	1826-2567	IC PWR MGT-V-REG-ADJ-POS 4 PINS TO-261AA	LD1117S LT1117CST REG1117	STMICROELECTRONICS LINEAR TECHNOLOGY TEXAS INSTRUMENTS
U14	1	1821-8715	IC PLD FPGA UNPROGRAMMED CMOS S30XL	XCS30XL-4PQ208C	XILINX
U15	1	5182-9103	ROM-PRGMD: 1818-7790		
U15a	1	1818-7790	IC 256K-BIT OTP 60-NS CMOS	XC17256ELPC20C	XILINX
U16	1	1818-4359	IC 64K-BIT EEPROM 250-NS CMOS	AT28C64B-15JU	ATMEL
U2, U4	2	1990-1761	OPTO-ISOLATOR LED-IC GATE IF=50MA-MAX	HCPL-M601-500E	AVAGO TECHNOLOGIES
U20	1	1826-4286	IC PWR MGT-V-REF-FXD 2.497/2.503V 8 PINS	MAX6225BCSA+	MAXIM INTEGRATED PRODUCTS
U21, U34, U35, U39, U44, U50, U60, U63, U64, U66, U69, U70	12	1826-1925	IC OP AMP LOW-NOISE SINGLE 8 PIN	OPA27GU/___E4 OP27GSZ	TEXAS INSTRUMENTS ANALOG DEVICES
U22	1	1826-6706	D/A 16-BIT 48-PIN-SSOP CMOS	DAC7644EB	TEXAS INSTRUMENTS
U23, U31, U58	3	1826-1813	IC OP AMP GP DUAL 8-SOIC	LM358D LM358MNOB	TEXAS INSTRUMENTS NATIONAL SEMICONDUCTOR
U24, U25	2	1826-6707	D/A 8-BIT 20-P-SOIC BICMOS	TLC7226CDW	TEXAS INSTRUMENTS
U26, U36, U38, U40, U42, U45, U55, U57	8	1826-2149	ANALOG SWITCH 4 SPST 16 -P-SOIC	DG444DY-E3	VISHAY
U28, U37, U43, U54, U56	5	1826-3000	IC AUDIO AMPL LOW-NOISE DUAL 8 PIN	OP275GSZ	ANALOG DEVICES
U29, U67, U68	3	1826-2609	IC INSTM AMPL LP 8 PIN PLSTC-SOIC	AD620ARZ	ANALOG DEVICES
U30	1	1826-3452	D/A 8-BIT 20-P-SOIC CMOS	TLC7528CDW	TEXAS INSTRUMENTS
U32, U33	2	1826-1622	IC OP AMP LOW-BIAS-H-IMPQ QUAD 14 PIN	TL074CD	TEXAS INSTRUMENTS
U41	1	1826-1862	IC OP AMP LOW-BIAS-H-IMPQ DUAL 8-SOIC	TL072CD TL072CD	STMICROELECTRONICS TEXAS INSTRUMENTS

5064-0106 Control Board Parts List (Electronic Load Module)

Reference Designator	Qty	Agilent P/N	Description	MPN	Manufacturer
U51, U52	2	1826-2167	ANALOG MULTIPLEXER 8 CHNL 16-SOIC	DG409DY-E3 DG409DY	VISHAY INTERSIL
U53	1	1826-2797	IC MULTIPLIER HS 14 PIN DIP-P	AD734ANZ	ANALOG DEVICES
U59	1	1826-2977	A/D 10-BIT 20-P-SOIC CMOS	TLC1543CDW	TEXAS INSTRUMENTS
U6	1	0950-3916	DC-DC-CONV 18-36 VDC INP	FDC10-24D15	ASTRODYNE
U62 pin 4 to pin 8	0.014	8150-3431	WIRE 30AWG BL 42V KYNAR-PVF	5951-6 BR212/1-30-021	ALPHA WIRE CORNISH WIRE
U65, U71	2	1826-4209	A/D 16-BIT 28-P-SOIC	LTC1605CSW AD976ARZ	LINEAR TECHNOLOGY ANALOG DEVICES
U7	1	1826-2893	IC PWR MGT-VS-SUPVR/CONT 8 PINS P-SOIC	MAX707CSA ADM707ARZ	MAXIM INTEGRATED PRODUCTS ANALOG DEVICES
U72	1	1826-4325	ANLG SW 4 SPST 16-PIN SOIC	ADG452BRZ	ANALOG DEVICES
U8, U80	2	1826-1572	IC COMPARATOR PRCN DUAL 8 PIN PLSTC-SOIC	LM393D LM393DR2G	TEXAS INSTRUMENTS ON SEMICONDUCTOR
U9	1	1826-4257	IC PWR MGT-V-REG-SWG 4.94/5.06V 8 PINS	LT1376CS8-5	LINEAR TECHNOLOGY
VR1	1	1902-1592	DIODE-ZNR 5.1V 5pct TO-236 (SOT-23)	BZX84C5V1 BZX84C5V1LT1G BZX84C5V1	PHILIPS ON SEMICONDUCTOR NXP
XU15	1	1200-1590	SOCKET-IC-PLCC 20-CONT SQUARE J-LEAD	3-822516-3	TYCO ELECTRONICS AMP



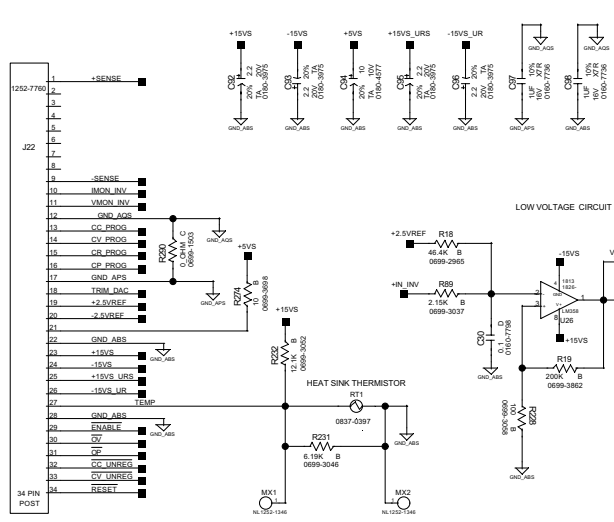
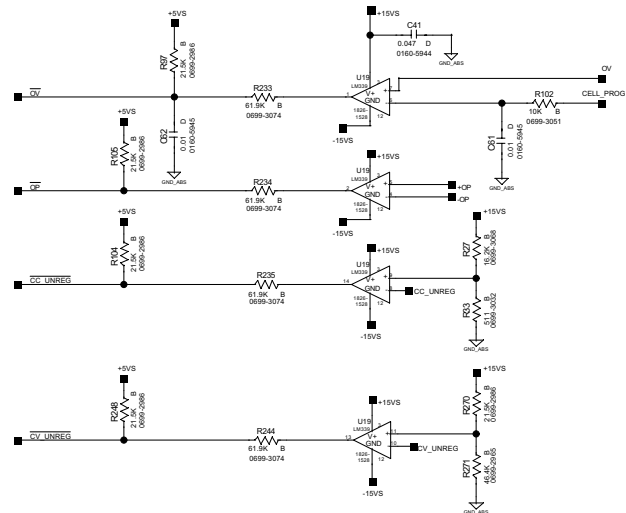
GRAPHICS - TOP SIDE

NOTE: Magnify to see component reference designators.

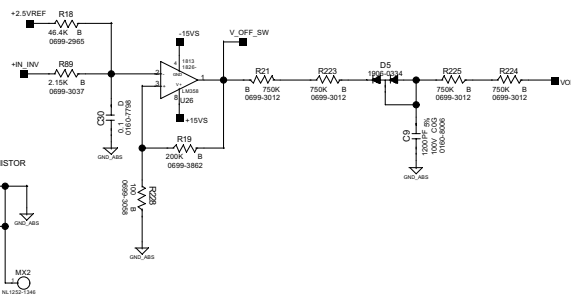
**Agilent N3303A
250W Electronic Load Module**

**5064-0109
250W Power Board PC Assembly
Component Locator**

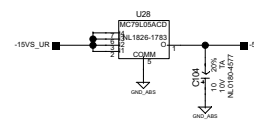
STATUS COMPARATOR



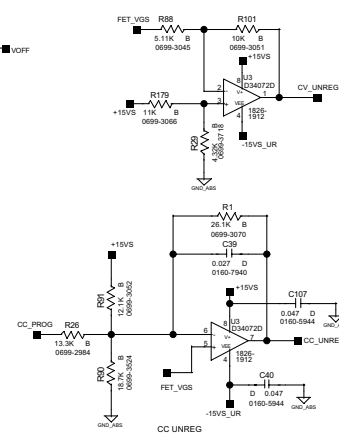
LOW VOLTAGE CIRCUIT



-5V Source



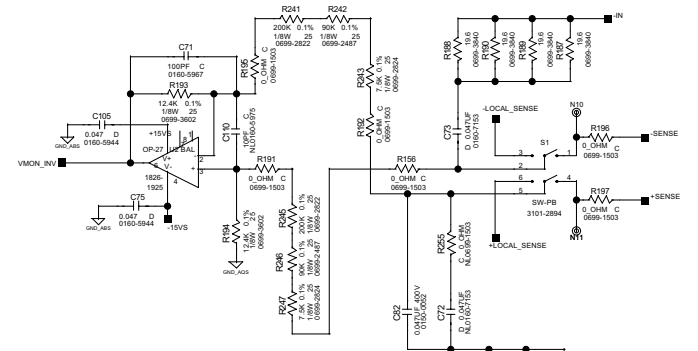
CV UNREG



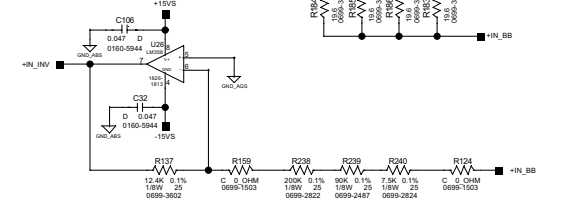
CC UNREG



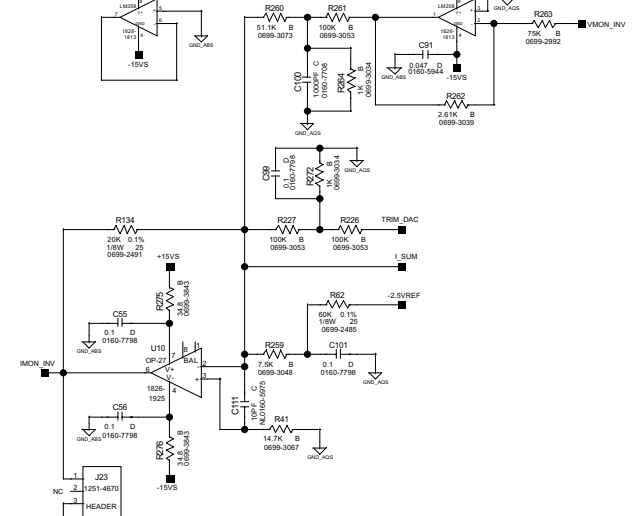
VMON DIFFERENTIAL AMP AND BUFFER



INVERTING VOLTAGE BUFFER

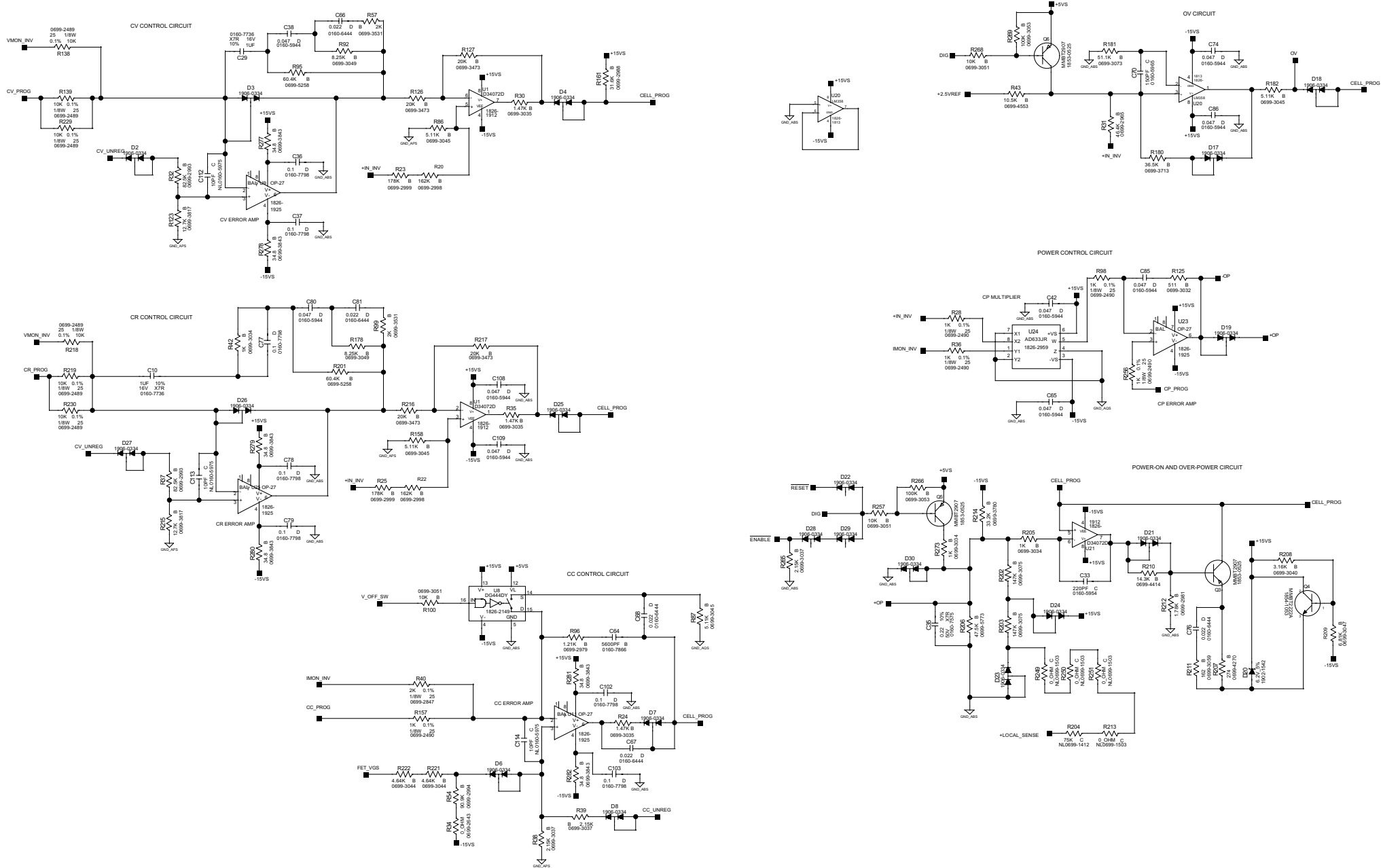


CURRENT SUMMING CIRCUIT



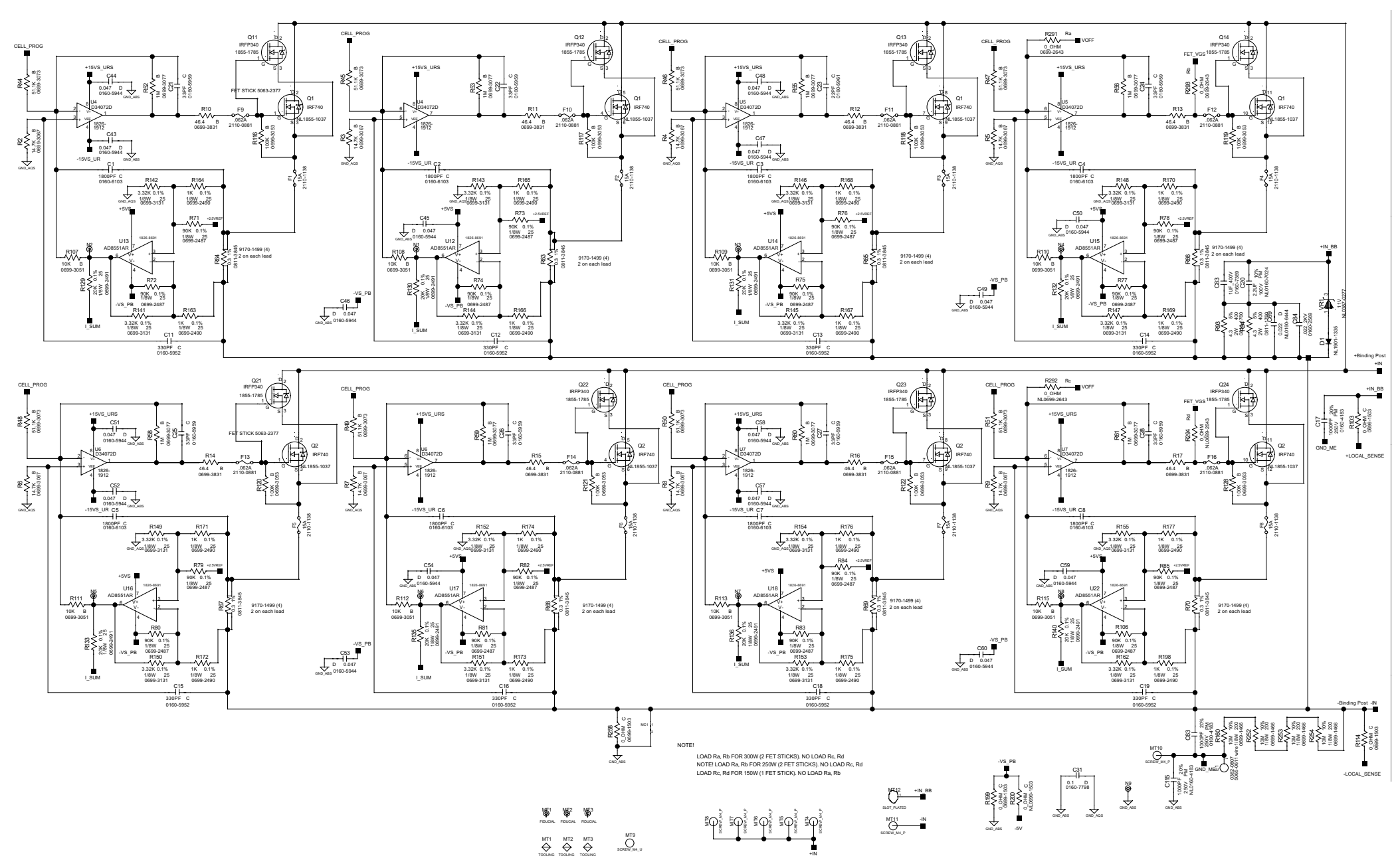
Agilent N3303A
250W Electronic Load Module

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250W Power Board PC Assembly
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5064-0109 Power Board 250W Parts List

Reference Designator	QTY	Agilent P/N	Description	MPN	Manufacturer
C1-C8	8	0160-6103	CAP-FXD 1800pF +-5pct 50 V CER C0G	12065A182JATRA C1206C182J5GAC C3216CH1H182J GRM3195C1H182JD01D	AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING
C10, C29, C97, C98	4	0160-7736	CAP-FXD 1uF +-10PCT 16 V CER X7R	1206YC105KAT C1206C105K4RAC GRM31MR71C105KA01L	AVX KEMET ELECTRONICS MURATA MANUFACTURING
C100	1	0160-7708	CAP-FXD 1000pF +-5pct 50 V CER C0G	08055A102JATRA C0805C102J5GAC C2012COG1H102JT	AVX KEMET ELECTRONICS TDK
C30, C31, C36, C37, C55, C56, C77, C78, C79, C99, C101-C103	13	0160-7798	CAP-FXD 0.1uF +-10PCT 50V CER X7R	GRM21BR71H104KA11L VJ0805Y104KXAMT 08055C104KAT_A C0805C104K5RAC C2012X7R1H104K	MURATA MANUFACTURING VISHAY AVX KEMET ELECTRONICS TDK
C105-C109, C32, C38, C40-C54, C57-C60, C65, C74, C75, C80, C85, C86, C90, C91	34	0160-5944	CAP-FXD 0.047uF +-10pct 50 V CER X7R	08055C473KAT A C0805C473K5RAC C2012X7R1H473K	AVX KEMET ELECTRONICS TDK
C11-C16, C18, C19	8	0160-5952	CAP-FXD 330pF +-5pct 50 V CER C0G	08055A331JAT A C0805C331J5GAC C2012COG1H331J GRM2165C1H331JA01D	AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING
C17, C63	2	0160-4183	CAP-FXD 1000pF +-20pct 250 V PPR-MET	PME271Y410MR30	EVOX/RIFA
C21, C22, C24-C28	7	0160-5959	CAP-FXD 33pF +-5pct 50 V CER C0G	08055A330JAT A C0805C330J5GAC C2012COG1H330J GRM2165C1H330JD01D	AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING
C23	1	0160-5961	CAP-FXD 22pF +-5pct 50 V CER C0G	08055A220JAT A C0805C220J5GAC C2012COG1H220J GRM2165C1H220JD01D VJ0805A220JXAMT	AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING VISHAY

5064-0109 Power Board 250W Parts List

Reference Designator	QTY	Agilent P/N	Description	MPN	Manufacturer
C33	1	0160-5954	CAP-FXD 220pF +-5pct 50 V CER C0G	08055A221JAT A 223858016605 C0805C221J5GAC C2012COG1H221J GRM2165C1H221JA01D	AVX YAGEO KEMET ELECTRONICS TDK MURATA MANUFACTURING
C35	1	0160-7575	CAP-FXD 0.22uF +-10pct 50 V CER X7R	12105C224KAT A C1210C224K5RAC	AVX KEMET ELECTRONICS
C39	1	0160-7940	CAP-FXD 0.027uF +-10pct 50 V CER X7R	08055C273KATA C0805C273K5RAC C2012X7RC273K GRM219R71H273KD01D	AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING
C61, C62	2	0160-5945	CAP-FXD 0.01uF +-10pct 50 V CER X7R	08055C103KAT A 223858016627 C0805C103K5RAC C2012X7R1H103K GRM216R71H103KA01J VJ0805Y103KXAMT	AVX YAGEO KEMET ELECTRONICS TDK MURATA MANUFACTURING VISHAY
C64	1	0160-7866	CAP-FXD 5600pF +-10pct 50 V CER X7R	06035C562KAT C0603C562K5RAC C1608X7R1H562K	AVX KEMET ELECTRONICS TDK
C66, C67, C68, C76, C81	5	0160-6444	CAP-FXD 0.022uF +-10pct 50 V CER X7R	08055C223KAT C0805C223K5RAC C2012X7R1H223K GRM40X7R223K50	AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING
C70	1	0160-5965	CAP-FXD 150pF +-5pct 50 V CER C0G	08055A151JAT A C0805C151J5GAC C2012COG1H151J GRM2165C1H151JA01D	AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING
C71	1	0160-5967	CAP-FXD 100pF +-5pct 50 V CER C0G	08055A101JAT A C0805C101J5GAC C2012COG1H101J GRM2165C1H101JA01D VJ0805A101JXAMT	AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING VISHAY
C73	1	0160-7153	CAP-FXD 0.047uF +-10pct 100 V CER X7R	C1210C473K1RAC GRM32MR72A473KA15L	KEMET ELECTRONICS MURATA MANUFACTURING

5064-0109 Power Board 250W Parts List

Reference Designator	QTY	Agilent P/N	Description	MPN	Manufacturer
C82	1	0150-0052	CAP-FXD 0.05uF +-20pct 400 V CER Z5U	847-005 Z5U 503M 565RBA401AW503MA19	TUSONIX VISHAY
C83	1	0160-7369	CAP-FXD 1uF +-10pct 400 V POLYP-MET	5MP-9993K	ELECTRONIC CONCEPTS
C84	1	0160-2569	CAP-FXD 0.02uF +-20PCT 2 kV CER Z5U	S203M96Z5UP63L0 S203M96Z5UP63L0	VISHAY BC COMPONENTS VISHAY
C9	1	0160-8006	CAP-FXD 1200pF +-5pct 50 V CER C0G	08055A122JATA C0805C122J5GAC GRM2195C1H122JA01D	AVX KEMET ELECTRONICS MURATA MANUFACTURING
C92, C93, C95, C96	4	0180-3975	CAP-FXD 2.2uF +-20PCT 20V TA	TAJB225M020 293D225X0020B2E3 49MC225B020M0AS ESVB21D225M T491B225M020AS	AVX VISHAY VISHAY BC COMPONENTS NEC ELECTRONICS KEMET ELECTRONICS
C94	1	0180-4577	CAPACITOR-FIXED 10uF +-20PCT 10V TA	TAJB106M010R 293D106X0010B2E3 ESVB21A106M T491B106M010AS	AVX VISHAY NEC ELECTRONICS KEMET ELECTRONICS
D2-D8, D17-D19, D21-D30, D20	20 1	1906-0334 1902-1542	DIODE-DUAL 200V 200MA T0-236AA DIODE-ZNR 6.2V 5pct TO-236 (SOT-23)	MMBD1503A BZX84C6V2 BZX84C6V2LT1G BZX84C6V2	FAIRCHILD SEMICONDUCTOR PHILIPS ON SEMICONDUCTOR NXP
F1-F8	8	2110-1138	FUSE-SURFACE MOUNT 15A 65V NTD BI	0451015. RL	LITTELFUSE
F9-F16	8	2110-0881	FUSE-SURFACE MOUNT .0625A 125V NTD BI	0459.062	LITTELFUSE
J22	1	1252-7760	CONN-POST TYPE 2.54-PIN-SPCG-MTG-END	N2534-6002RB	3M
J23	1	1251-4670	CONN-HDR VERT 3-PIN 2.54MM 1-ROW	68000-103HLF	FCI FRAMATOME BERG
LR63-LR70	32	9170-1499	CORE-TOROID AL=56-NH/TT	T26-26	MICRO METALS
Q11-Q14, Q21-Q24	8	1855-1785	TRANSISTOR-MOSFET E-MODE SI TO-247AC	IRFP340PBF	INTERNATIONAL RECTIFIER
Q3,Q5,Q6	3	1853-0525	TRANSISTOR PNP SI TO-236AA PD=200MW	MMBT2907 PMBT2907A MMBT2907ALT1G PMBT2907A	FAIRCHILD SEMICONDUCTOR PHILIPS ON SEMICONDUCTOR NXP

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Reference Designator	QTY	Agilent P/N	Description	MPN	Manufacturer
Q4	1	1854-1053	TRANSISTOR NPN SI SOT-23 (TO-236AB)	CMPT2222A MMBT2222A PMBT2222A SST2222A MMBT2222ALT1G PMBT2222A	CENTRAL SEMICONDUCTOR FAIRCHILD SEMICONDUCTOR PHILIPS ROHM ON SEMICONDUCTOR NXP
R1	1	0699-3070	RESISTOR 26.1K +-1pct .1W TKF TC=0+-100	CRCW080526K1FKE_ RK73H2AT_2612F MCR10__F2612 232273462613 MC08052612-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R10-R17	8	0699-3831	RESISTOR 46.4 +-1pct .1W TKF TC 0+-100	CRCW080546R4FKE_ RK73H2AT_46R4F 232273464649L MCR10__F46R4 MC080546R4-FT	VISHAY KOA YAGEO ROHM RCD COMPONENTS
R100-R102, R107-R113, R115, R257, R268	13	0699-3051	RESISTOR 10K +-1pct .1W TKF TC 0+-100	232273461003L CRCW080510K0FKE_ RK73H2AT_1002F MC08051002-FTW MCR10__F1002	YAGEO VISHAY KOA RCD COMPONENTS ROHM
R103, R114, R124, R156, R159, R191, R192, R195, R196, R197, R199, R290	12	0699-1503	RESISTOR 0 CWM	CRCW12060000ZSE_ RK73Z2BT MCR18__J000 232271191005	VISHAY KOA ROHM YAGEO
R104, R105, R248, R270, R97	5	0699-2986	RESISTOR 21.5K +-1pct .1W TKF TC=0+-100	CRCW080521K5FKE_ RK73H2AT_2152F MCR10__F2152 232273462153 CR21-2152-FF MC08052152-FT	VISHAY KOA ROHM YAGEO ASJ RCD COMPONENTS
R106, R239, R242, R246, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85	19	0699-2487	RESISTOR 90K +-0.1pct .125W TF TC=0+-25	RN732BT_9002B25 BLU-1206 90K .1% 25PPM MCA1206-25 0, 1% P5 90K MCA1206-25 0, 1% P5 90K PCF-W1206LF-03-9002-B_- -	KOA RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS

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Reference Designator	QTY	Agilent P/N	Description	MPN	Manufacturer
R116-R122, R128, R226, R227, R261, R266, R269	13	0699-3053	RESISTOR 100K +-1pct .1W TKF TC=0+-100	CRCW0805100KFKE_ RK73H2AT_1003F MCR10___F1003 232273461004 MC08051003-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R123, R215	2	0699-3817	RESISTOR 12.7K +-1pct .1W TKF TC=0+-100	CRCW080512K7FKE_ RK73H2AT_1272F MCR10___F1272 232273461273	VISHAY KOA ROHM YAGEO
R125, R33	2	0699-3032	RESISTOR 511 +-1pct .1W TKF TC=0+-100	CRCW0805511RFKE_ RK73H2AT_5110F MCR10___F5110 232273465111 MC08055110-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R126,R127,R216,R217	4	0699-3473	RESISTOR 20K +-1pct .1W TKF TC=0+-100	CRCW080520K0FKE_ RK73H2AT_2002F MCR10___F2002	VISHAY KOA ROHM
R129, R130, R131, R132, R133, R134, R135, R136, R140	9	0699-2491	RESISTOR 20K +-0.1pct .125W TF TC=0+-25	RN732BT_2002B25 BLU-1206 20K .1% 25PPM MCA1206-25 0, 1% P5 20K MCA1206-25 0, 1% P5 20K PCF-W1206LF-03-2002-B_- -	KOA RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R137, R193, R194	3	0699-3602	RESISTOR 12.4K +-0.1pct .125W TF TC=0+-25	RN732BT_1242B25 BLU-1206 12K4 .1% 25PPM MCA1206-25 0, 1% P5 12.4K PTN1206E1242BB PCF-W1206LF-03-1242-B_- -	KOA RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R138, R139, R218, R219, R229, R230	6	0699-2489	RESISTOR 10K +-0.1pct .125W TF TC=0+-25	RN732BT_1002B25 BLU-1206 10K .1% 25PPM MCA1206-25 0, 1% P5 10K MCA1206-25 0, 1% P5 10K PCF-W1206LF-03-1002-B_- -	KOA RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS

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Reference Designator	QTY	Agilent P/N	Description	MPN	Manufacturer
R141, R142, R143, R144, R145, R146, R147, R148, R149, R150, R151, R152, R153, R154, R155, R162	16	0699-3131	RESISTOR 3.32K +-0.1pct .125W TF TC=0+-25	RN732BT_3321B25 BLU-1206 3K32 .1% 25PPM PTN1206E3321BB PCF-W1206LF-03-3321-B_- -	KOA RCD COMPONENTS VISHAY TT ELECTRONICS
R157, R163-R177, R198, R256, R28, R36, R98	21	0699-2490	RESISTOR 1K +-0.1pct .125W TF TC=0+-25	RN732BT_1001B25 BLU-1206 1K .1% 25PPM MCA1206-25 0, 1% P5 1K MCA1206-25 0, 1% P5 1K PCF-W1206LF-03-1001-B_- -	KOA RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R158, R182, R86, R87, R88	5	0699-3045	RESISTOR 5.11K +-1pct .1W TKF TC=0+-100	CRCW08055K11FKE_ RK73H2AT_5111F MCR10__F5111 232273465112 MC08055111-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R160, R252, R253, R254	4	0699-1466	RESISTOR 10M +-10pct .125W TKF TC=0+-200	CRCW1206106KJNE_ RK73B2BT_106J MCR18__K106 232271161106	VISHAY KOA ROHM YAGEO
R161	1	0699-2988	RESISTOR 31.6K +-1pct .1W TKF TC=0+-100	CRCW080531K6FKE_ RK73H2AT_3162F MCR10__F3162 232273463163 MC08053162-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R178, R92	2	0699-3049	RESISTOR 8.25K +-1pct .1W TKF TC=0+-100	CRCW08058K25FKE_ RK73H2AT_8251F MCR10__F8251 232273478252 MC08058251-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R179	1	0699-3066	RESISTOR 11K +-1pct .1W TKF TC=0+-100	CRCW080511K0FKE_ RK73H2AT_1102F 232273461103L MCR10__F1102 MC08051102-FT	VISHAY KOA YAGEO ROHM RCD COMPONENTS

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Reference Designator	QTY	Agilent P/N	Description	MPN	Manufacturer
R18, R271, R31	3	0699-2965	RESISTOR 46.4K +-1pct .1W TKF TC=0+-100	CRCW080546K4FKE_ RK73H2AT_4642F MCR10__F4642 232273474643 MC08054642-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R180	1	0699-3713	RESISTOR 36.5K +-1pct .1W TKF TC=0+-100	RK73H2AT_3652F MCR10__F3652 MC08053652-FT	KOA ROHM RCD COMPONENTS
R181, R260, R44-R51	10	0699-3073	RESISTOR 51.1K +-1pct .1W TKF TC=0+-100	CRCW080551K1FKE_ RK73H2AT_5112F MCR10__F5112 232273465113 MC08055112-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R183-R190	8	0699-3840	RES-FXD 19.6 OHM +-1PCT 0.1W TC 0+-100	RK73H2AT__19R6F 232273461969 MCR10__F19R6 CRCW080519R6FKE_ MC080519R6-FT	KOA YAGEO ROHM VISHAY RCD COMPONENTS
R19	1	0699-3862	RESISTOR 200K +-1PCT .1W TKF TC=0+-100	CRCW0805200KFKE_ RK73H2AT_2003F MCR10__F2003 232273462004 MC08052003-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R2-R9, R41	9	0699-3067	RESISTOR 14.7K +-1pct .1W TKF TC=0+-100	CRCW080514K7FKE_ RK73H2AT_1472F MCR10__F1472 232273461473 MC08051472-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R20, R22	2	0699-2998	RESISTOR 162K +-1pct .1W TKF TC=0+-100	CRCW0805162KFKE_ RK73H2AT_1623F MCR10__F1623 232273461624	VISHAY KOA ROHM YAGEO
R201, R95	2	0699-5258	RESISTOR 60.4K +-1pct .1W TKF TC=0+-100	ERJ6ENF6042	MATSUSHITA

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Reference Designator	QTY	Agilent P/N	Description	MPN	Manufacturer
R202, R203	2	0699-3075	RESISTOR 147K +-1pct .1W TKF TC=0+-100	CRCW0805147KFKE_ RK73H2AT_1473F MCR10__F1473 232273461474 MC08051473-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R42, R205, R264, R272, R273	5	0699-3034	RESISTOR 1K +-1pct .1W TKF TC 0+-100	CRCW08051K00FKE_ RK73H2AT_1001F 232273461002L MCR10__F1001 MC08051001-FT	VISHAY KOA YAGEO ROHM RCD COMPONENTS
R206	1	0699-5773	RESISTOR 47.5K +-1pct .1W TC=0+-100	CRCW080547K5FKE_ MCR10__F4752	VISHAY ROHM
R207	1	0699-4270	RESISTOR 274 +-1pct .1W TKF TC=0+-100	CRCW0805274RFKE_ RK73H2AT_2740F MCR10__F2740 232273462741 MC08052740-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R208	1	0699-3040	RESISTOR 3.16K +-1pct .1W TKF TC=0+-100	CRCW08053K16FKE_ RK73H2AT_3161F MCR10__F3161 232273463162 MC08053161-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R209	1	0699-3047	RESISTOR 6.81K +-1PCT .1W TKF TC=0+-100	CRCW08056K81FKE_ RK73H2AT_6811F MCR10__F6811 232273466812 MC08056811-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R21, R223, R224, R225	4	0699-3012	RESISTOR 750K +-1pct .1W TKF TC=0+-100	CRCW0805750KFKE_ RK73H2AT_7503F MCR10__F7503 232273467504 MC08057503-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R210	1	0699-4414	RES-FXD 14.3K +-1PCT 0.125W TC 0+-100 201	MCR10__F1432 ERJ6ENF1432 RK73H2AT__1432F	ROHM MATSUSHITA KOA

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Reference Designator	QTY	Agilent P/N	Description	MPN	Manufacturer
R211	1	0699-3059	RESISTOR 162 +-1pct .1W TKF TC=0+-100	CRCW0805162RFKE_ RK73H2AT_1620F 232273461621L MCR10__F1620 MC08051620-FT	VISHAY KOA YAGEO ROHM RCD COMPONENTS
R212	1	0699-2981	RESISTOR 1.78K +-1pct .1W TKF TC=0+-100	CRCW08051K78FKE_ RK73H2AT_1781F MCR10__F1781 232273461782 MC08051781-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R214	1	0699-3780	RESISTOR 33.2K +-1pct .1W TKF TC=0+-100	CRCW080533K2FKE_ RK73H2AT_3322F 232273463323L MCR10__F3322 MC08053322-FT	VISHAY KOA YAGEO ROHM RCD COMPONENTS
R221, R222	2	0699-3044	RESISTOR 4.64K +-1pct .1W TKF TC=0+-100	CRCW08054K64FKE_ RK73H2AT_4641F 232273464642L MCR10__F4641 MC08054641-FT	VISHAY KOA YAGEO ROHM RCD COMPONENTS
R228	1	0699-3058	RESISTOR 100 +-1pct .1W TKF TC 0+-100	CRCW0805100RFKE_ RK73H2AT_1000F 232273461001L MCR10__F1000	VISHAY KOA YAGEO ROHM
R23, R25	2	0699-2999	RESISTOR 178K +-1pct .1W TKF TC=0+-100	CRCW0805178KFKE_ RK73H2AT_1783F MCR10__F1783 232273461784 MC08051783-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R231	1	0699-3046	RESISTOR 6.19K +-1pct .1W TKF TC=0+-100	CRCW08056K19FKE_ RK73H2AT_6191F MCR10__F6191 2322734X6192 MC08056191-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS

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Reference Designator	QTY	Agilent P/N	Description	MPN	Manufacturer
R232, R91	2	0699-3052	RESISTOR 12.1K +-1pct .1W TKF TC=0+-100	CRCW080512K1FKE_ CR21-1212-FL RK73H2AT_1212F MCR10__F1212 232273461213 MC08051212-FT	VISHAY ASJ KOA ROHM YAGEO RCD COMPONENTS
R233, R234, R235, R244	4	0699-3074	RESISTOR 61.9K +-1pct .1W TKF TC=0+-100	CRCW080561K9FKE_ RK73H2AT_6192F MCR10__F6192 232273466193	VISHAY KOA ROHM YAGEO
R238, R241, R245	3	0699-2822	RESISTOR 200K +-0.1pct .125W TF TC=0+-25	BLU-1206 200K .1% 25PPM MCA1206-25 0, 1% P5 200K TNPW12062003BT-9 PCF-W1206LF-03-2003-B_- -	RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R24, R30, R35	3	0699-3035	RESISTOR 1.47K +-1pct .1W TKF TC=0+-100	CRCW08051K47FKE_ RK73H2AT_1471F MCR10__F1471 232273461472	VISHAY KOA ROHM YAGEO
R240, R243, R247	3	0699-2824	RESISTOR 7.5K +-0.1pct .125W TF TC=0+-25	RN732BT_7501B25 BLU-1206 7K5 .1% 25PPM MCA1206-25 0, 1% P5 7.5K PTN1206E7501BB PCF-W1206LF-03-7501-B_- -	KOA RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R259	1	0699-3048	RESISTOR 7.5K +-1pct .1W TKF TC=0+-100	CRCW08057K50FKE_ RK73H2AT_7501F MCR10__F7501 2322734X7502 MC08057501-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS

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Reference Designator	QTY	Agilent P/N	Description	MPN	Manufacturer
R26	1	0699-2984	RESISTOR 13.3K +-1pct .1W TKF TC=0+-100	CRCW080513K3FKE_ RK73H2AT_1332F MCR10__F1332 232273461333 MC08051332-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R262	1	0699-3039	RESISTOR 2.61K +-1pct .1W TKF TC=0+-100	CRCW08052K61FKE_ RK73H2AT_2611F MCR10__F2611 232273462612 MC08052611-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R263	1	0699-2992	RESISTOR 75K +-1pct .1W TKF TC=0+-100	CRCW080575K0FKE_ RK73H2AT_7502F MCR10__F7502 232273467503 MC08057502-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R265, R38, R39, R89	4	0699-3037	RESISTOR 2.15K +-1pct .1W TKF TC=0+-100	CRCW08052K15FKE_ RK73H2AT_2151F MCR10__F2151 232273462152 MC08052151-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R27	1	0699-3068	RESISTOR 16.2K +-1pct .1W TKF TC=0+-100	CRCW080516K2FKE_ RK73H2AT_1622F MCR10__F1622 232273461623 MC08051622-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R274	1	0699-3698	RESISTOR 10 +-1pct .1W TKF TC=0+-100	CRCW080510R0FKE_ RK73H2AT_10R0F MCR10__F10R0 MC080510R0-FT	VISHAY KOA ROHM RCD COMPONENTS
R275-R282	8	0699-3843	RESISTOR 34.8 +-1pct .1W TKF TC=0+-100	RK73H2AT_34R8F 232273463489L MCR10__F34R8 CRW080534R8F MC080534R8-FT	KOA YAGEO ROHM VISHAY RCD COMPONENTS
R29	1	0699-3718	RESISTOR 4.32K +-1PCT .1W TKF TC=0+-100	RK73H2AT_4321F MCR10__F4321	KOA ROHM

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Reference Designator	QTY	Agilent P/N	Description	MPN	Manufacturer
R291, R293, R34	3	0699-2643	RES-FXD 0 OHM +-5PCT .1W TC 0+-300	CRCW08050000ZSE_ CR21-000-ZL MCR10___J000 RK73Z2AT 232273091002L ZC0805-TW	VISHAY ASJ ROHM KOA YAGEO RCD COMPONENTS
R32, R37	2	0699-2993	RESISTOR 82.5K +-1pct .1W TKF TC=0+-100	CRCW080582K5FKE_ RK73H2AT_8252F MCR10___F8252 232273468253 MC08058252-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R40	1	0699-2847	RESISTOR 2K +-0.1pct .125W TF TC=0+-25	RN732BT_2001B25 BLU-1206 2K .1% 25PPM TNPW12062001BT-9 PCF-W1206LF-03-2001-B_- -	KOA RCD COMPONENTS VISHAY TT ELECTRONICS
R43	1	0699-4553	RESISTOR 10.5K +-1pct .1W TKF TC=0+-100	CRCW080510K5FKE_ RK73H2AT_1052F MCR10___F1052 232273461053	VISHAY KOA ROHM YAGEO
R52, R53, R55, R56, R58-R61	8	0699-3077	RESISTOR 1M +-1pct .1W TKF TC=0+-100	CRCW08051M00FKE_ RK73H2AT_1004F MCR10___F1004 232273471005 MC08051004-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R54	1	0699-2994	RESISTOR 90.9K +-1pct .1W TKF TC=0+-100	CRCW080590K9FKE_ RK73H2AT_9092F MCR10___F9092 232273469093 MC08059092-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
R57, R99	2	0699-3531	RESISTOR 2K +-1pct .1W TKF TC=0+-100	CRCW08052K00FKE_ CR21-2001-FL RK73H2AT_2001F MCR10___F2001 232273462002 MC08052001-FT	VISHAY ASJ KOA ROHM YAGEO RCD COMPONENTS

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Reference Designator	QTY	Agilent P/N	Description	MPN	Manufacturer
R62	1	0699-2485	RESISTOR 60K +-0.1pct .125W TF TC=0+-25	RN732BT_6002B25 BLU-1206 60K .1% 25PPM MCA1206-25 0, 1% P5 60K MCA1206-25 0, 1% P5 60K PCF-W1206LF-03-6002-B_- -	KOA RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS
R63-R70	8	0811-3845	RES 0.3 1pct PW	FA2241 NTR2A69.3 1%	RCD COMPONENTS TT ELECTRONICS
R90	1	0699-3524	RESISTOR 18.7K +-1pct .1W TKF TC=0+-100	RK73H2AT_1872F MCR10__F1872	KOA ROHM
R93, R94	2	0699-6749	RESISTOR 4.3 OHM +-5pct 5W MO TC=0+-100	RSF3B 4R30-J	RCD COMPONENTS
R96	1	0699-2979	RESISTOR 1.21K +-1pct .1W TKF TC=0+-100	CRCW08051K21FKE_ RK73H2AT_1211F MCR10__F1211 232273461212 MC08051211-FT	VISHAY KOA ROHM YAGEO RCD COMPONENTS
RT1	1	0837-0397	THERMISTOR CYL CHIP 10K-OHM	135-103LFW-J01	HONEYWELL
S1	1	3101-2894	SWITCH-PB DPDTALTNG .01A 100 VAC	F2UEE AU	ITT INDUSTRIES
U1, U21, U3, U4, U5, U6, U7	7	1826-1912	IC OP AMP H-SLEW-RATE DUAL 8 PIN	MC34072DR2G	ON SEMICONDUCTOR
U10, U11, U2, U23, U25, U9	6	1826-1925	IC OP AMP LOW-NOISE SINGLE 8 PIN	OPA27GU/___E4 OP27GSZ	TEXAS INSTRUMENTS ANALOG DEVICES
U12-U18, U22	8	1826-8691	IC OP AMP HIGH-CUR DUAL 8 PIN PLSTC-SOIC	AD8551ARZ	ANALOG DEVICES
U19	1	1826-1775	IC COMPARATOR LP QUAD 14 PIN PLSTC-SOIC	LM339AD	TEXAS INSTRUMENTS
U20, U26, U27	3	1826-1813	IC OP AMP GP DUAL 8-SOIC	LM358D LM358MNOPB	TEXAS INSTRUMENTS NATIONAL SEMICONDUCTOR
U24	1	1826-2959	IC MULTIPLIER 4-QUAD SINGLE 8 PIN	AD633JRZ	ANALOG DEVICES
U8	1	1826-2149	ANALOG SWITCH 4 SPST 16 -P-SOIC	DG444DY-E3	VISHAY

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