

**Agilent N3306A
Component Level
Information**

Agilent N3306A

600W Electronic Load Module

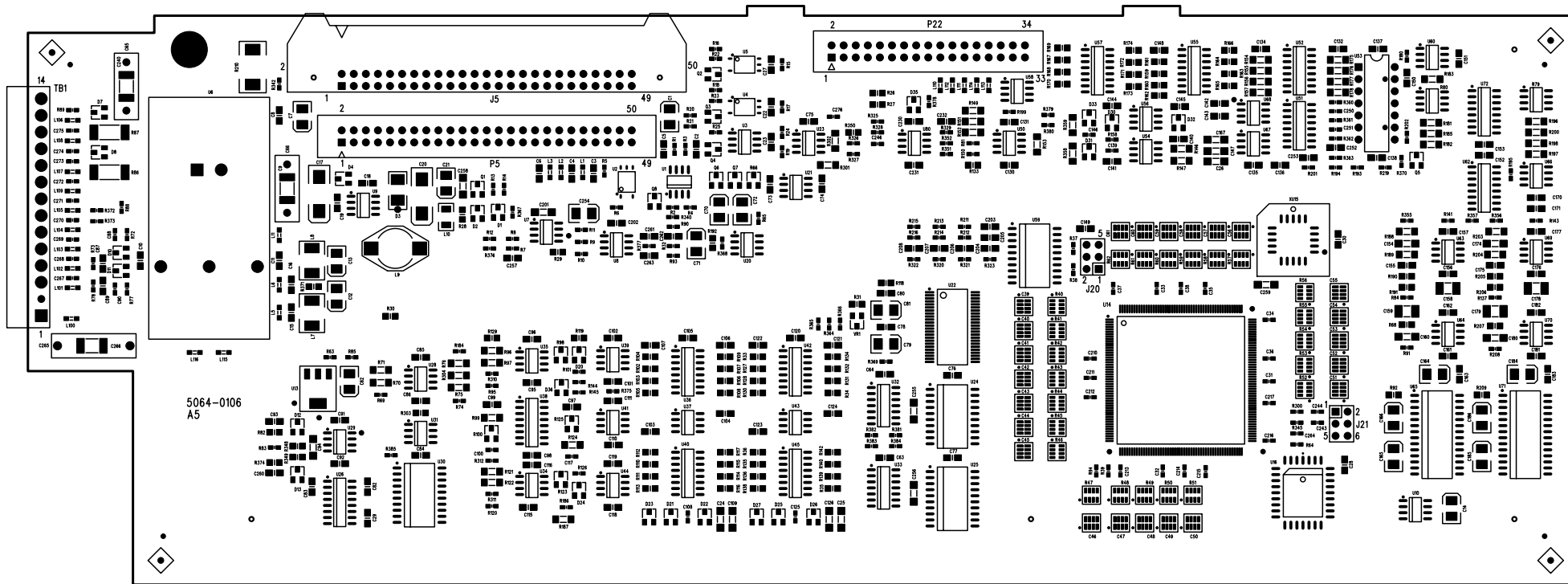
Component Level Information

Information in this packet applies to the following assemblies:

- 1. 5064-0106 Control Board**
- 2. 5064-0123 600W Power Board**

The following is included in this packet:

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

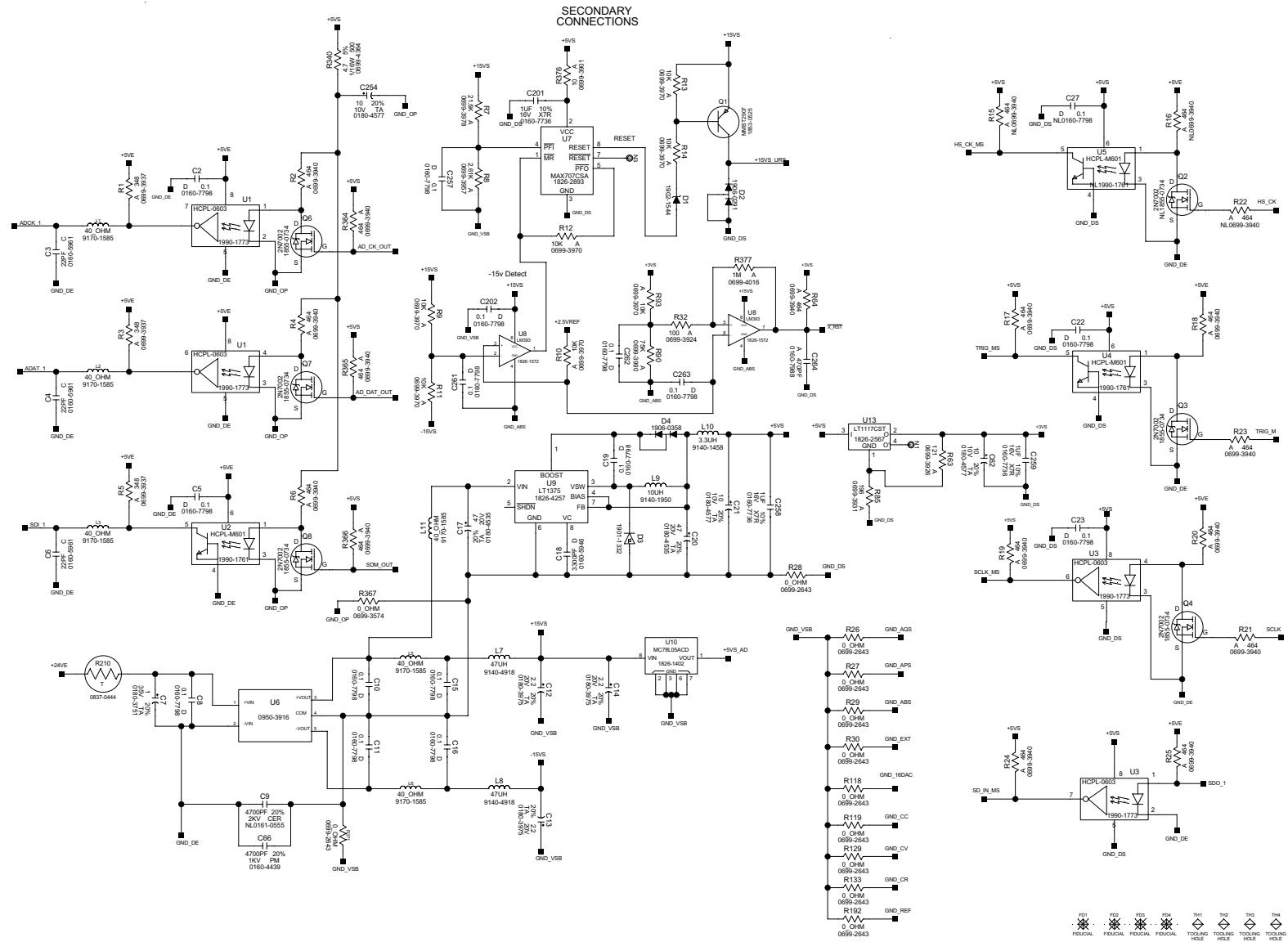
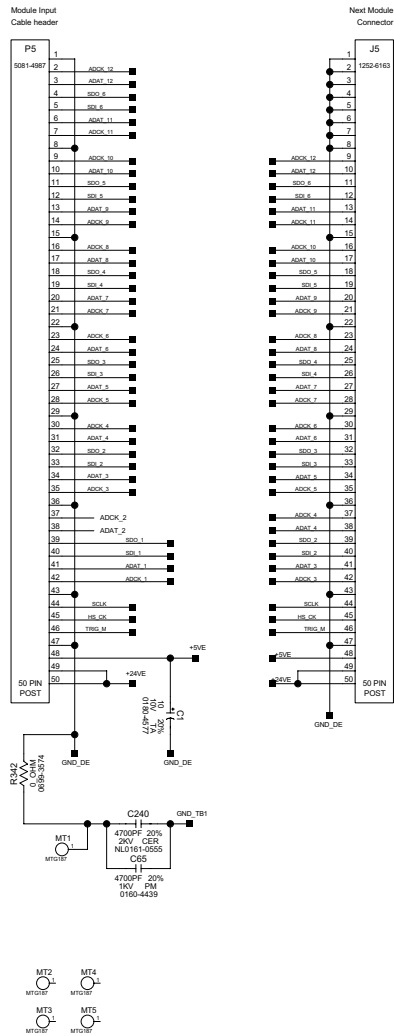


GRAPHICS (TOP SIDE)

NOTE: Magnify to see component reference designators.

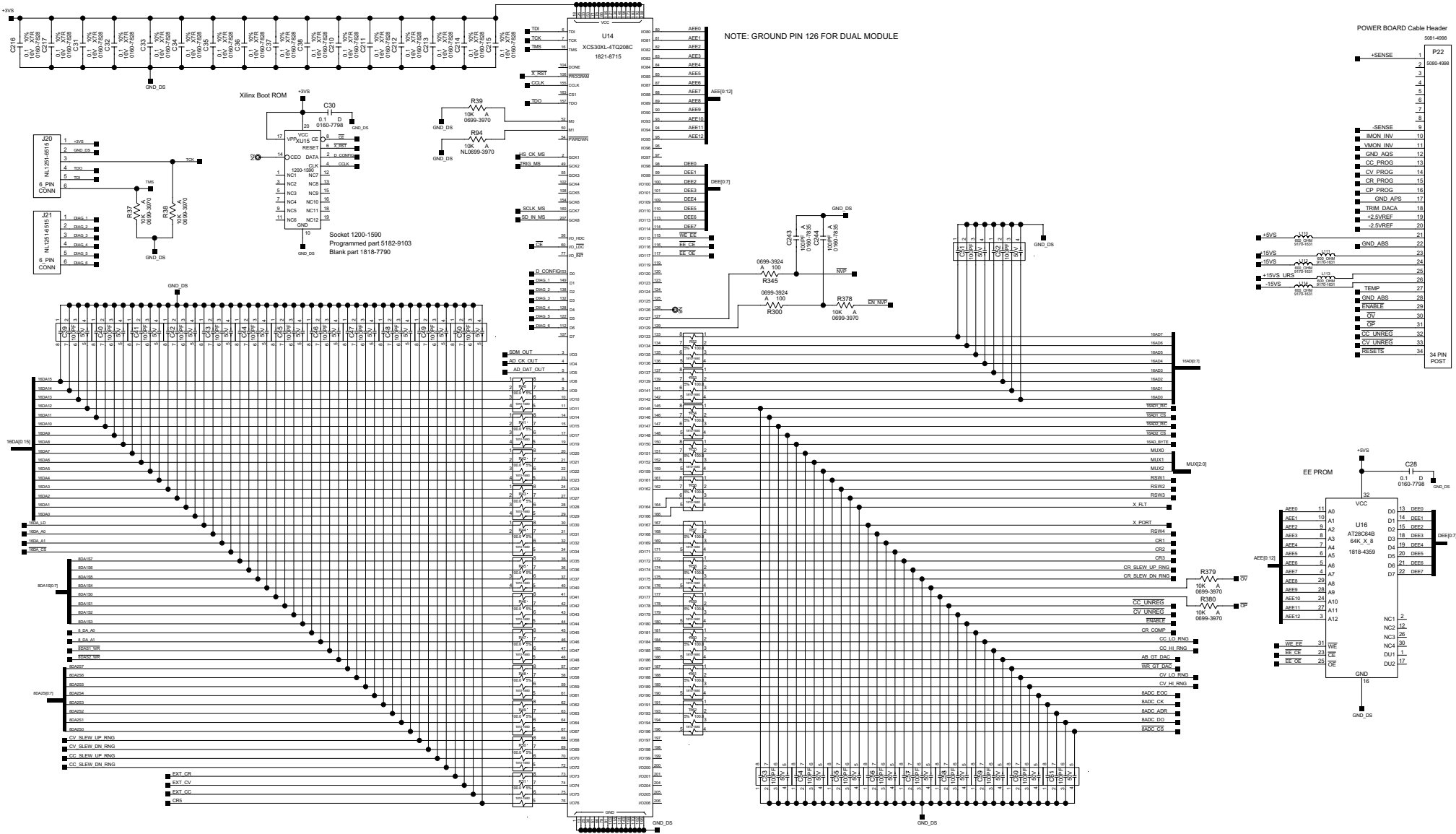
**Agilent N3306A
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**5064-0106
Control Board PC Assembly
Component Locator**

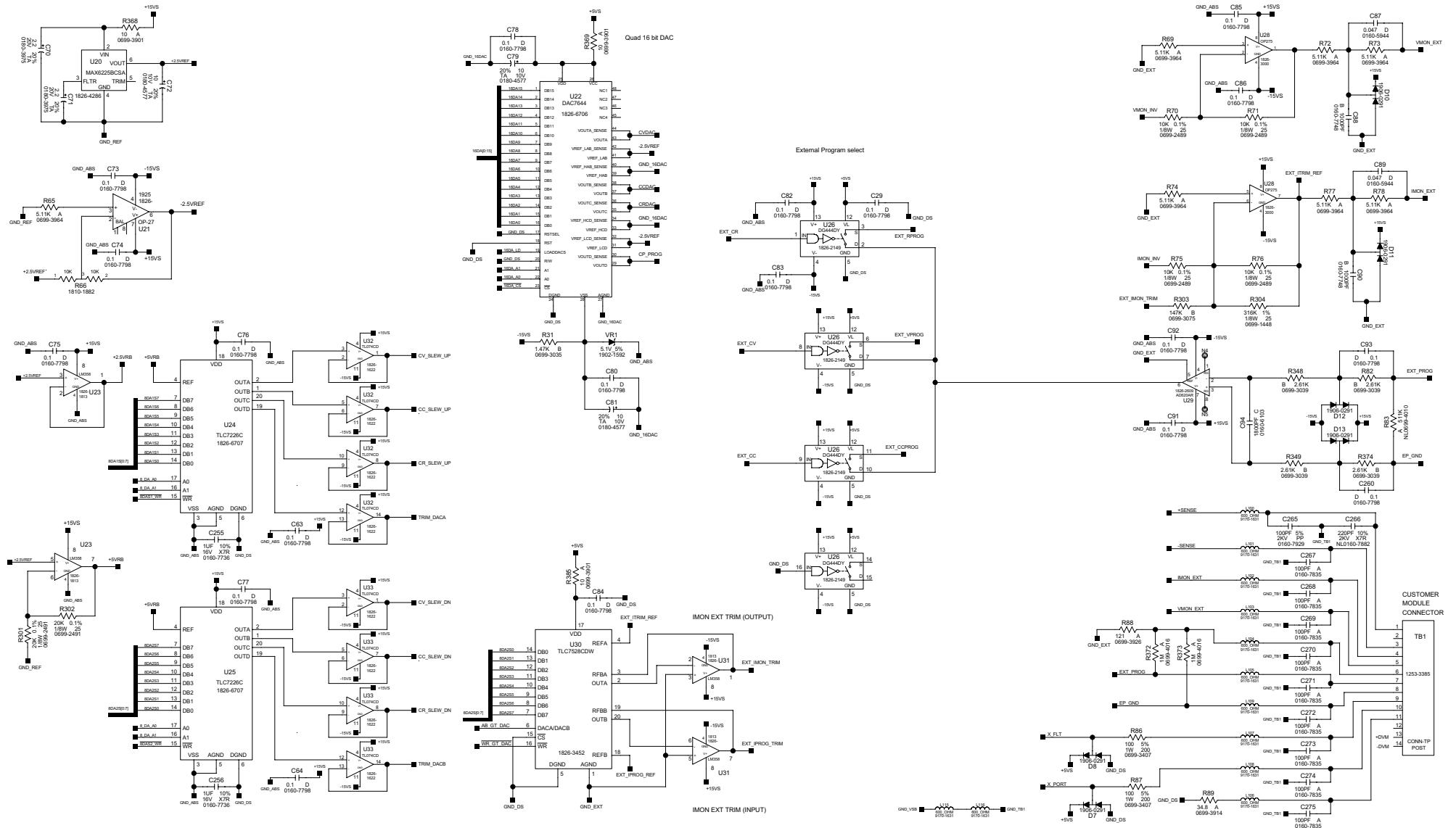


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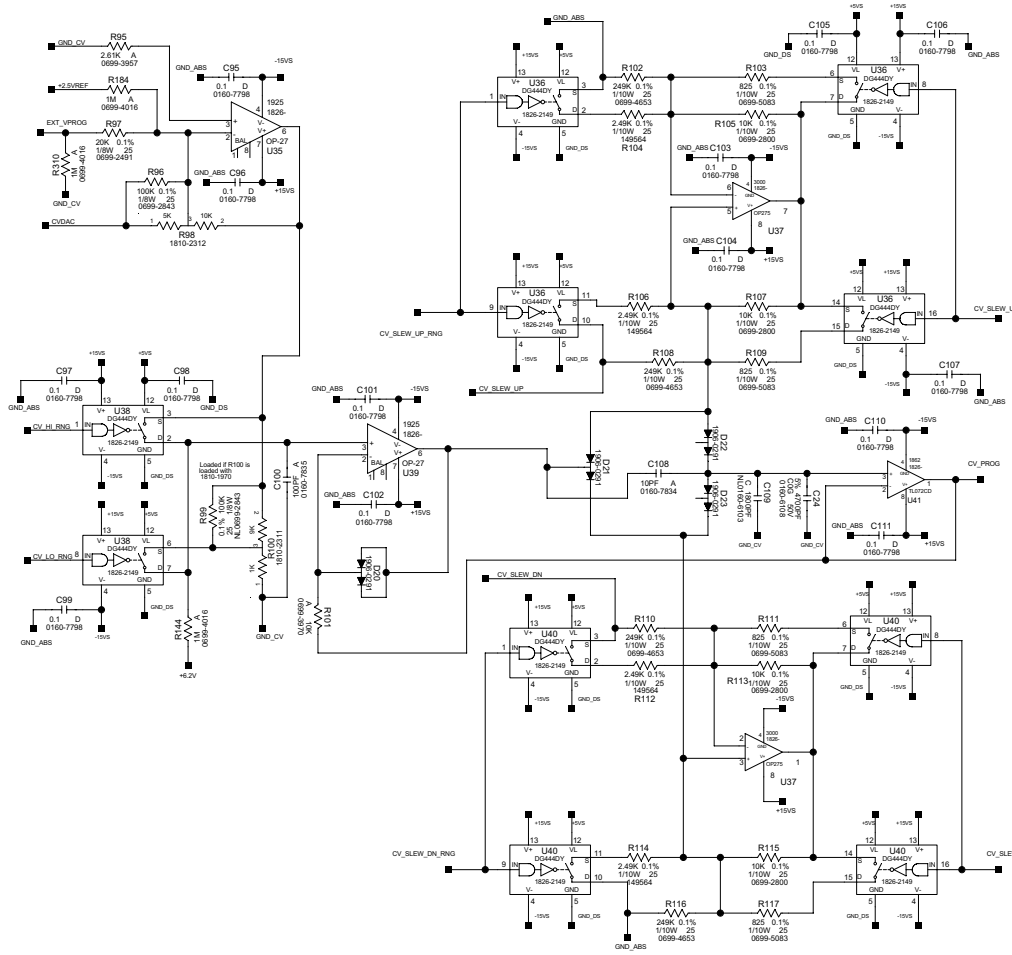
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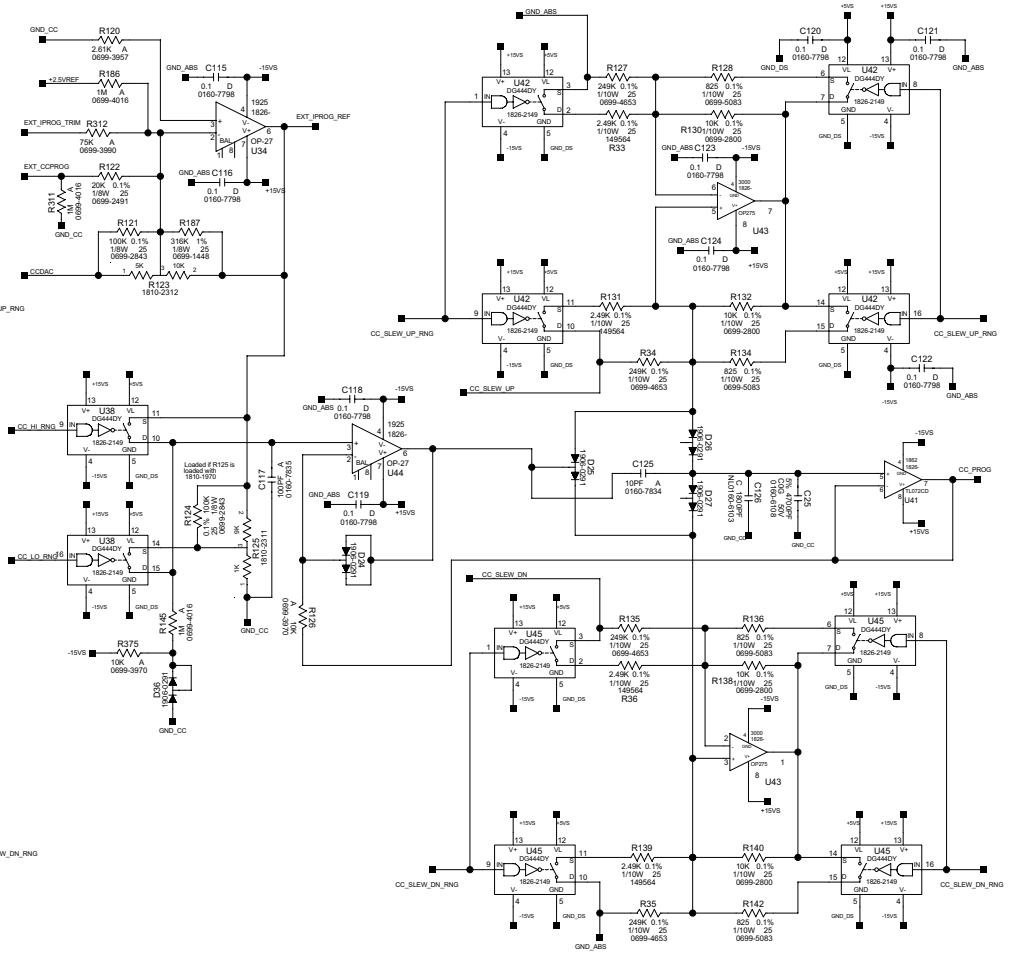
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CV RANGE AND SLEW CIRCUITS

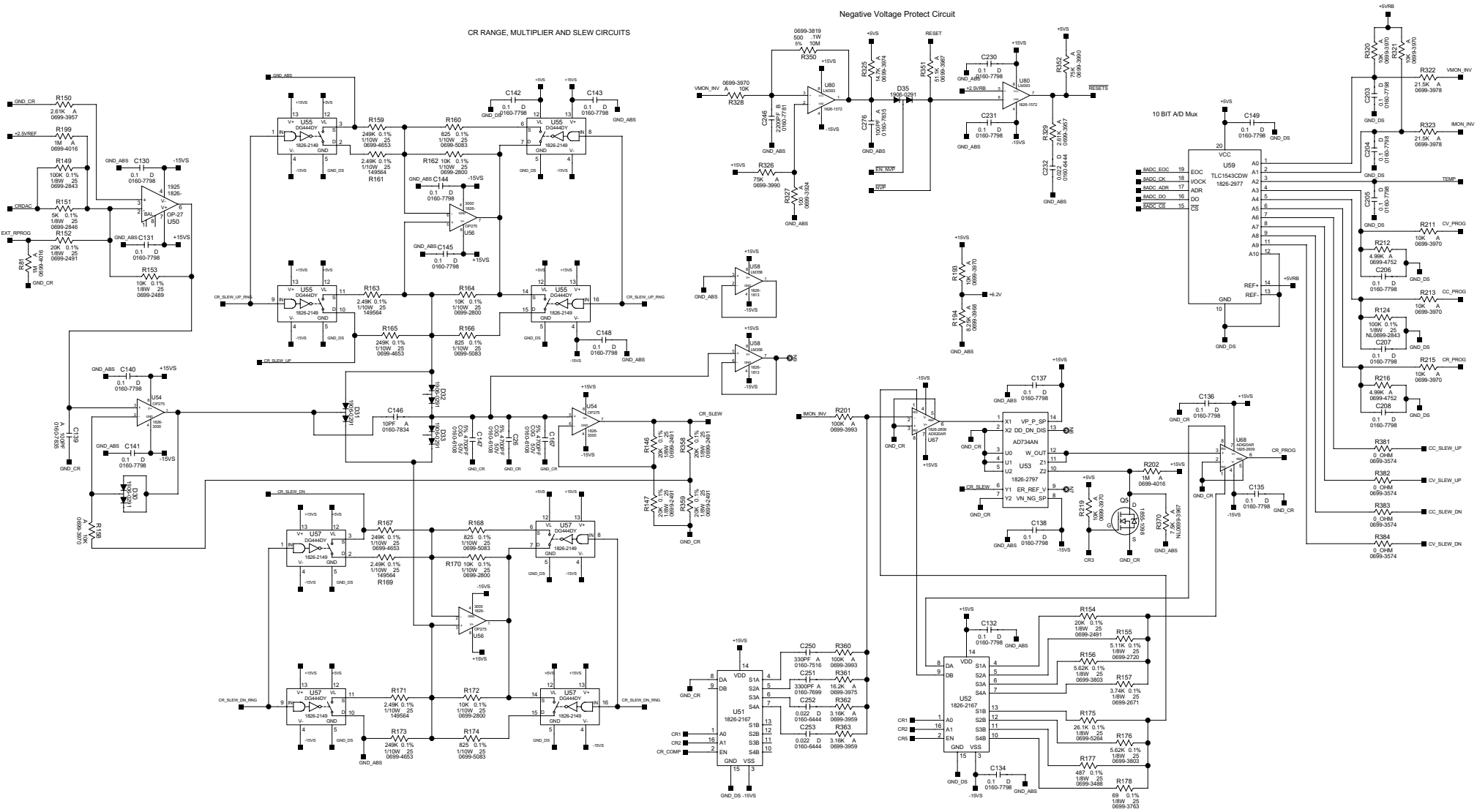


CC RANGE AND SLEW CIRCUITS

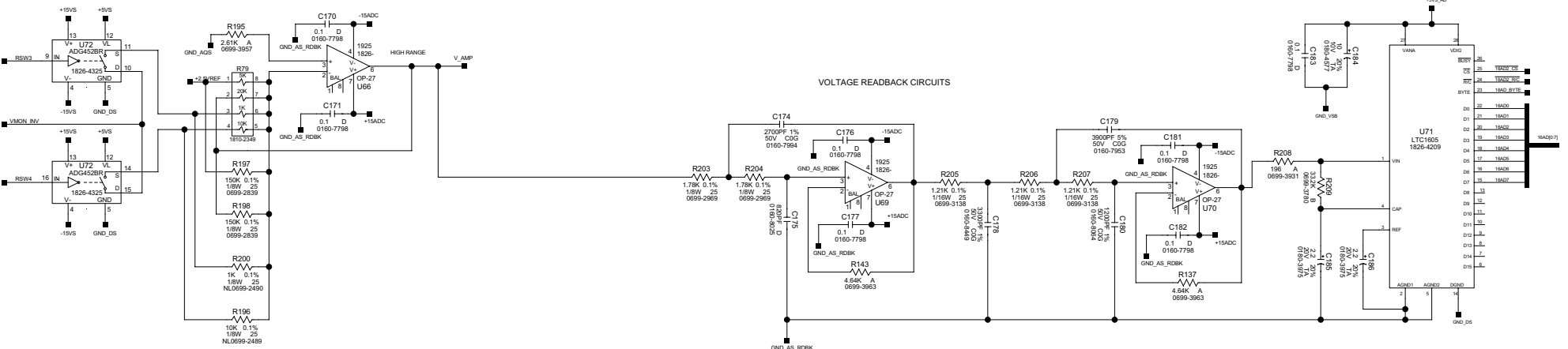
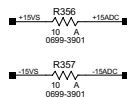
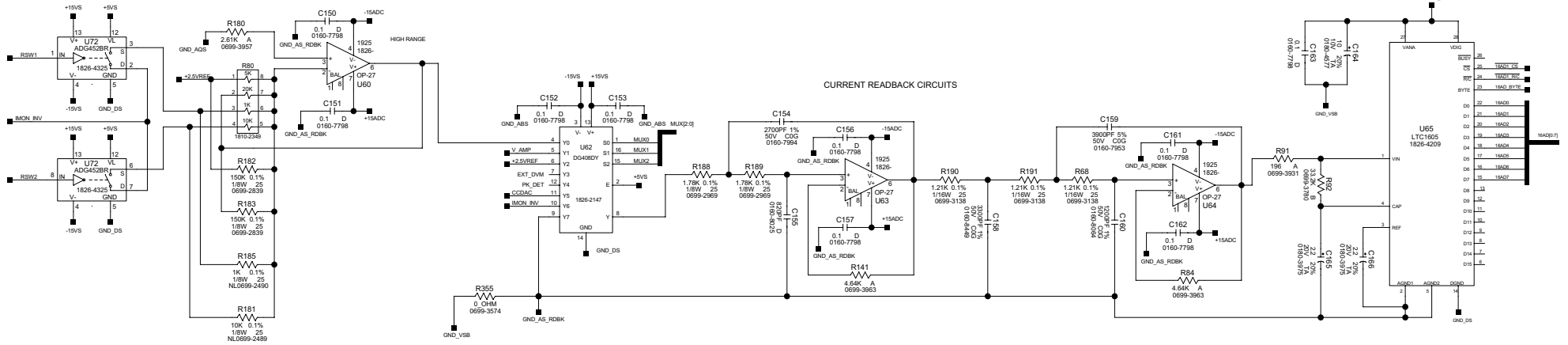


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5064-0106 Control Board Parts List (Electronic Load Module)

| 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-MOD | 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)

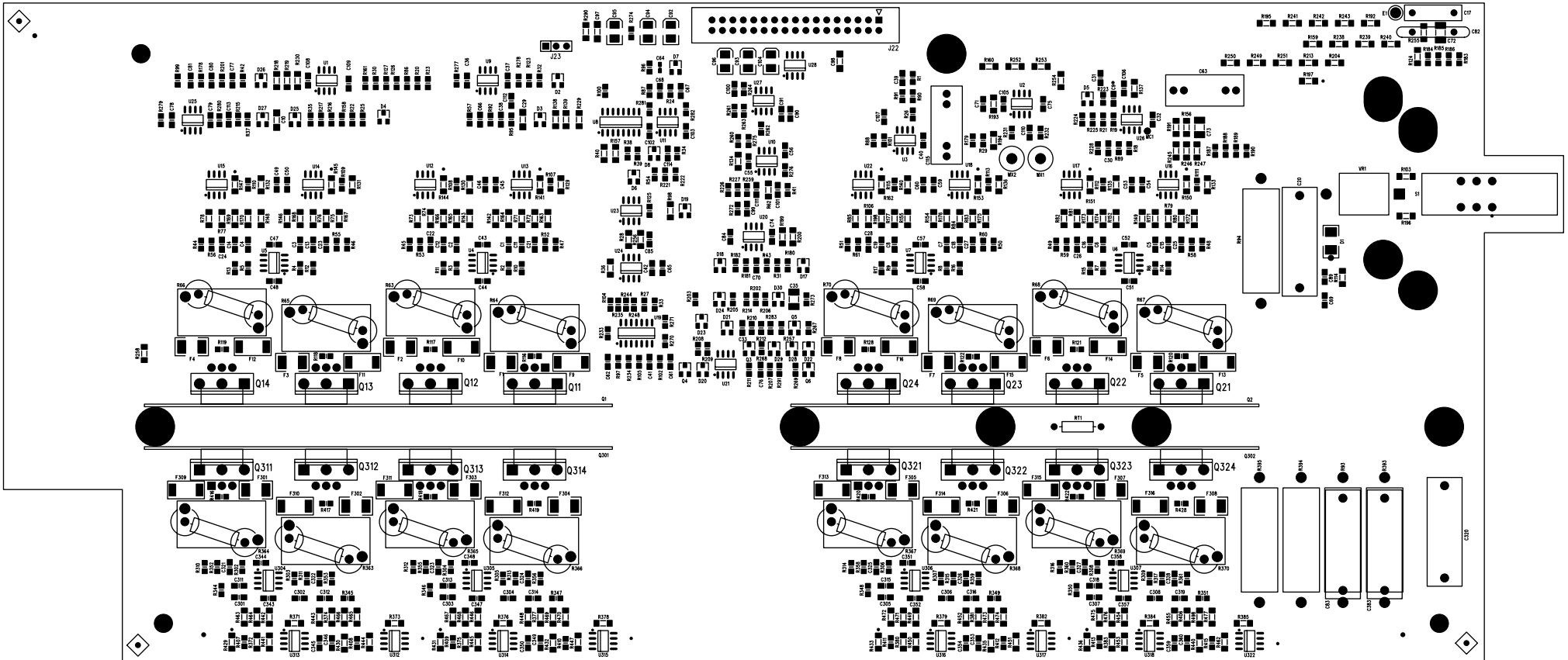
| Reference Designator | Qty | Agilent P/N | Description | MPN | Manufacturer |
|------------------------------------|-----|-------------|--|---|--|
| R356, R357, R368, R369, R376, R385 | 6 | 0699-3901 | RES-FXD 10 +-1PCT .063W TKF TC=0+-200 | CRCW060310R0FKE_ RK73H1JT_10R0F 232270461009L MCR03__FX10R0 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-IMPD QUAD 14 PIN | TL074CD | TEXAS INSTRUMENTS |
| U41 | 1 | 1826-1862 | IC OP AMP LOW-BIAS-H-IMPD 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 |



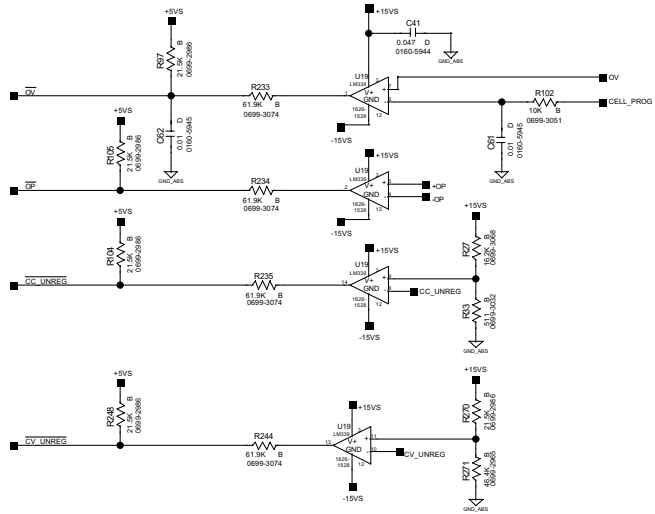
COMPONENT SIDE - LAYER 1

NOTE: Magnify to see component reference designators.

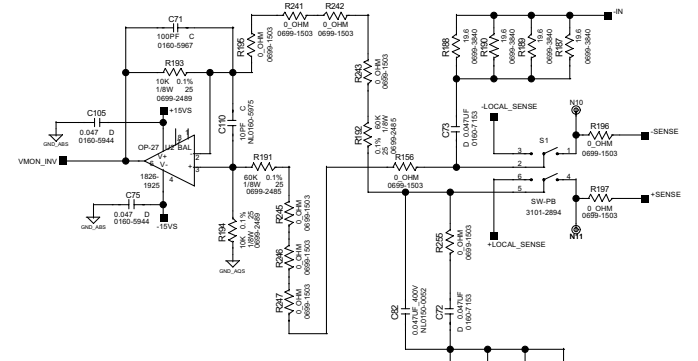
**Agilent N3306A
600W Electronic Load Module**

**5064-0123
600W Power Board PC Assembly
Component Locator**

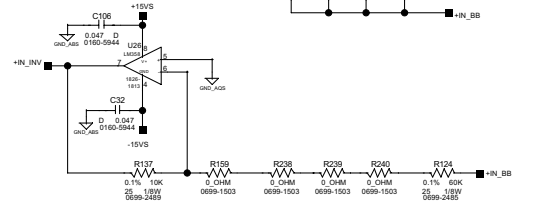
STATUS COMPARATOR



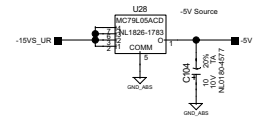
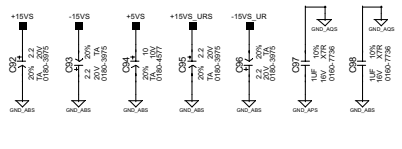
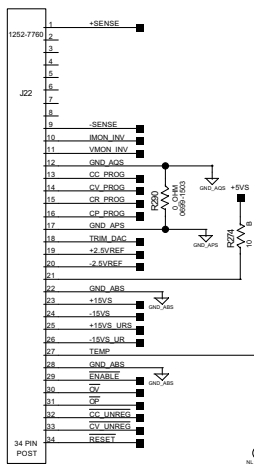
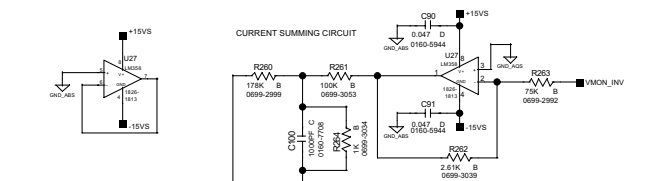
VMON DIFFERENTIAL AMP AND BUFFER



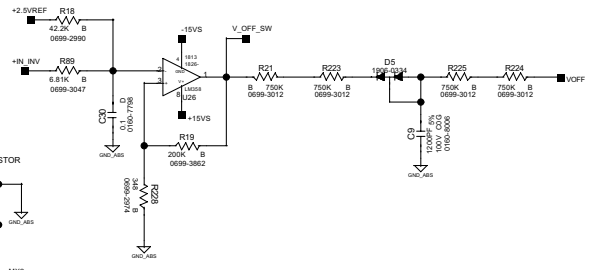
INVERTING VOLTAGE BUFFER



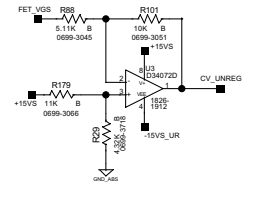
CURRENT SUMMING CIRCUIT



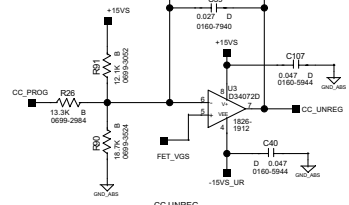
LOW VOLTAGE CIRCUIT



CV UNREG

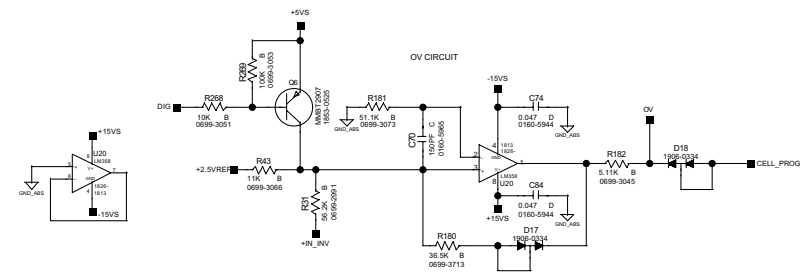
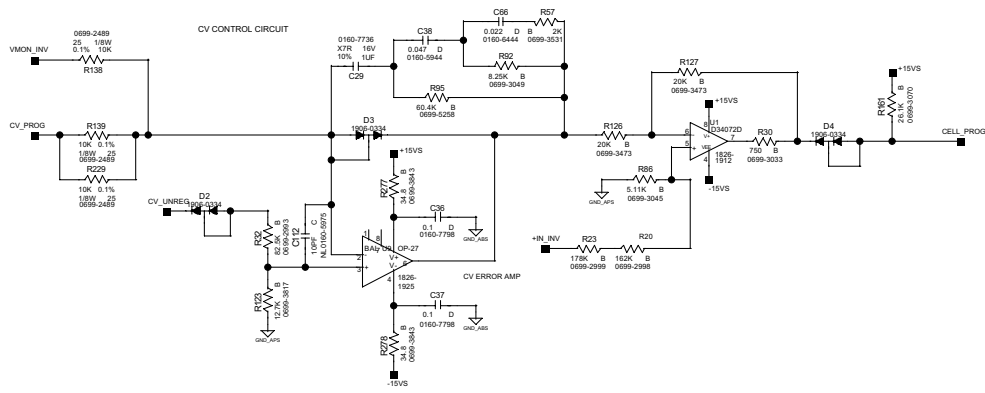


CC UNREG

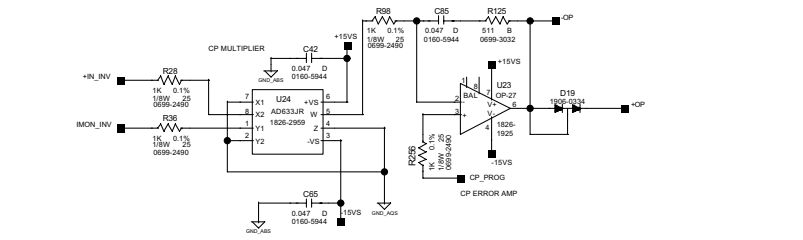


Agilent N3306A
600W Electronic Load Module

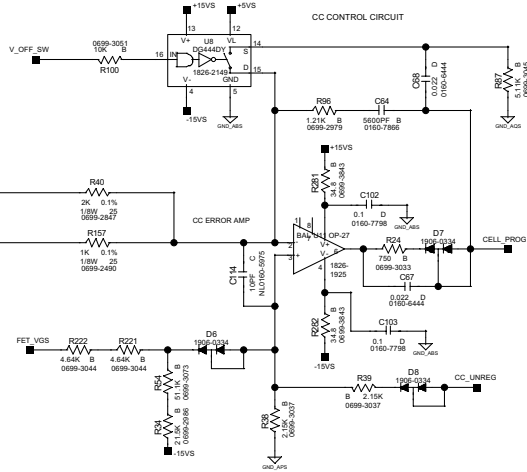
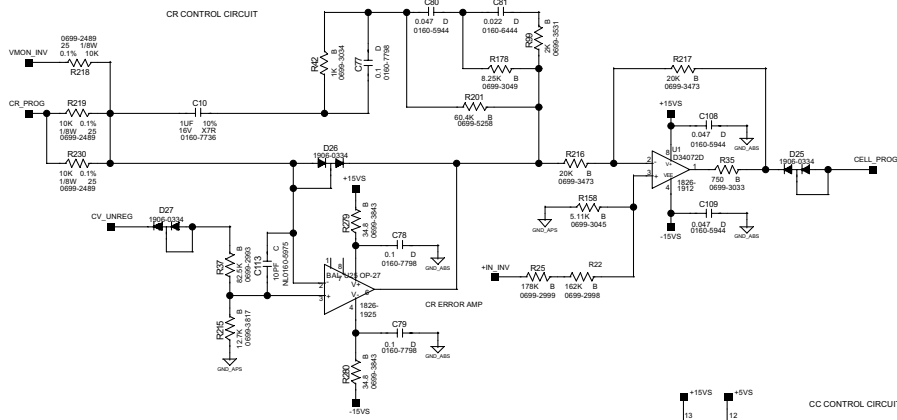
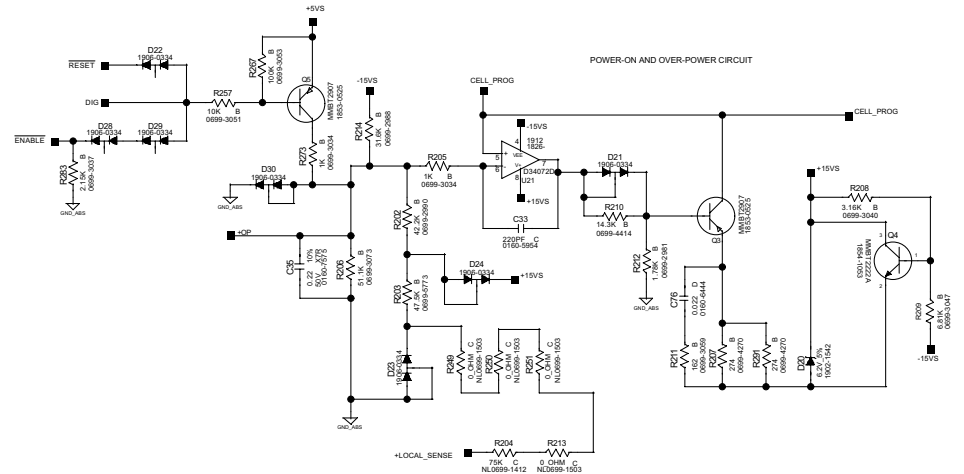
5064-0123
600W Power Board PC Assembly
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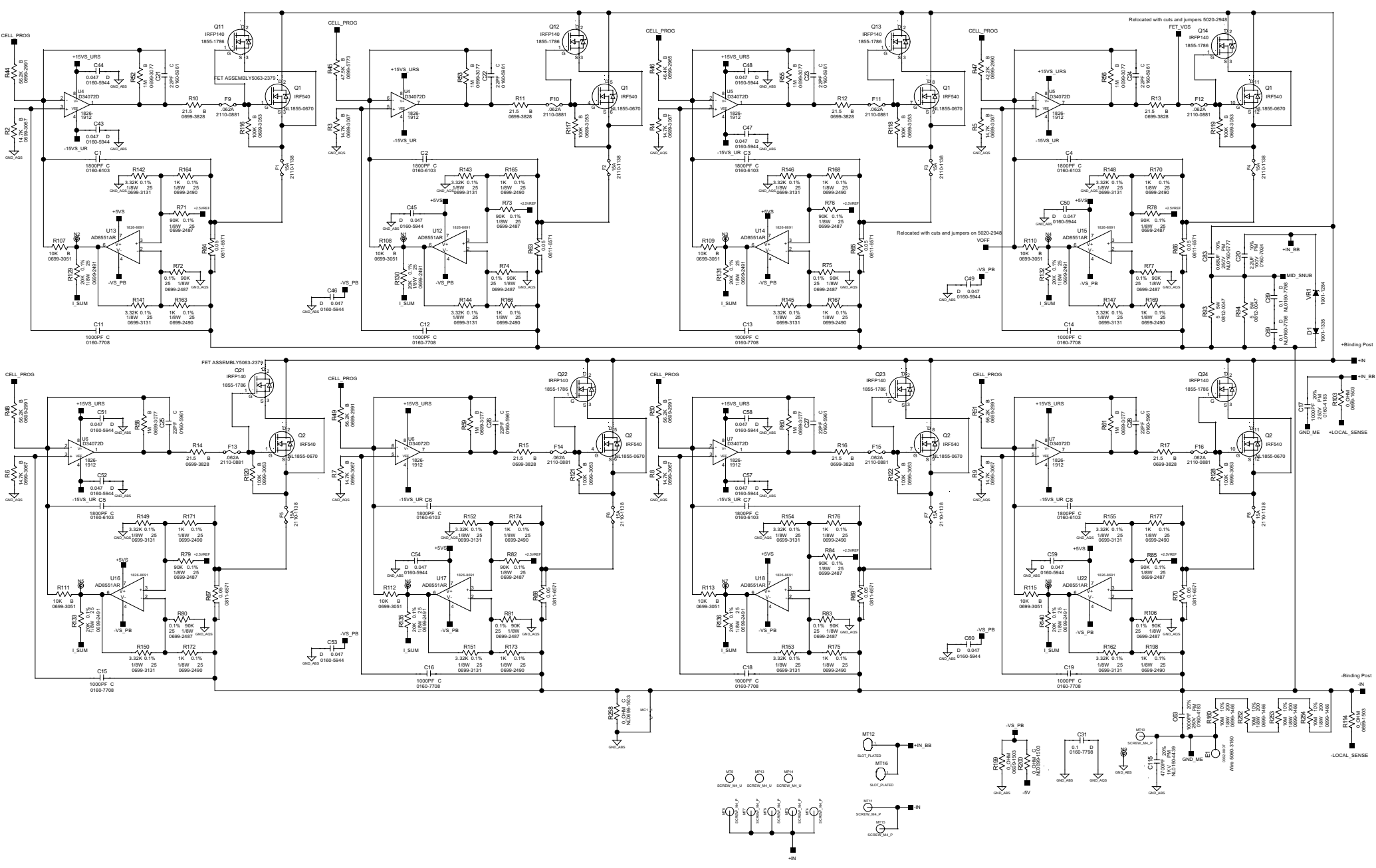
POWER CONTROL CIRCUIT



POWER-ON AND OVER-POWER CIRCUIT

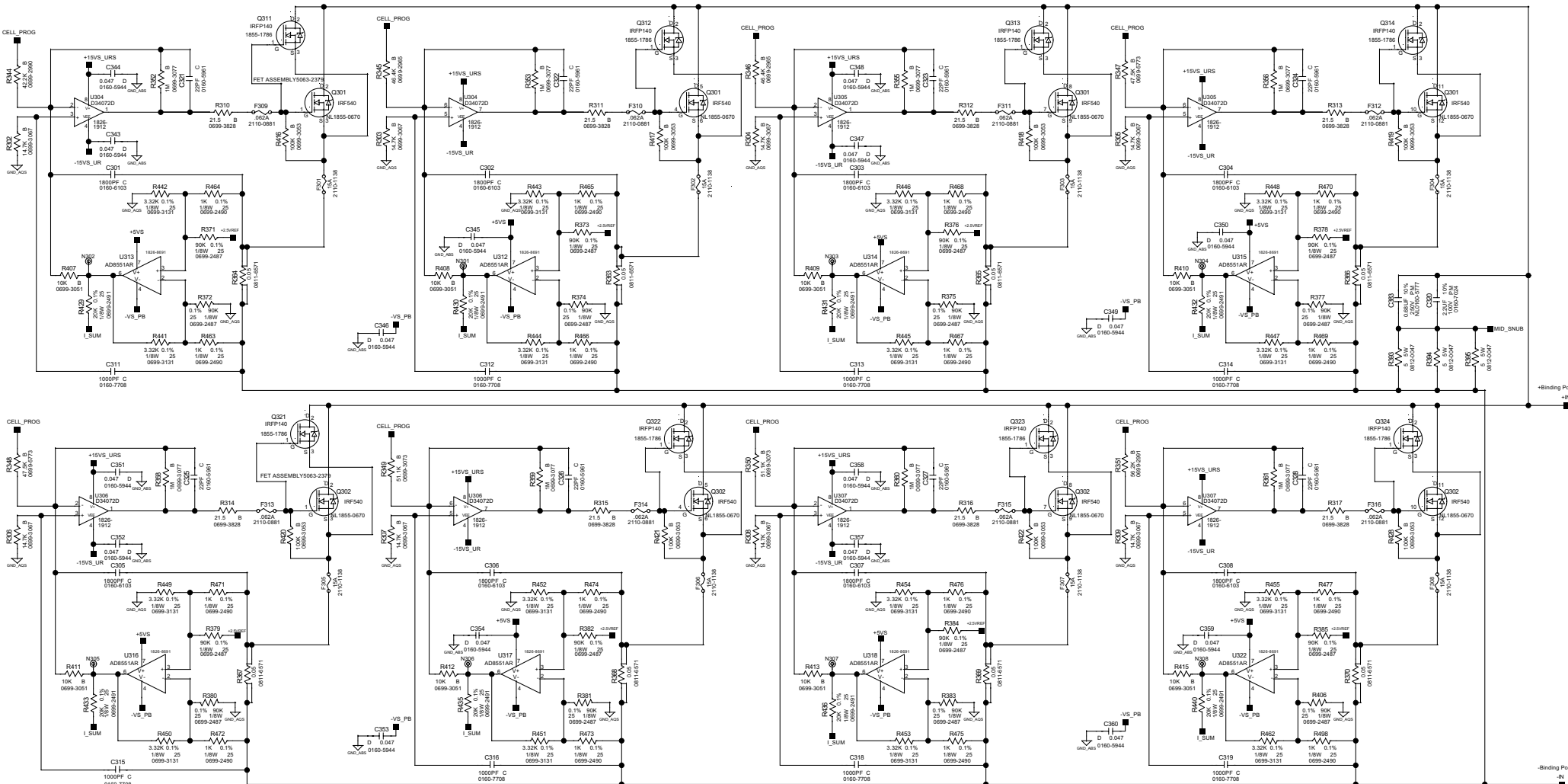


**Agilent N3306A
600W Electronic Load Module**



**Agilent N3306A
600W Electronic Load Module**

**5064-0123
600W Power Board PC Assembly
Page 3 of 8**



**Agilent N3306A
600W Electronic Load Module**

**5064-0123
600W Power Board PC Assembly
Page 4 of 4**

5064-0123 Power Board 600W Parts List

| Reference Designator | QTY | Agilent P/N | Description | MPN | Manufacturer |
|---|-----|-------------|---|---|---|
| C1, C2, C3, C301, C302, C303, C304, C305, C306, C307, C308, C4, C5, C6, C7, C8 | 16 | 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, C11, C12, C13, C14, C15, C16, C18, C19, C311, C312, C313, C314, C315, C316, C318, C319 | 17 | 0160-7708 | CAP-FXD 1000pF +-5pct 50 V CER C0G | 08055A102JATRA C0805C102J5GAC C2012COG1H102JT | AVX KEMET ELECTRONICS TDK |
| C101, C102, C103, C30, C31, C36, C37, C55, C56, C77, C78, C79, C99 | 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, C106, C107, C108, C109, C32, C343, C344, C345, C346, C347, C348, C349, C350, C351, C352, C353, C354, C357, C358, C359, C360, C38, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C57, C58, C59, C60, C65, C74, C75, C80, C84, C85, C90, C91 | 50 | 0160-5944 | CAP-FXD 0.047uF +-10pct 50 V CER X7R | 08055C473KAT A C0805C473K5RAC C2012X7R1H473K | AVX KEMET ELECTRONICS TDK |
| C17, C63 | 2 | 0160-4183 | CAP-FXD 1000pF +-20pct 250 V PPR-MET | PME271Y410MR30 | EVOX/RIFA |
| C20, C320 | 2 | 0161-0702 | CAP-FXD 2.2UF +-10PCT 100V POLYPH-MET F | SMR22.5225K100D14L6 | EVOX/RIFA |
| C21, C22, C23, C24, C25, C26, C27, C28, C321, C322, C323, C324, C325, C326, C327, C328 | 16 | 0160-5961 | CAP-FXD 22pF +-5pct 50 V CER C0G | 08055A220JAT A C0805C220J5GAC C2012COG1H220J GRM2165C1H220JD01D VJ0805A220JXAMT | AVX KEMET ELECTRONICS TDK MURATA MANUFACTURING VISHAY |

5064-0123 Power Board 600W 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 |
| C72, C73 | 2 | 0160-7153 | CAP-FXD 0.047uF +-10pct 100 V CER X7R | C1210C473K1RAC GRM32MR72A473KA15L | KEMET ELECTRONICS MURATA MANUFACTURING |

5064-0123 Power Board 600W Parts List

| Reference Designator | QTY | Agilent P/N | Description | MPN | Manufacturer |
|--|-----|-------------|---------------------------------------|---|---|
| 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 |
| D1 | 1 | 1901-1335 | DIODE-PWR RECT 400V 1A 50NS | MURS140T3G | ON SEMICONDUCTOR |
| D17, D18, D19, D2, D21, D22, D23, D24, D25, D26, D27, D28, D29, D3, D30, D4, D5, D6, D7, D8 | 20 | 1906-0334 | DIODE-DUAL 200V 200MA T0-236AA | MMBD1503A | FAIRCHILD SEMICONDUCTOR |
| D20 | 1 | 1902-1542 | DIODE-ZNR 6.2V 5pct TO-236 (SOT-23) | BZX84C6V2 BZX84C6V2LT1G BZX84C6V2 | PHILIPS ON SEMICONDUCTOR NXP |
| F1, F2, F3, F301, F302, F303, F304, F305, F306, F307, F308, F4, F5, F6, F7, F8 | 16 | 2110-1138 | FUSE-SURFACE MOUNT 15A 65V NTD BI | 0451015._RL | LITTELFUSE |
| F10, F11, F12, F13, F14, F15, F16, F309, F310, F311, F312, F313, F314, F315, F316, F9 | 16 | 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 |
| Q11, Q12, Q13, Q14, Q21, Q22, Q23, Q24, Q311, Q312, Q313, Q314, Q321, Q322, Q323, Q324 | 16 | 1855-1786 | TRANSISTOR MOSFET N-CHAN E-MODE TO-2 | IRFP140NPBF | 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 |

5064-0123 Power Board 600W Parts List

| 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, R161 | 2 | 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, R11, R12, R13, R14, R15, R16, R17, R310, R311, R312, R313, R314, R315, R316, R317 | 16 | 0699-3828 | RES-FXD 21.5 OHM +-1PCT 0.1W TC 0+-100 | CRCW080521R5FKE_ RK73H2AT__21R5F MCR10__F21R5 232273462159L MC080521R5-FT | VISHAY KOA ROHM YAGEO RCD COMPONENTS |
| R100, R101, R102, R107, R108, R109, R110, R111, R112, R113, R115, R257, R268, R407, R408, R409, R410, R411, R412, R413, R415 | 21 | 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, R156, R159, R195, R196, R197, R199, R238, R239, R240, R241, R242, R243, R245, R246, R247, R255, R290 | 19 | 0699-1503 | RESISTOR 0 CWM | CRCW12060000ZSE_ RK73Z2BT MCR18__J000 232271191005 | VISHAY KOA ROHM YAGEO |
| R104, R105, R248, R270, R34, R97 | 6 | 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 |

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| Reference Designator | QTY | Agilent P/N | Description | MPN | Manufacturer |
|---|-----|-------------|---|---|---|
| R106, R371, R372, R373, R374, R375, R376, R377, R378, R379, R380, R381, R382, R383, R384, R385, R406, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85 | 32 | 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 |
| R116, R117, R118, R119, R120, R121, R122, R128, R261, R267, R269, R416, R417, R418, R419, R420, R421, R422, R428 | 19 | 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 |
| R124, R191, R192 | 3 | 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 |
| 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, R135, R136, R140, R429, R430, R431, R432, R433, R435, R436, R440 | 16 | 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 |

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| Reference Designator | QTY | Agilent P/N | Description | MPN | Manufacturer |
|---|-----|-------------|---|---|---|
| R134, R137, R138, R139, R193, R194, R218, R219, R229, R230 | 10 | 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 |
| R141, R142, R143, R144, R145, R146, R147, R148, R149, R150, R151, R152, R153, R154, R155, R162, R441, R442, R443, R444, R445, R446, R447, R448, R449, R450, R451, R452, R453, R454, R455, R462 | 32 | 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, R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R175, R176, R177, R198, R256, R28, R36, R463, R464, R465, R466, R467, R468, R469, R470, R471, R472, R473, R474, R475, R476, R477, R498, R98 | 37 | 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 |
| 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 |

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| Reference Designator | QTY | Agilent P/N | Description | MPN | Manufacturer |
|--|-----|-------------|---|--|--|
| R18, R344, R47 | 3 | 0699-2990 | RESISTOR 42.2K +-1pct .1W TKF TC=0+-100 | CRCW080542K2FKE_ 2322734_4223 RK73H2AT_4222F MCR10__F4222 MC08054222-FT | VISHAY YAGEO KOA ROHM 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, R202, R206, R226, R227, R349, R350, R54 | 8 | 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, R184, R185, R186, R187, R188, R189, 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, R3, R302, R303, R304, R305, R306, R307, R308, R309, R4, R5, R6, R7, R8, R9 | 16 | 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 |
| R203, R347, R348, R45 | 4 | 0699-5773 | RESISTOR 47.5K +-1pct .1W TC=0+-100 | CRCW080547K5FKE_ MCR10__F4752 | VISHAY ROHM |

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| Reference Designator | QTY | Agilent P/N | Description | MPN | Manufacturer |
|--------------------------------|-----|-------------|---|--|--|
| R205, R264, R272, R273, R42 | 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 |
| R207, R291 | 2 | 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, R259 | 2 | 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, R89 | 2 | 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 |
| 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 |

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| Reference Designator | QTY | Agilent P/N | Description | MPN | Manufacturer |
|----------------------|-----|-------------|---|---|---|
| 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 | 0699-2988 | RESISTOR 31.6K +-1pct .1W TKF TC=0+-100 | CRCW080531K6FKE_ RK73H2AT_3162F MCR10__F3162 232273463163 MC08053162-FT | VISHAY KOA ROHM YAGEO 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 | 0699-2974 | RESISTOR 348 +-1pct .1W TKF TC=0+-100 | CRCW0805348RFKE_ RK73H2AT_3480F MCR10__F3480 232273463481 | VISHAY KOA ROHM YAGEO |
| R23, R25, R260 | 3 | 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 |
| 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 |

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| Reference Designator | QTY | Agilent P/N | Description | MPN | Manufacturer |
|------------------------|-----|-------------|---|--|--|
| 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 |
| R24, R30, R35 | 3 | 0699-3033 | RESISTOR 750 +-1pct .1W TKF TC=0+-100 | CRCW0805750RFKE_ RK73H2AT_7500F MCR10__F7500 23227346A7501 MC08057500-FT | VISHAY KOA ROHM YAGEO RCD COMPONENTS |
| 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 |
| 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 |
| R271, R345, R346, R46 | 4 | 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 |

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| Reference Designator | QTY | Agilent P/N | Description | MPN | Manufacturer |
|---|-----|-------------|--|--|---|
| 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, R276, R277, R278, R279, R280, R281, 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 |
| R283, R38, R39 | 3 | 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 |
| R29 | 1 | 0699-3718 | RESISTOR 4.32K +-1PCT .1W TKF TC=0+-100 | RK73H2AT_4321F MCR10__F4321 | KOA ROHM |
| R31, R351, R44, R48, R49, R50, R51 | 7 | 0699-2991 | RES-FXD 56.2K +-1PCT 0.1W TC 0+-100 0805 | CRCW080556K2FKE_ RK73H2AT_5622F MCR10__F5622 232273465623 MC08055622-FT | VISHAY KOA ROHM 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 |
| R352, R353, R355, R356, R358, R359, R360, R361, R52, R53, R55, R56, R58, R59, R60, R61 | 16 | 0699-3077 | RESISTOR 1M +-1pct .1W TKF TC=0+-100 | CRCW08051M00FKE_ RK73H2AT_1004F MCR10__F1004 232273471005 MC08051004-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 |

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| Reference Designator | QTY | Agilent P/N | Description | MPN | Manufacturer |
|---|-----|-------------|---|--|---|
| R41 | 1 | 0699-3050 | RESISTOR 9.09K +-1pct .1W TKF TC=0+-100 | CRCW08059K09FKE_ RK73H2AT_9091F MCR10__F9091 232273469092 MC08059091-FT | VISHAY KOA ROHM YAGEO RCD COMPONENTS |
| R43,R179 | 2 | 0699-3066 | RESISTOR 11K +-1pct .1W TKF TC=0+-100 | CRCW080511K0FKE_ RK73H2AT_1102F 232273461103L MCR10__F1102 MC08051102-FT | VISHAY KOA YAGEO ROHM 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 |
| R62 | 1 | 0699-2837 | RESISTOR 30K +-0.1pct .125W TF TC=0+-25 | RN732BT_3002B25 BLU-1206 30K .1% 25PPM MCA1206-25 0, 1% P5 30K PTN1206E3002BB PCF-W1206LF-03-3002-B-_-_- | KOA RCD COMPONENTS VISHAY BC COMPONENTS VISHAY TT ELECTRONICS |
| R63, R64, R67, R68, R69, R70, R369, R370 | 8 | 0811-6571 | SHUNT-2 TERMINAL | FA2743 | RCD COMPONENTS |
| R65, R66, R363, R364, R365, R366, R367, R368 | 8 | 5182-9172 | RESISTOR-SHUNT | | |
| R90 | 1 | 0699-3524 | RESISTOR 18.7K +-1pct .1W TKF TC=0+-100 | RK73H2AT_1872F MCR10__F1872 | KOA ROHM |
| R93, R94, R393, R394, R395 | 5 | 0699-6751 | RESISTOR 5 OHM +-5pct 5W MO TC=0+-100 | RSF3B 5R00-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 DPDTALTN .01A 100 VAC | F2UEE AU | ITT INDUSTRIES |

5064-0123 Power Board 600W Parts List

| Reference Designator | QTY | Agilent P/N | Description | MPN | Manufacturer |
|--|-----|-------------|--|--------------------------|---|
| U1, U21, U3, U304, U305, U306, U307, U4, U5, U6, U7 | 11 | 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, U13, U14, U15, U16, U17, U18, U22, U312, U313, U314, U315, U316, U317, U318, U322 | 16 | 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 |
| VR1 | 1 | 1901-1284 | DIODE-V-SUPPR 75V | 5KP75A | VISHAY |

Manual Part Number: 5989-6693EN
Printed in U.S.A. April 2007
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