

10W Cascaded Diamond Amplifier

| Qty | Reference(s)  | Value   | Type                 | Supplier   | Part Number          | Footprint                    | Price Ea | Total  |
|-----|---|---------|----------------------|------------|----------------------|------------------------------|----------|--------|
| 1   | C2  | 2n2     | NP0 Ceramic          | Mouser     | 80-C1206C222J5G      | 1206                         | \$0.68   | \$0.68 |
| 1   | C3  | 220p    | NP0 Ceramic          | Mouser     | 80-C1206C220J5G      | 1206                         | \$0.32   | \$0.32 |
| 2   | C4, C5  | 10μ     | Electrolytic         | Mouser     | 667-EEU-FC1H100L     | 5mm ø 2mm pitch radial       | \$0.44   | \$0.88 |
| 2   | C6, C7  | 100p    | NP0 Ceramic          | Mouser     | 80-C1206C101M5G      | 1206                         | \$0.44   | \$0.88 |
| 1   | C8  | 22n     | MKS2 Poly            | Mouser     | 505-MKS2D022201A00KO | 7.2mm x 3mm 5mm pitch radial | \$0.24   | \$0.24 |
| 1   | C9  | 22p     | NP0 Ceramic          | Mouser     | 80-C1206C220J5G      | 1206                         | \$0.26   | \$0.26 |
| 2   | C10, C11  | 470p    | NP0 Ceramic          | Mouser     | 80-C1206C471J5G      | 1206                         | \$0.34   | \$0.67 |
| 10  | D1, D2, D3, D4, D5, D6, D7, D8, D9, D10   | LL4148  | Diode                | Mouser     | 512-LL4148           | Mini MELF                    | \$0.12   | \$1.17 |
| 2   | D11, D12  | TZM5228 | 3V9 Zener            | Mouser     | 78-TZM5228B          | Mini MELF                    | \$0.30   | \$0.59 |
| 2   | Q1, Q2  | BC547C  | Transistor           | Mouser     | 512-BC547CBU         | TO-92                        | \$0.31   | \$0.62 |
| 19  | Q3, Q6, Q7, Q8, Q13, Q16, Q17, Q18, Q23, Q29, Q33, Q34, Q35, Q37, Q39, Q43, Q45, Q51, Q53 | 2N3904  | Transistor           | Mouser     | 512-2N3904BU         | TO-92                        | \$0.24   | \$4.54 |
| 18  | Q4, Q5, Q9, Q10, Q11, Q12, Q14, Q15, Q19, Q20, Q26, Q32, Q36, Q38, Q40, Q44, Q48, Q52     | 2N3906  | Transistor           | Mouser     | 512-2N3906BU         | TO-92                        | \$0.20   | \$3.67 |
| 8   | Q21, Q25, Q27, Q31, Q41, Q47, Q49, Q55  | BD180   | Transistor           | Mouser     | 863-BD180G           | TO-126                       | \$0.70   | \$5.61 |
| 8   | Q22, Q24, Q28, Q30, Q42, Q46, Q50, Q54  | BD179   | Transistor           | Mouser     | 863-BD179G           | TO-126                       | \$0.67   | \$5.32 |
| 1   | R1  | 1K      | Thin Film 250mW      | Mouser     | 603-RT1206FRE071KL   | 1206                         | \$0.16   | \$0.16 |
| 13  | R2, R7, R20, R22, R23, R24, R25, R45, R46, R50, R51, R54, R55                             | 220Ω    | Thin Film 250mW      | Mouser     | 603-RT1206FRE07220RL | 1206                         | \$0.10   | \$1.31 |
| 14  | R3, R4, R32, R35, R38, R56, R57, R58, R60, R63, R64, R65, R68, R72                        | 100Ω    | Thin Film 250mW      | Mouser     | 603-RT1206FRE07100RL | 1206                         | \$0.10   | \$1.41 |
| 3   | R5, R9, R11   | 270Ω    | Thin Film 250mW      | Mouser     | 603-RT1206FRE07270RL | 1206                         | \$0.17   | \$0.52 |
| 1   | R6  | 10K     | Thin Film 250mW      | Mouser     | 594-MCA12060C1002FP5 | 1206                         | \$0.58   | \$0.58 |
| 2   | R8, R21   | 4K7     | Thin Film 250mW      | Mouser     | 603-RT1206FRE074K7L  | 1206                         | \$0.17   | \$0.35 |
| 5   | R10, R12, R13, R18, R19   | 1K5     | Thin Film 250mW      | Mouser     | 603-RT1206FRE071K5L  | 1206                         | \$0.17   | \$0.87 |
| 5   | R14, R15, R16, R17, R44   | 47Ω     | Thin Film 250mW      | Mouser     | 660-RN73H2BTD47R0F50 | 1206                         | \$0.59   | \$2.95 |
| 2   | R26, R29  | 330Ω    | Thin Film 250mW      | Mouser     | 603-RT1206FRE07330RL | 1206                         | \$0.17   | \$0.35 |
| 4   | R27, R28, R30, R31  | 10Ω     | Thin Film 250mW      | Mouser     | 603-RT1206FRD0710RL  | 1206                         | \$0.21   | \$0.86 |
| 16  | R33, R34, R36, R37, R39, R40, R42, R43, R61, R62, R66, R67, R69, R70, R74, R75            | 1Ω      | Thin Film MELF 250mW | Element 14 | 3087426              | Mini MELF 0204               | \$0.11   | \$1.70 |
| 4   | R41, R59, R71, R73  | 100Ω    | Thin Film 250mW      | Mouser     | 603-RT1206FRE07100RL | 1206                         | \$0.16   | \$0.64 |
| 2   | R47, R48  | 2K2     | Thin Film 250mW      | Mouser     | 603-RT1206FRE072K2L  | 1206                         | \$0.17   | \$0.35 |
| 1   | R49   | 22K     | Thin Film 250mW      | Mouser     | 603-RT1206FRE0722KL  | 1206                         | \$0.17   | \$0.17 |
| 2   | R52, R53  | 33K     | Thin Film 250mW      | Mouser     | 603-RT1206FRE0733KL  | 1206                         | \$0.17   | \$0.35 |