

HEATH SERVICE DATA

TRANSISTOR BASING DIAGRAMS



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TRANSISTOR BASING DIAGRAMS

This manual contains listings of active and new Heath part numbered transistors and their pin identifications. Transistor type numbers have not been included, since some Heath part numbered transistors have one or more specified parameters that are different from their commercial equivalent.

To use the charts, locate the Heath part numbered transistor in the transistor list and its basing diagram number. Then refer to the corresponding numbered basing diagram for the pin identification.

The following abbreviations are used:

- E = emitter
- B = base
- C = collector
- B1 = Base 1 (uni-junction)
- B2 = Base 2 (uni-junction)
- G = gate
- G1 = gate 1 (dual-gate FET)
- G2 = gate 2 (dual-gate FET)
- D = drain
- S = source
- C = case, when used with FET diagram

Some Heath part-numbered transistors have been supplied in more than one case style and pin configuration; these variations are also included in the basing diagram list.

HEATH
PART
NUMBER

BASING
DIAGRAM

| | |
|---------|--------|
| 417-18 | 1 |
| 417-20 | 2 |
| 417-35 | 3 |
| 417-43 | 3 |
| 417-59 | 3 |
| 417-60 | 4 |
| 417-67 | 6 |
| 417-71 | 5 |
| 417-74 | 1 |
| 417-77 | 6 |
| 417-82 | 6 |
| 417-83 | 6 |
| 417-84 | 6 |
| 417-85 | 6 |
| 417-86 | 6 |
| 417-89 | 3 |
| 417-90 | 7 |
| 417-91 | 6, 8P |
| 417-93 | 9 |
| 417-94 | 6 |
| 417-96 | 10 |
| 417-99 | 7 |
| 417-100 | 3 |
| 417-101 | 7 |
| 417-104 | 7 |
| 417-105 | 11 |
| 417-106 | 11 |
| 417-107 | 12, 8A |
| 417-108 | 13, 15 |
| 417-109 | 8A, 16 |
| 417-110 | 8A, 16 |
| 417-112 | 7 |
| 417-113 | 7 |
| 417-114 | 8A, 16 |
| 417-115 | 3 |
| 417-116 | 16 |
| 417-118 | 6, 8 |
| 417-120 | 4 |
| 417-122 | 1 |
| 417-125 | 9, 13 |

HEATH
PART
NUMBER

BASING
DIAGRAM

| | |
|---------|------------|
| 417-126 | 9, 8A |
| 417-133 | 11 |
| 417-134 | 8A |
| 417-135 | 6 |
| 417-136 | 3 |
| 417-137 | 20 |
| 417-138 | 20 |
| 417-139 | 7 |
| 417-140 | 21, 22, 23 |
| 417-141 | 7 |
| 417-142 | 7 |
| 417-150 | 26 |
| 417-151 | 26 |
| 417-153 | 9 |
| 417-154 | 3 |
| 417-155 | 13, 16 |
| 417-162 | 7 |
| 417-164 | 6 |
| 417-167 | 25 |
| 417-168 | 8P |
| 417-169 | 24 |
| 417-170 | 8A |
| 417-171 | 8A, 15 |
| 417-172 | 8A |
| 417-173 | 3, 9, 8A |
| 417-175 | 29 |
| 417-178 | 20 |
| 417-180 | 20 |
| 417-182 | 8P |
| 417-183 | 32 |
| 417-184 | 8P |
| 417-185 | 13 |
| 417-186 | 33 |
| 417-187 | 8X |
| 417-189 | 33 |
| 417-191 | 34 |
| 417-200 | 6, 8P |
| 417-201 | 6, 8P |
| 417-203 | 28, 29 |
| 417-204 | 7 |

| <u>HEATH PART NUMBER</u> | <u>BASING DIAGRAM</u> | <u>HEATH PART NUMBER</u> | <u>BASING DIAGRAM</u> |
|----------------------------------|---------------------------|----------------------------------|---------------------------|
| 417-205 | 3 | 417-263 | 43 |
| 417-207 | 35 | 417-264 | 43 |
| 417-209 | 36 | 417-265 | 21, 42, 8G |
| 417-213 | 6 | 417-267 | 8A |
| 417-214 | 7 | 417-268 | 8A |
| 417-215 | 7 | 417-269 | 3 |
| 417-218 | 6 | 417-270 | 3 |
| 417-219 | 3 | 417-271 | 8A |
| 417-220 | 3 | 417-272 | 18 |
| 417-221 | 6, 8P | 417-274 | 40 |
| 417-222 | 6, 8P | 417-275 | 14 |
| 417-224 | 27 | 417-277 | 3 |
| 417-225 | 27 | 417-278 | 7 |
| 417-228 | 37, 8B, 39 | 417-279 | 45 |
| 417-229 | 8B | 417-280 | 3 |
| 417-230 | 17 | 417-282 | 7 |
| 417-232 | 3 | 417-283 | 15, 14 |
| 417-233 | 8A, 16 | 417-284 | 9, 24 |
| 417-234 | 8A, 16 | 417-285 | 8J, 32 |
| 417-235 | 8A, 16 | 417-286 | 7 |
| 417-237 | 8A, 16 | 417-288 | 25 |
| 417-238 | 7 | 417-289 | 44 |
| 417-239 | 7 | 417-290 | 5 |
| 417-240 | 40 | 417-291 | 24 |
| 417-241 | 24 | 417-292 | 8A |
| 417-242 | 8A, 16 | 417-293 | 8A |
| 417-243 | 39 | 417-294 | 8A |
| 417-244 | 9, 8A | 417-295 | 8A |
| 417-245 | 18 | 417-296 | 28 |
| 417-246 | 22, 42 | 417-298 | 44 |
| 417-248 | 7 | 417-299 | 46 |
| 417-250 | 17 | 417-801 | 8A |
| 417-251 | 25 | 417-802 | 21 |
| 417-252 | 25 | 417-803 | 46 |
| 417-253 | 22, 42 | 417-804 | 46, 47 |
| 417-254 | 7 | 417-805 | 48 |
| 417-255 | 6, 8P | 417-806 | 22, 42 |
| 417-258 | 41 | 417-807 | 51 |
| 417-260 | 16 | 417-808 | 8P |
| 417-261 | 34 | 417-809 | 8P |

HEATH
PART
NUMBER

BASING
DIAGRAM

| | |
|-----------|-------------------------------|
| 417-810 | 7 |
| 417-811 | 8A |
| 417-812 | 33, 49 |
| 417-813 | 5 |
| 417-814 | 7 |
| 417-815 | 27 |
| 417-816 | 43, 44 |
| 417-817 | 43, 44 |
| 417-818 | 43 |
| 417-819 | 43 |
| 417-820 | 21, 42 |
| 417-821 | 8A |
| 417-822 | 8A |
| 417-823 | 8K |
| 417-828 | 42 |
| 417-829 | |
| 417-830 | 47 |
| 417-831 | 46 |
| 417-831-1 | (Matched set of four 417-831) |
| 417-833 | 7 |
| 417-834 | 27 |
| 417-835 | 7 |
| 417-836 | 14 |
| 417-837 | |
| 417-838 | |
| 417-839 | 11 |
| 417-840 | |
| 417-841 | |
| 417-842 | |
| 417-843 | |
| 417-844 | 43 |
| 417-845 | 7 |
| 417-846 | 7 |
| 417-847 | 7 |
| 417-848 | |
| 417-849 | 6, 8P |
| 417-850 | 3 |
| 417-851 | |
| 417-852 | 28, 29 |
| 417-853 | 33, 49 |

HEATH
PART
NUMBER

BASING
DIAGRAM

| | |
|---------|--------|
| 417-854 | 24 |
| 417-855 | |
| 417-856 | |
| 417-857 | |
| 417-858 | 21, 8G |
| 417-859 | 8P |
| 417-860 | |
| 417-861 | |
| 417-862 | 8B |
| 417-863 | 40 |
| 417-864 | 8A |
| 417-865 | 15 |
| 417-866 | |
| 417-867 | |
| 417-868 | 28 |
| 417-869 | 11 |
| 417-870 | 11 |
| 417-872 | 29 |
| 417-873 | 7 |
| 417-874 | 8A |
| 417-875 | 8A |
| 417-876 | |
| 417-877 | |
| 417-878 | 8U |
| 417-879 | 3 |
| 417-880 | 3 |
| 417-881 | 8A |
| 417-882 | 8A |
| 417-883 | |
| 417-884 | 24 |
| 417-885 | 8A |
| 417-886 | 3 |
| 417-887 | 8A |
| 417-888 | 8A |
| 417-889 | |
| 417-890 | |
| 417-891 | |
| 417-892 | |
| 417-893 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|--|--------|---------|-------------|-------------|--------|--------|---------|----------|--------------|-----------|--------|--------|-------------|----------|-----------|----------|-----------|-----------|----------|-----------|--------|--------|----------|---------|---------|------------|------------|----------|--------|--------|---------|---------|----------|--|---|---|
| <p>1</p> <p>RED DOT</p> <p>C</p> <p>E</p> <p>B</p> <p>C</p> <p>E</p> <p>B</p> | <p>2</p> <p>C</p> <p>E</p> <p>B</p> <p>C</p> <p>E</p> <p>B</p> | <p>3</p> <p>C</p> <p>E</p> <p>B</p> <p>C</p> <p>E</p> <p>B</p> | <p>4</p> <p>E</p> <p>B</p> <p>E</p> <p>B</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>5</p> <p>SHIELD AND CASE</p> <p>E</p> <p>B</p> <p>C</p> <p>E</p> <p>B</p> <p>C</p> | <p>6</p> <p>E</p> <p>C</p> <p>B</p> <p>E</p> <p>C</p> <p>B</p> | <p>7</p> <p>E</p> <p>B</p> <p>E</p> <p>B</p> | <p>8 Series</p> <p>1</p> <p>2</p> <p>3</p> <p>1</p> <p>2</p> <p>3</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>8</p> <table border="0"> <tr> <td>A1 Emitter</td> <td>G1 Source</td> <td>P1 Emitter</td> </tr> <tr> <td>2 Base</td> <td>2 Drain</td> <td>2 Collector</td> </tr> <tr> <td>3 Collector</td> <td>3 Gate</td> <td>3 Base</td> </tr> </table> <table border="0"> <tr> <td>B1 Base</td> <td>H1 Drain</td> <td>T1 Collector</td> </tr> <tr> <td>2 Emitter</td> <td>2 Gate</td> <td>2 Base</td> </tr> <tr> <td>3 Collector</td> <td>3 Source</td> <td>3 Emitter</td> </tr> </table> <table border="0"> <tr> <td>E1 Drain</td> <td>J1 Base 1</td> <td>U1 Source</td> </tr> <tr> <td>2 Source</td> <td>2 Emitter</td> <td>2 Gate</td> </tr> <tr> <td>3 Gate</td> <td>3 Base 2</td> <td>3 Drain</td> </tr> </table> <table border="0"> <tr> <td>F1 Gate</td> <td>K1 Cathode</td> <td>L1 Emitter</td> </tr> <tr> <td>2 Source</td> <td>2 Gate</td> <td>2 Base</td> </tr> <tr> <td>3 Drain</td> <td>3 Anode</td> <td>3 Base 2</td> </tr> </table> | A1 Emitter | G1 Source | P1 Emitter | 2 Base | 2 Drain | 2 Collector | 3 Collector | 3 Gate | 3 Base | B1 Base | H1 Drain | T1 Collector | 2 Emitter | 2 Gate | 2 Base | 3 Collector | 3 Source | 3 Emitter | E1 Drain | J1 Base 1 | U1 Source | 2 Source | 2 Emitter | 2 Gate | 3 Gate | 3 Base 2 | 3 Drain | F1 Gate | K1 Cathode | L1 Emitter | 2 Source | 2 Gate | 2 Base | 3 Drain | 3 Anode | 3 Base 2 | <p>9</p> <p>C</p> <p>E</p> <p>B</p> <p>C</p> <p>E</p> <p>B</p> | <p>10</p> <p>B1</p> <p>B2</p> <p>E</p> <p>B1</p> <p>B2</p> <p>E</p> | <p>11</p> <p>E</p> <p>B</p> <p>C</p> <p>E</p> <p>B</p> <p>C</p> <p>CASE</p> |
| A1 Emitter | G1 Source | P1 Emitter | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 Base | 2 Drain | 2 Collector | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 Collector | 3 Gate | 3 Base | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B1 Base | H1 Drain | T1 Collector | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 Emitter | 2 Gate | 2 Base | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 Collector | 3 Source | 3 Emitter | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E1 Drain | J1 Base 1 | U1 Source | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 Source | 2 Emitter | 2 Gate | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 Gate | 3 Base 2 | 3 Drain | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F1 Gate | K1 Cathode | L1 Emitter | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 Source | 2 Gate | 2 Base | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 Drain | 3 Anode | 3 Base 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>12</p> <p>C</p> <p>E</p> <p>B</p> <p>C</p> <p>E</p> <p>B</p> | <p>13</p> <p>C</p> <p>E</p> <p>B</p> <p>C</p> <p>E</p> <p>B</p> | <p>15</p> <p>C</p> <p>E</p> <p>B</p> <p>C</p> <p>E</p> <p>B</p> | <p>16</p> <p>C</p> <p>E</p> <p>B</p> <p>C</p> <p>E</p> <p>B</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>17</p> <p>C</p> <p>B</p> <p>E</p> <p>TAB</p> <p>C</p> <p>B</p> <p>E</p> | <p>18</p> <p>E</p> <p>B</p> <p>C</p> <p>E</p> <p>B</p> <p>C</p> | <p>20</p> <p>E</p> <p>B</p> <p>C</p> <p>E</p> <p>B</p> <p>C</p> | <p>21</p> <p>G</p> <p>D</p> <p>S</p> <p>GATE</p> <p>SOURCE</p> <p>DRAIN</p> <p>G</p> <p>D</p> <p>S</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>22</p> <p>G</p> <p>D</p> <p>S</p> <p>G</p> <p>D</p> <p>S</p> | <p>23</p> <p>G</p> <p>D</p> <p>S</p> <p>G</p> <p>D</p> <p>S</p> | <p>24</p> <p>D</p> <p>S</p> <p>G</p> <p>D</p> <p>S</p> <p>G</p> | <p>25</p> <p>G</p> <p>S</p> <p>C</p> <p>G</p> <p>S</p> <p>C</p> <p>CASE</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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THE WORLD'S FINEST ELECTRONIC EQUIPMENT IN KIT FORM