|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| VBB | VCE = 0V | | VCE = 3V | |
| **VBE**  **(in Volts)** | **IB**  **(in µA)** | **VBE**  **(in Volts)** | **IB**  **(in µA)** |
| 0 | 0 | 0 | 0 | 0 |
| 0.1 | 0.1 | 0 | 0.1 | 0 |
| 0.2 | 0.2 | 0 | 0.2 | 0 |
| 0.3 | 0.3 | 0 | 0.3 | 0 |
| 0.4 | 0.39995 | 0 | 0.4 | 0 |
| 0.5 | 0.49770 | 0.22965 | 0.49998 | 0 |
| 0.6 | 0.56696 | 0.33038 | 0.59886 | 0.011367 |
| 0.7 | 0.597 | 1.0298 | 0.67683 | 0.23169 |
| 0.8 | 0.61316 | 1.8684 | 0.71150 | 0.88505 |
| 0.9 | 0.62398 | 2.7602 | 0.72859 | 1.7141 |
| 1 | 0.63211 | 3.6789 | 0.73942 | 2.6058 |
| 1.5 | 0.65648 | 8.4352 | 0.76620 | 7.3380 |
| 2 | 0.67033 | 13.297 | 0.77936 | 12.206 |
| 2.5 | 0.67995 | 18.200 | 0.78811 | 17.119 |
| 3 | 0.68727 | 23.127 | 0.79466 | 22.053 |
| 3.5 | 0.69314 | 28.069 | 0.79988 | 27.001 |
| 4 | 0.69801 | 33.020 | 0.80116 | 31.988 |
| 4.5 | 0.70218 | 37.978 | 0.80144 | 36.986 |
| 5 | 0.70580 | 42.942 | 0.80163 | 41.984 |

OUTPUT

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| VCC | IB =0 µA | | IB =20 µA | | IB =60 µA | |
| **VCE**  **(in Volts)** | **IC**  **(in mA)** | **VCE**  **(in Volts)** | **IC**  **(in MA)** | **VCE**  **(in Volts)** | **IC**  **(in mA)** |
| 0 | 0 | 0 | 0.0102 | 0.0102 | 0.014528 | 0.014528 |
| 0.1 | 0.1 | 0 | 0.0421 | 0.0579 | 0.030123 | 0.069877 |
| 0.2 | 0.2 | 0 | 0.05933 | 0.14067 | 0.040552 | 0.15945 |
| 0.3 | 0.3 | 0 | 0.07108 | 0.22891 | 0.048373 | 0.25163 |
| 0.4 | 0.4 | 0 | 0.08016 | 0.31983 | 0.054647 | 0.34535 |
| 0.5 | 0.5 | 0 | 0.08772 | 0.41228 | 0.059905 | 0.4401 |
| 0.6 | 0.6 | 0 | 0.09431 | 0.5057 | 0.064448 | 0.53555 |
| 0.7 | 0.7 | 0 | 0.1003 | 0.59971 | 0.068464 | 0.63154 |
| 0.8 | 0.8 | 0 | 0.10585 | 0.69415 | 0.072076 | 0.72792 |
| 0.9 | 0.9 | 0 | 0.11115 | 0.78885 | 0.075369 | 0.82463 |
| 1 | 1 | 0 | 0.1163 | 0.8837 | 0.078405 | 0.92159 |
| 1.5 | 1.5 | 0 | 0.14345 | 1.3566 | 0.091037 | 1.4090 |
| 2 | 2 | 0 | 0.19702 | 1.8030 | 0.10124 | 1.8988 |
| 2.5 | 2.5 | 0 | 0.6077 | 1.8923 | 0.11028 | 2.3897 |
| 3 | 3 | 0 | 1.1077 | 1.8923 | 0.11882 | 2.8812 |
| 3.5 | 3.5 | 0 | 1.6077 | 1.8923 | 0.12736 | 3.3726 |
| 4 | 4 | 0 | 2.1077 | 1.8923 | 0.13637 | 3.8636 |
| 4.5 | 4.5 | 0 | 2.6077 | 1.8923 | 0.14651 | 4.3535 |
| 5 | 5 | 0 | 3.1077 | 1.8923 | 0.15902 | 4.841 |