

IBB	VBE	VCC.i
15.000	767.0 mV	-1.563 mA
15.500	767.9 mV	-1.615 mA
16.000	768.8 mV	-1.666 mA
16.500	769.7 mV	-1.718 mA
17.000	770.6 mV	-1.769 mA
17.500	771.4 mV	-1.820 mA
18.000	772.2 mV	-1.871 mA
18.500	773.0 mV	-1.923 mA
19.000	773.8 mV	-1.974 mA
19.500	774.6 mV	-2.025 mA
20.000	775.3 mV	-2.076 mA
20.500	776.0 mV	-2.126 mA
21.000	776.7 mV	-2.177 mA
21.500	777.4 mV	-2.228 mA
22.000	778.1 mV	-2.279 mA
22.500	778.8 mV	-2.329 mA
23.000	779.4 mV	-2.380 mA
23.500	780.1 mV	-2.430 mA
24.000	780.7 mV	-2.481 mA
24.500	781.3 mV	-2.531 mA
25.000	781.9 mV	-2.581 mA

Sweeping IBB with $V_{CE}=8V$ shows the model needs $IBB=19.5\mu A$ for $I_{CE}=2mA$, corresponding to $V_{BE}=774.6mV$.