

# Bachelor of Engineering Electronic Engineering (HONS)

## Headphone Amplifier Design



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Electronic Engineering

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# Chapter 1

## Simple transistor circuit

Figure 1.1 shows the basic NPN bipolar junction transistor circuit that base voltage makes transistor fully switch on.

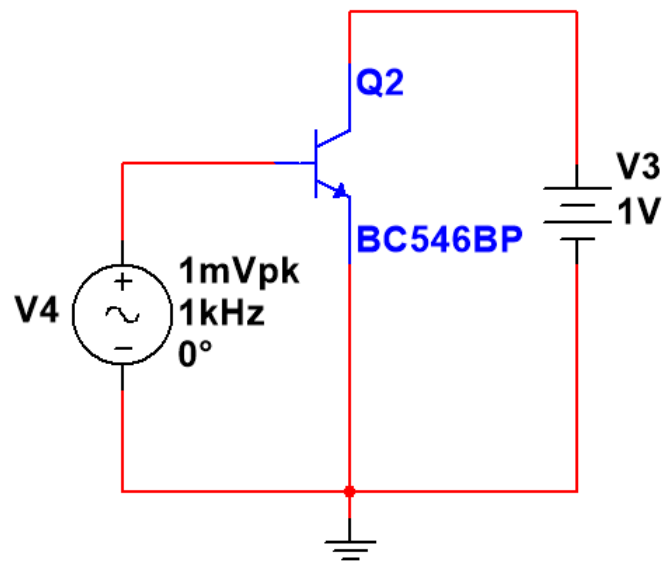


Figure 1.1: Single transistor circuit

$I_B$	$9.09789\mu$
$I_C$	$2.02293m$
$I_E$	$-2.03003m$

Table 1.1: DC operating point analysis result

Therefore, we need a method which we can control the output current with, see Figure 1.2.

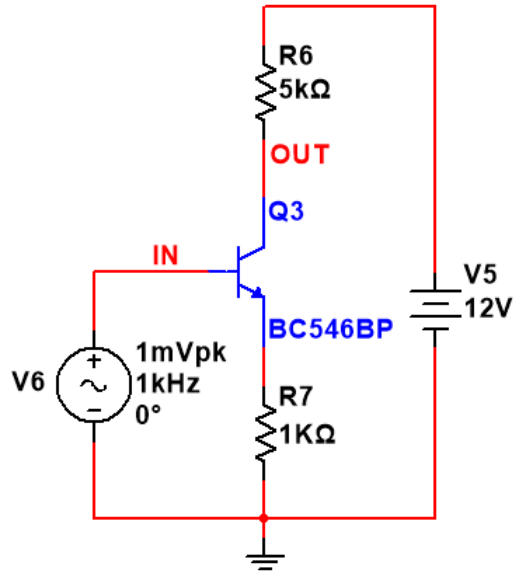


Figure 1.2: Basic transistor circuit with  $R_c$  and  $R_e$

after