

# ANALYSIS AND DESIGN OF ANALOG INTEGRATED CIRCUITS

Fifth Edition

International Student Version

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## Symbol Convention

Unless otherwise stated, the following symbol convention is used in this book. *Bias* or *dc* quantities, such as transistor collector current  $I_c$  and collector-emitter voltage  $V_{CE}$  are represented by uppercase symbols with uppercase subscripts. Small-signal quantities, such as the incremental change in transistor collector current  $i_c$ , are represented by lowercase symbols with lowercase subscripts. Elements such as transconductance  $g_m$  in small-signal equivalent circuits are represented in the same way. Finally, quantities such as *total* collector current  $I_c$ , which represent the sum of the bias quantity *and* the signal quantity, are represented by an uppercase symbol with a lowercase subscript.