Linear Regulator Series

BAxxBC0 Series Typical Performance Curves

No.AEK59-D1-0068-0

LIST

BA15BC0 (V_O=1.5V)

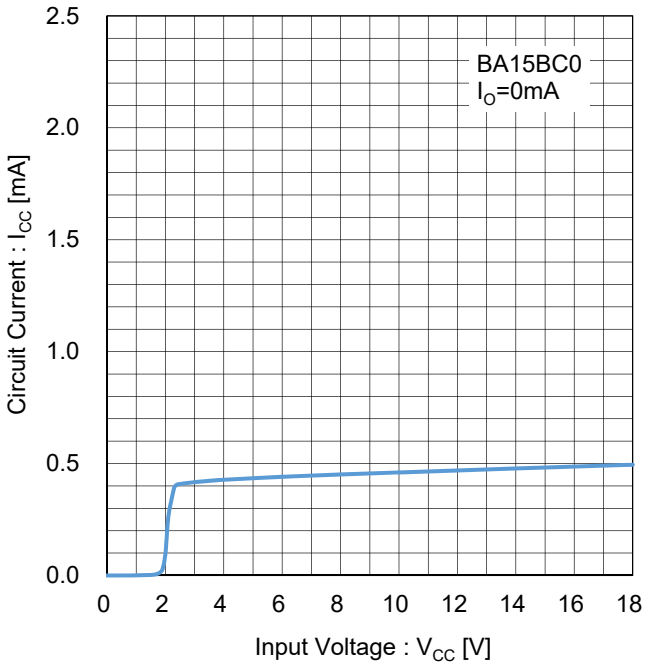


Figure 1. Circuit Current
Test Circuit A

Refer to BA33BC0 data.

Figure 2. Dropout Voltage vs Output Current
Test Circuit B

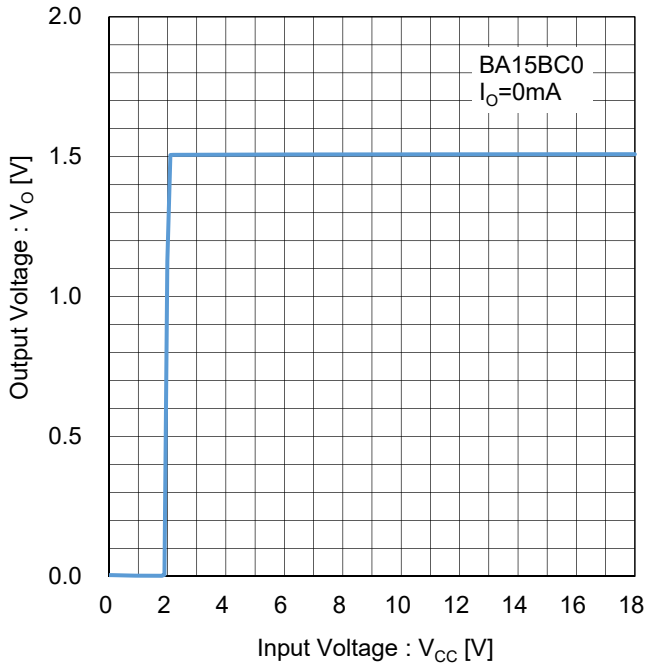


Figure 3. Output Voltage vs Input Voltage
(I_O=0mA)
Test Circuit C

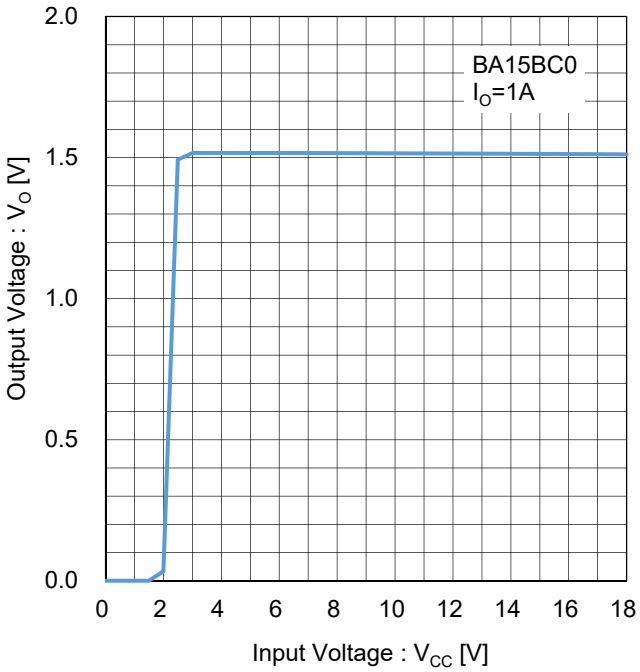


Figure 4. Output Voltage vs Input Voltage
(I_O=1A)
Test Circuit C

BA15BC0 (V_O=1.5V)

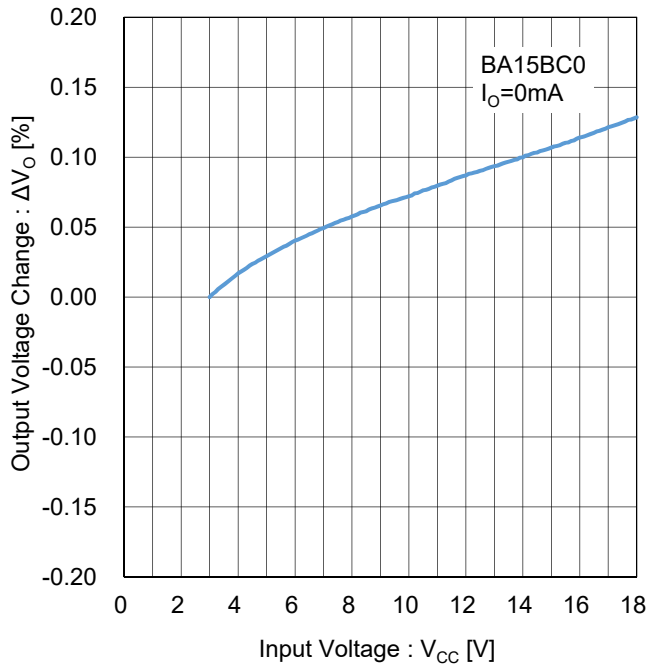


Figure 5. Line Regulation
(I_O=0mA)
Test Circuit D

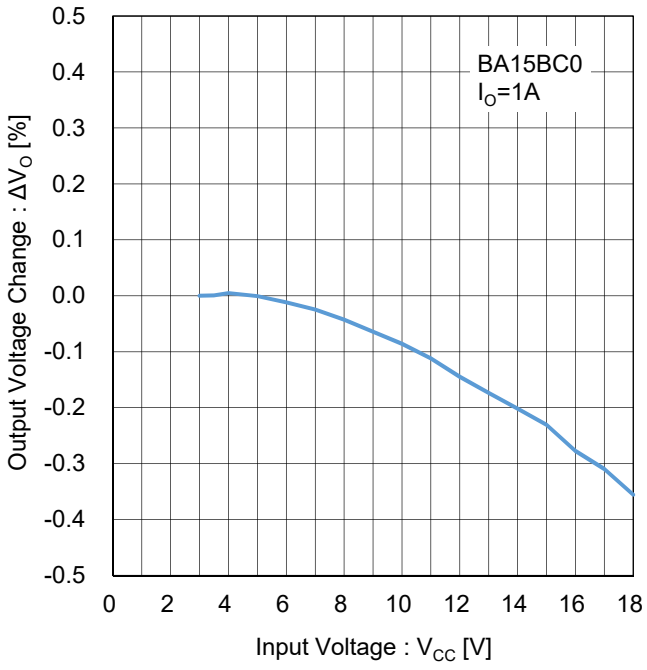


Figure 6. Line Regulation
(I_O=1A)
Test Circuit D

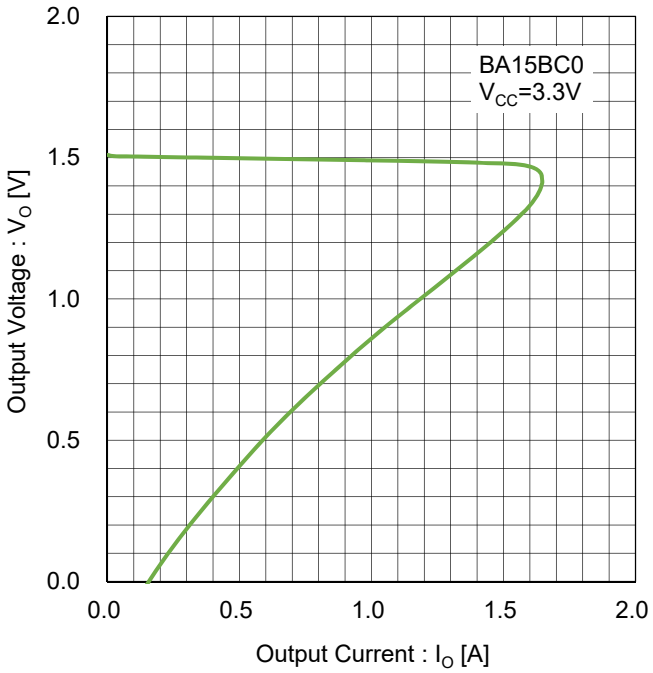


Figure 7. Overcurrent Protection
Test Circuit E

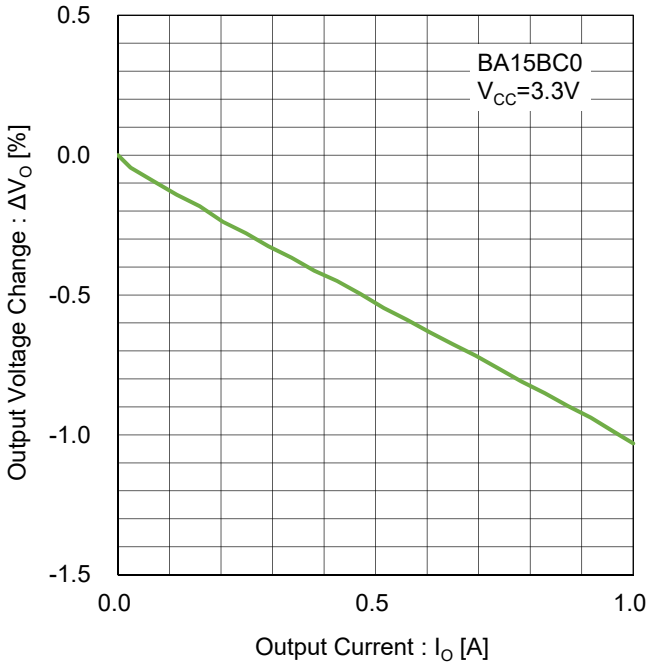


Figure 8. Load Regulation
Test Circuit F

BA15BC0 (V_O=1.5V)

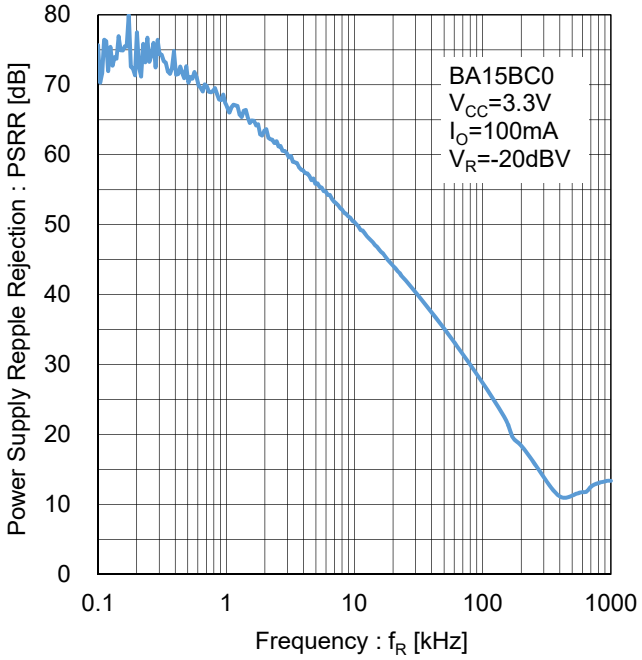


Figure 9. Ripple Rejection
Test Circuit G

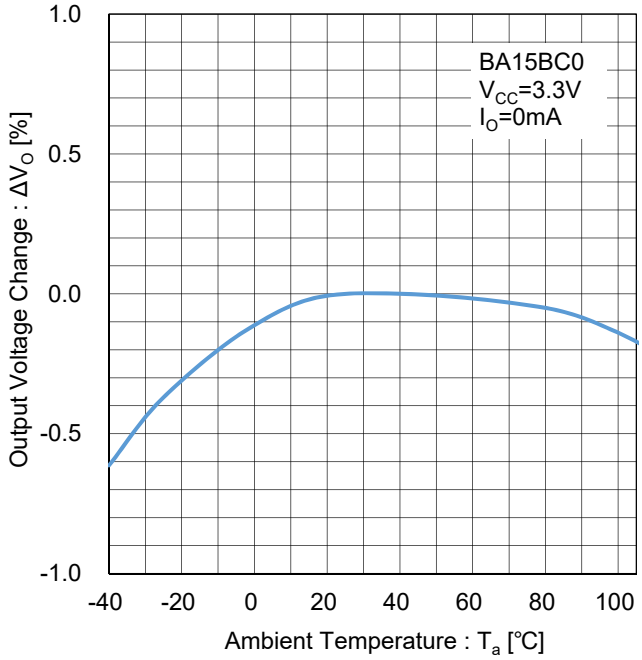


Figure 10. Output Voltage Temperature Stability
Test Circuit H

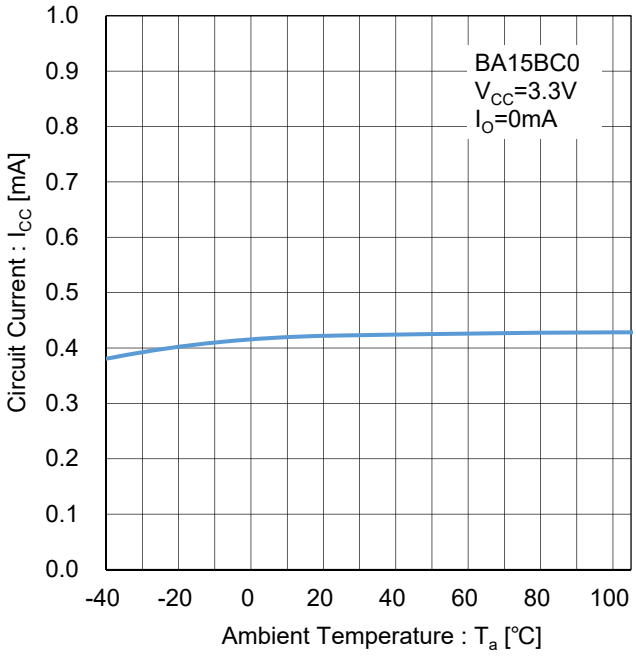


Figure 11. Circuit Current vs Temperature
Test Circuit I

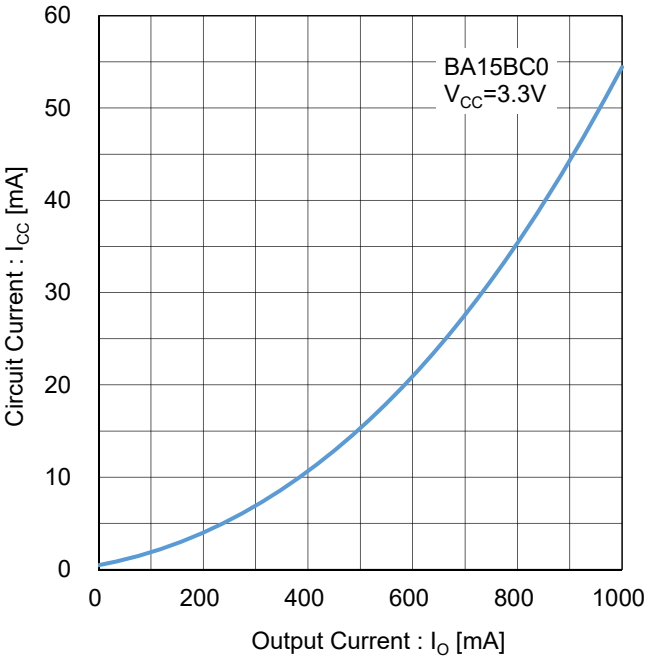


Figure 12. Circuit Current vs Output Current
Test Circuit J

BA15BC0 (V_O=1.5V)

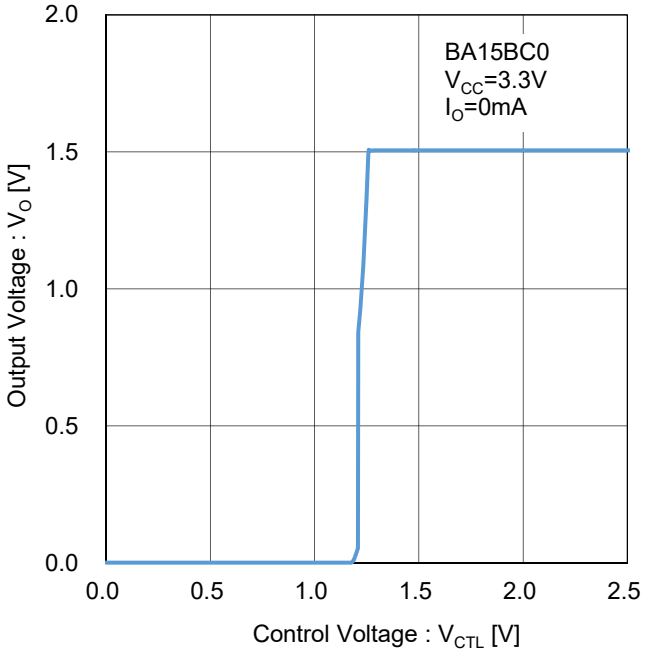


Figure 13. Output Voltage vs CTL Pin Voltage
Test Circuit K

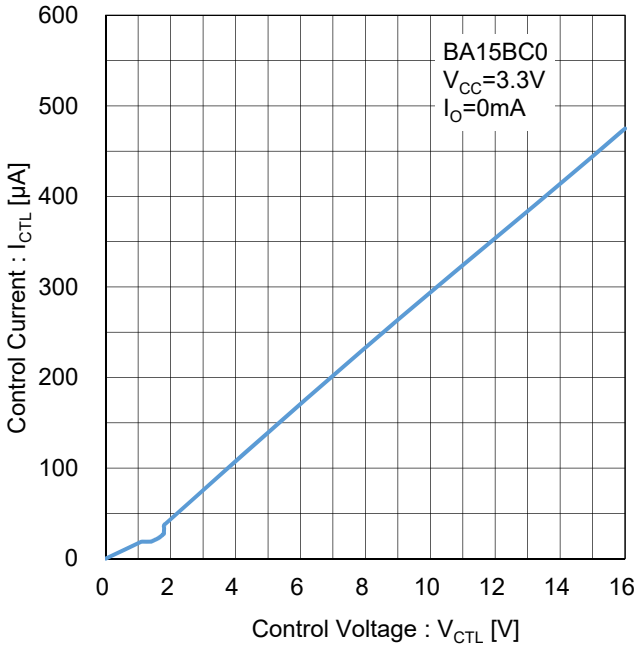


Figure 14. CTL Pin Current
Test Circuit L

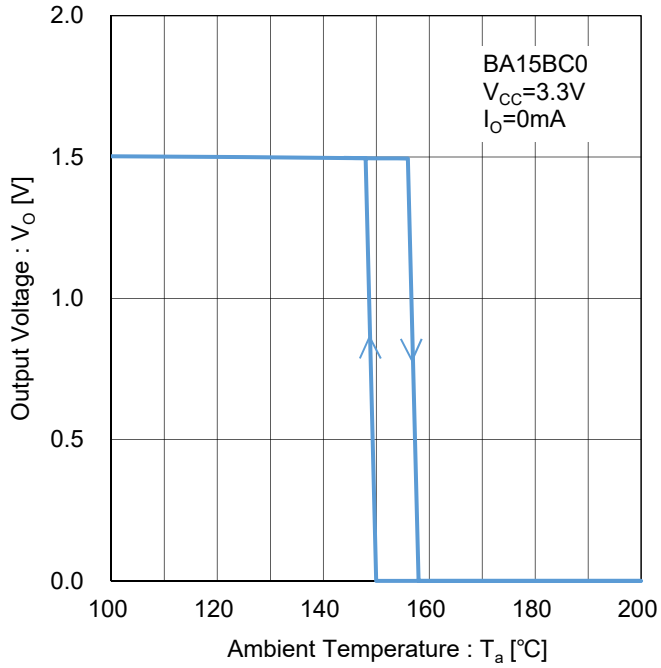


Figure 15. Thermal Shutdown
Test Circuit M

BA18BC0 (V_O=1.8V)

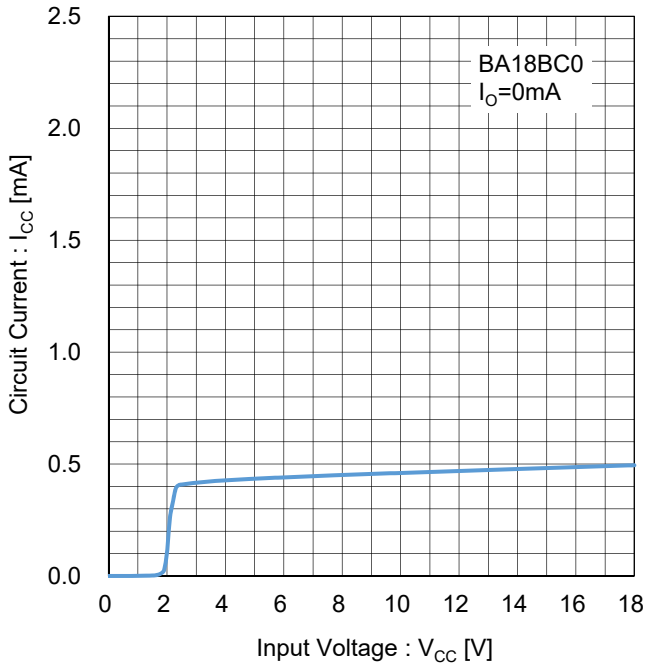


Figure 16. Circuit Current
Test Circuit A

Refer to BA33BC0 data.

Figure 17. Dropout Voltage vs Output Current
Test Circuit B

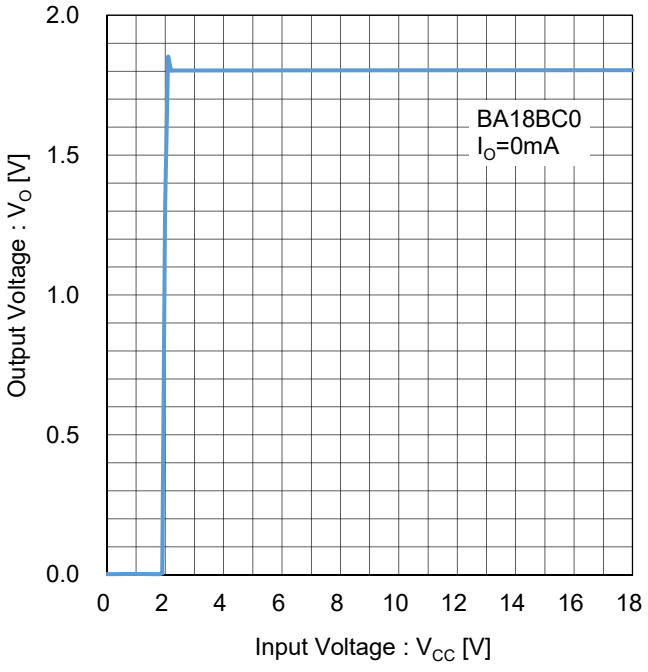


Figure 18. Output Voltage vs Input Voltage
(I_O=0mA)
Test Circuit C

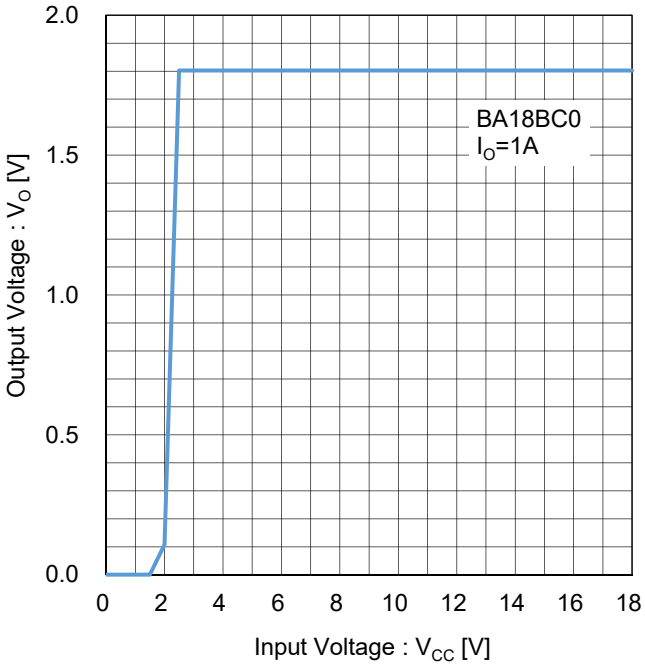


Figure 19. Output Voltage vs Input Voltage
(I_O=1A)
Test Circuit C

BA18BC0 (V_O=1.8V)

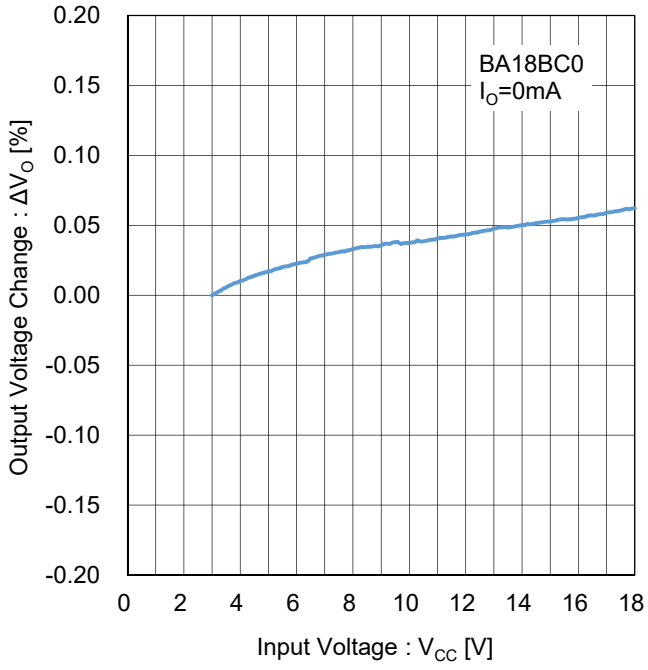


Figure 20. Line Regulation
(I_O=0mA)
Test Circuit D

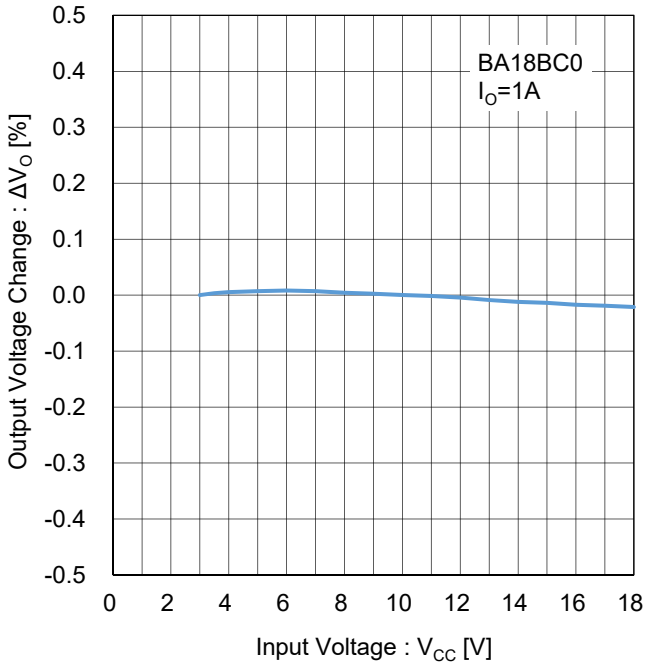


Figure 21. Line Regulation
(I_O=1A)
Test Circuit D

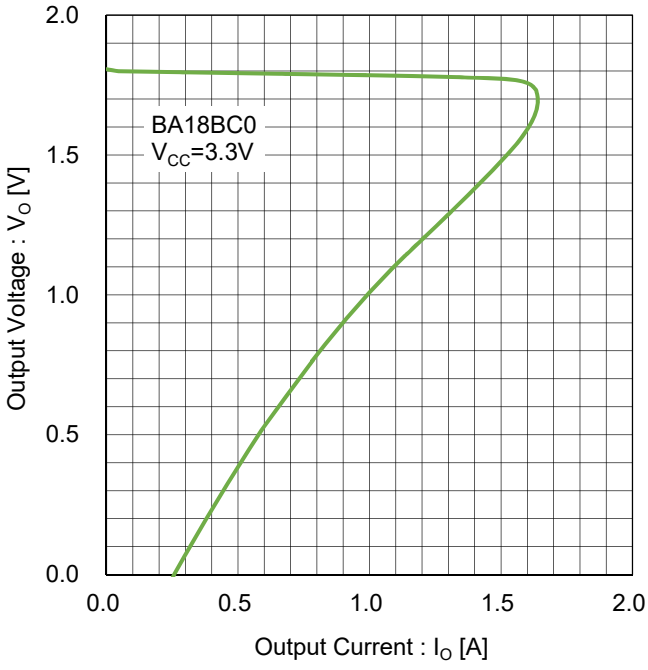


Figure 22. Overcurrent Protection
Test Circuit E

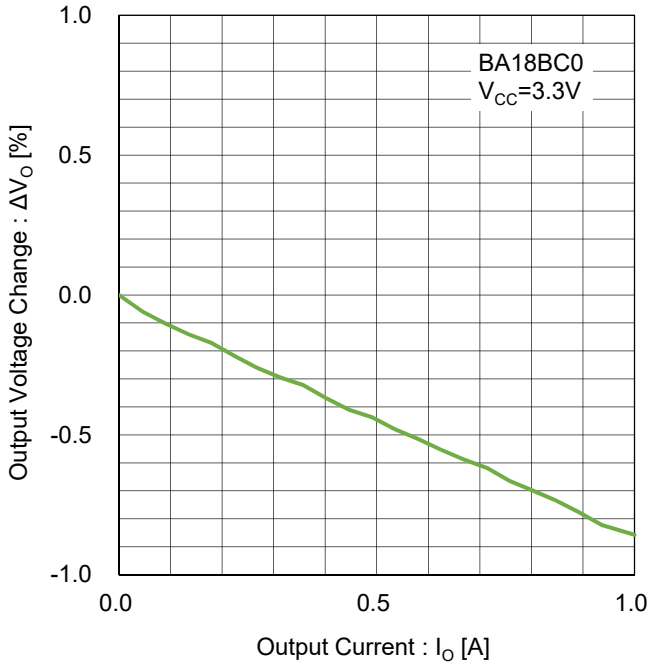


Figure 23. Load Regulation
Test Circuit F

BA18BC0 (V_O=1.8V)

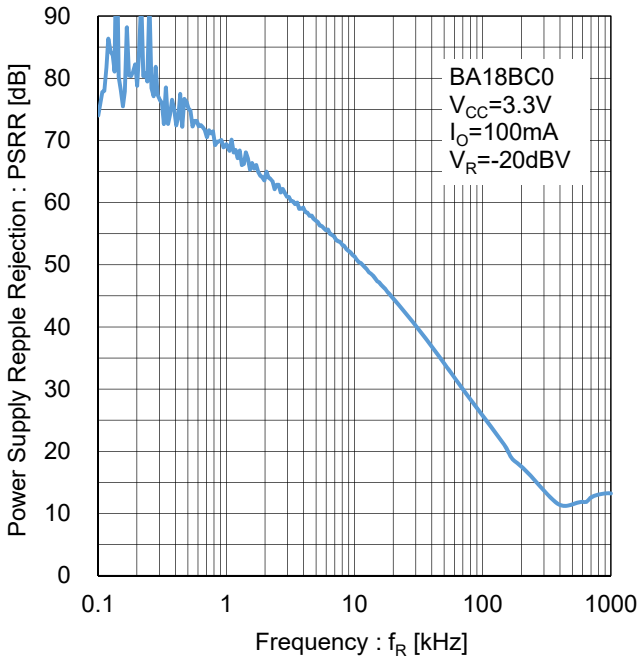


Figure 24. Ripple Rejection
Test Circuit G

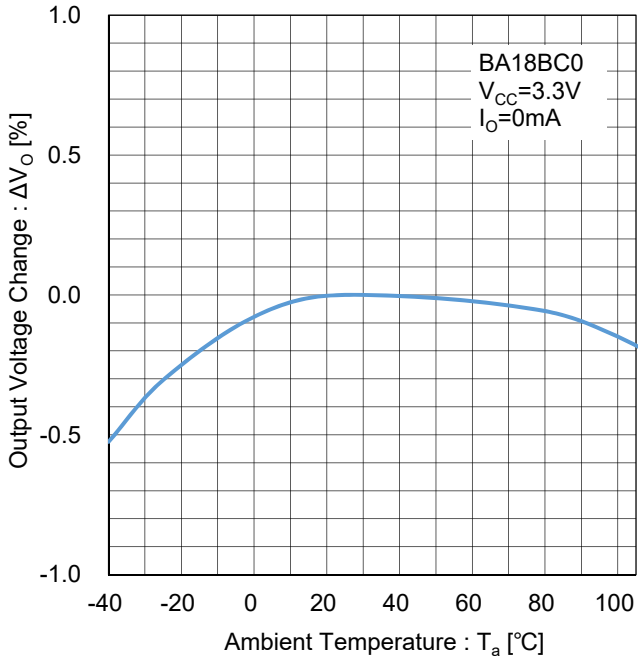


Figure 25. Output Voltage Temperature Stability
Test Circuit H

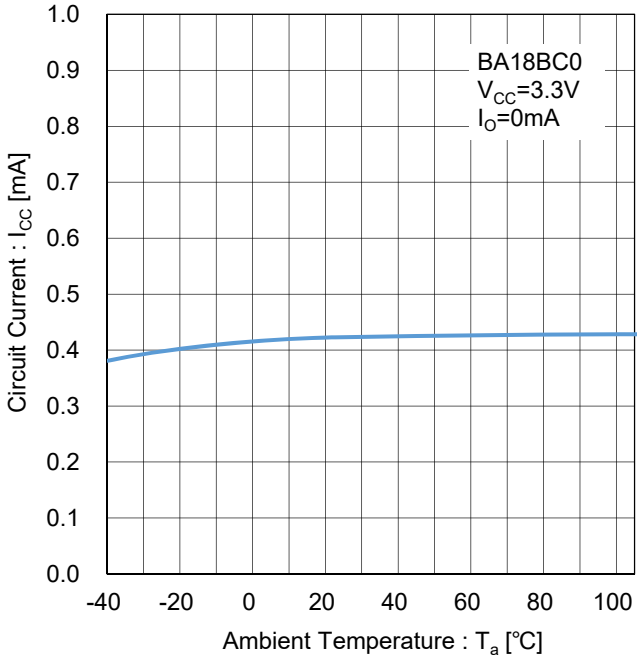


Figure 26. Circuit Current vs Temperature
Test Circuit I

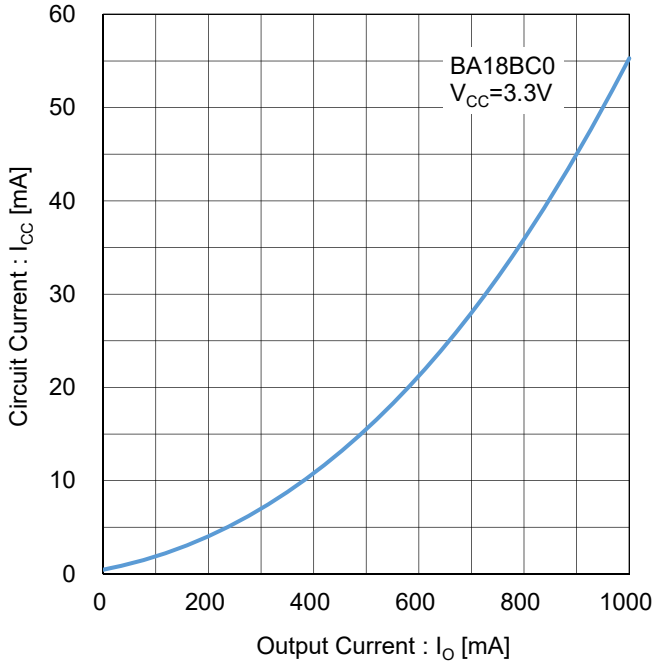


Figure 27. Circuit Current vs Output Current
Test Circuit J

BA18BC0 (V_O=1.8V)

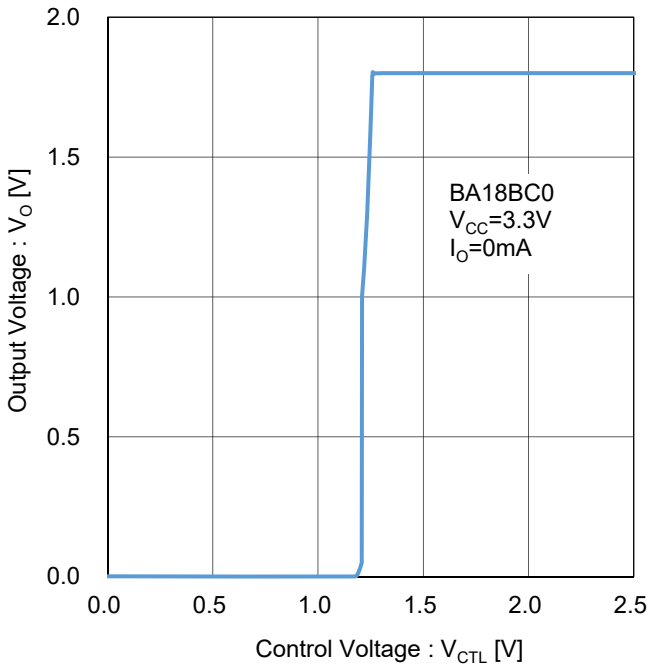


Figure 28. Output Voltage vs CTL Pin Voltage
Test Circuit K

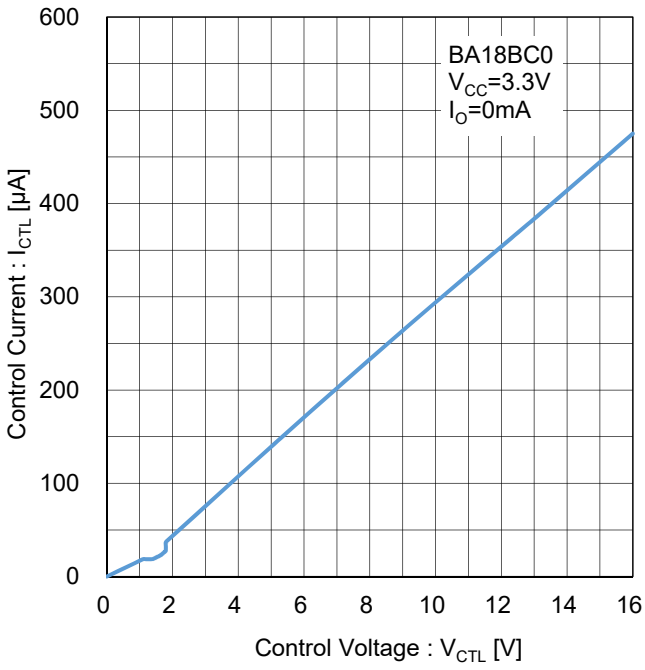


Figure 29. CTL Pin Current
Test Circuit L

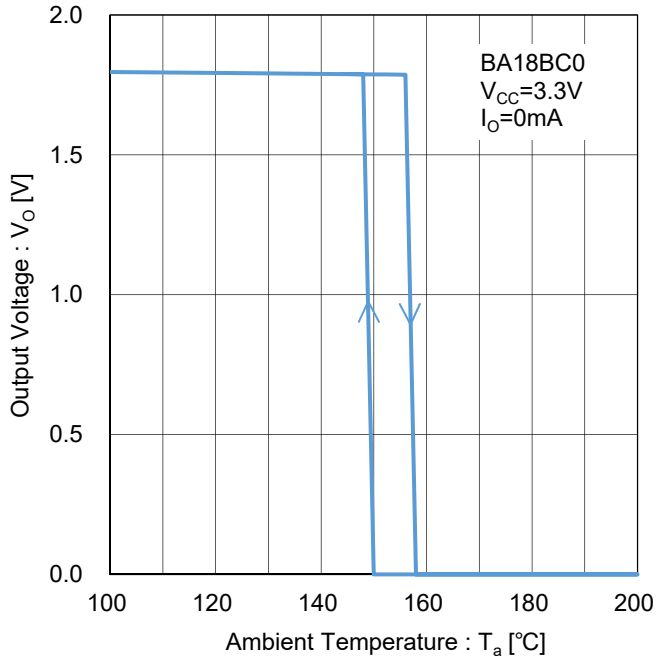


Figure 30. Thermal Shutdown
Test Circuit M

BA25BC0 (V_O=2.5V)

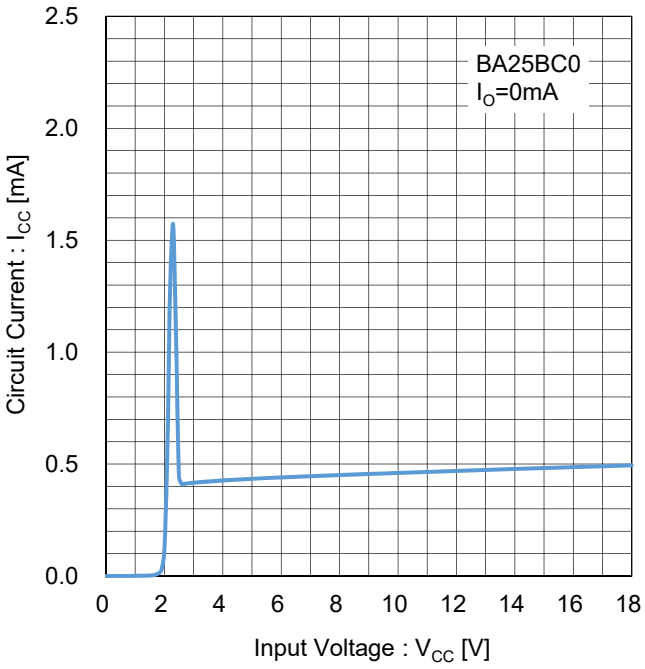


Figure 31. Circuit Current
Test Circuit A

Refer to BA33BC0 data.

Figure 32. Dropout Voltage vs Output Current
Test Circuit B

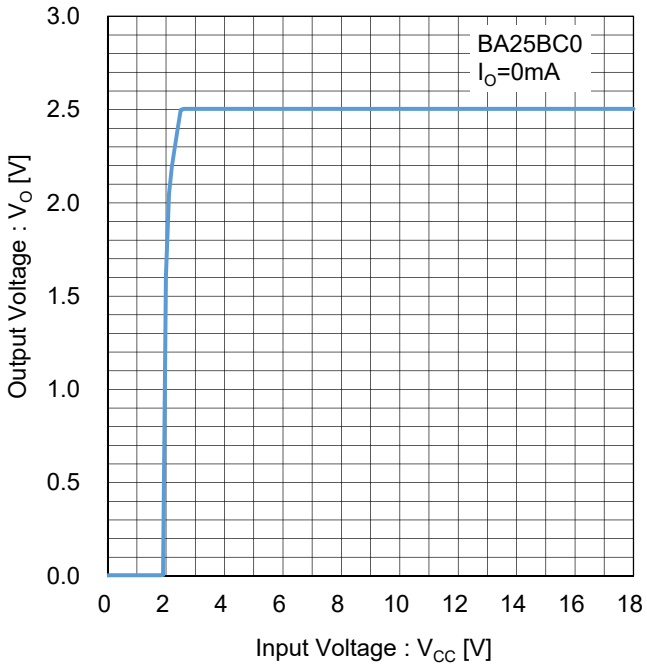


Figure 33. Output Voltage vs Input Voltage
(I_O=0mA)
Test Circuit C

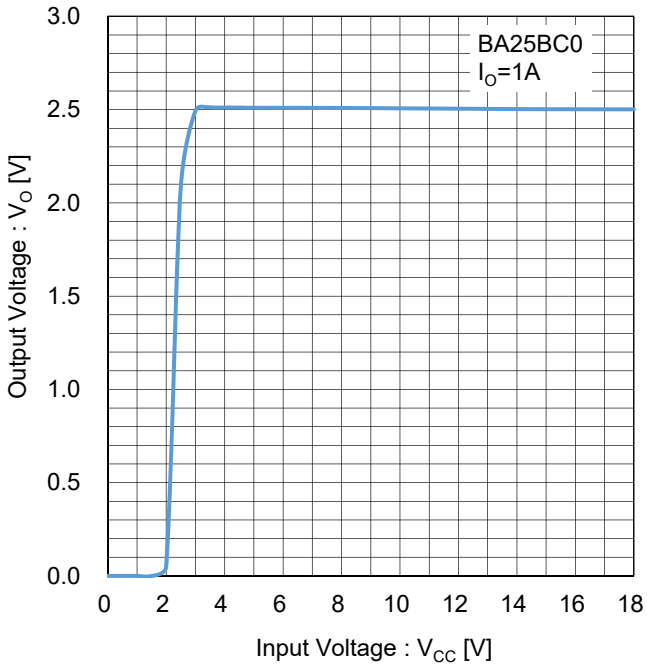


Figure 34. Output Voltage vs Input Voltage
(I_O=1A)
Test Circuit C

BA25BC0 (V_O=2.5V)

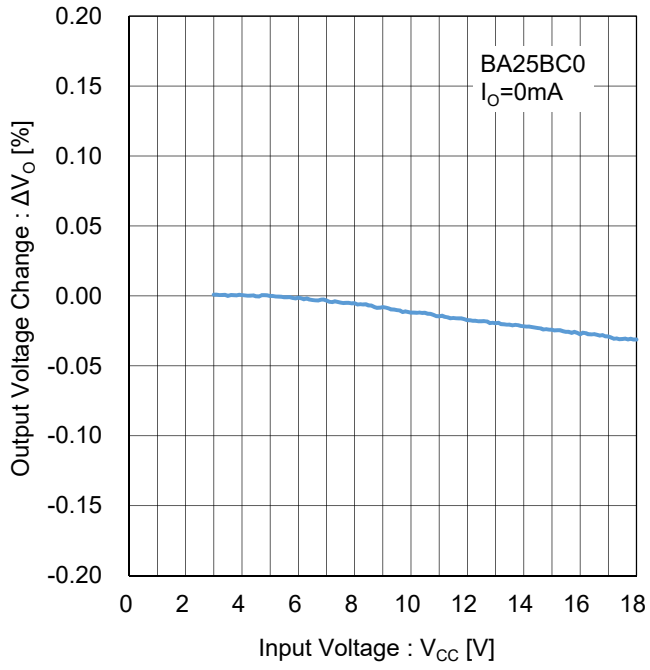


Figure 35. Line Regulation
(I_O=0mA)
Test Circuit D

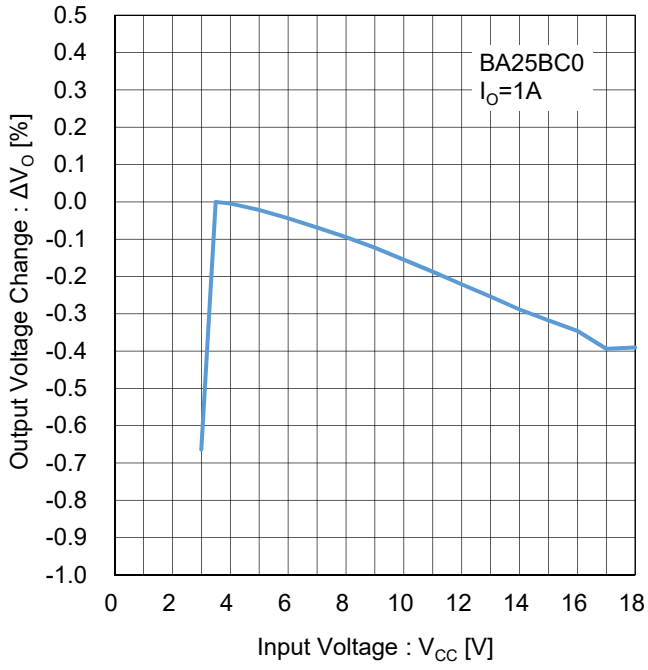


Figure 36. Line Regulation
(I_O=1A)
Test Circuit D

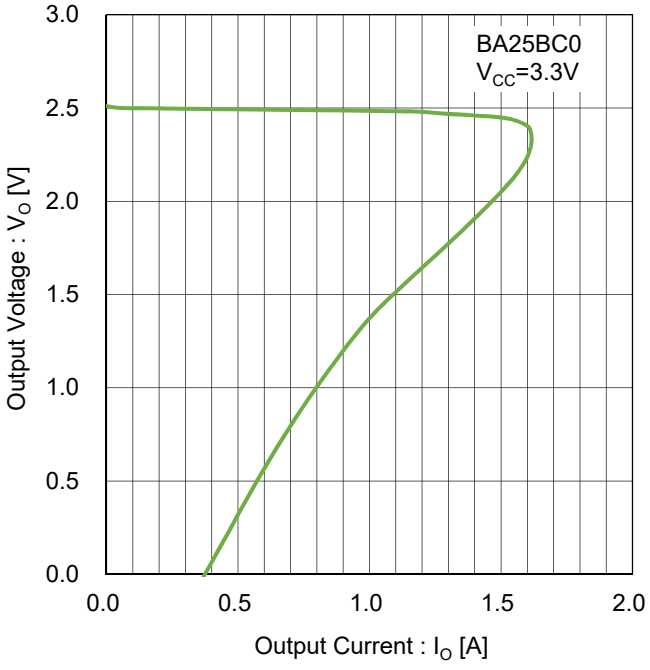


Figure 37. Overcurrent Protection
Test Circuit E

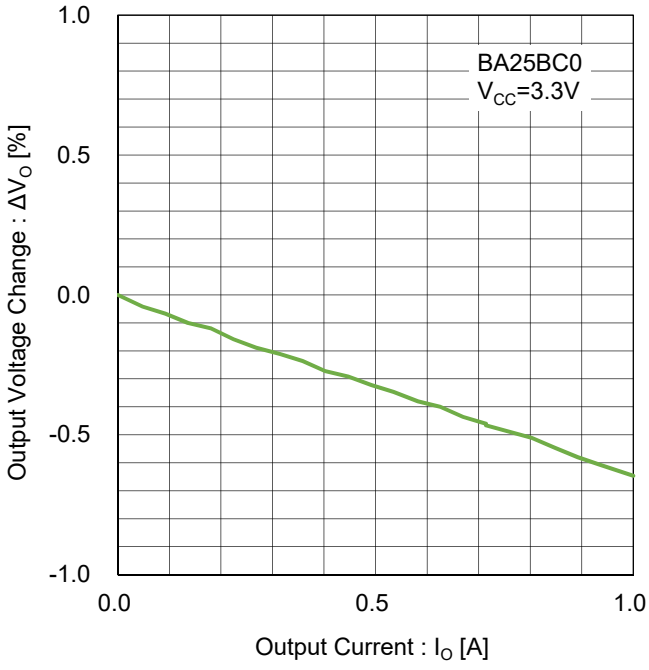


Figure 38. Load Regulation
Test Circuit F

BA25BC0 (V_O=2.5V)

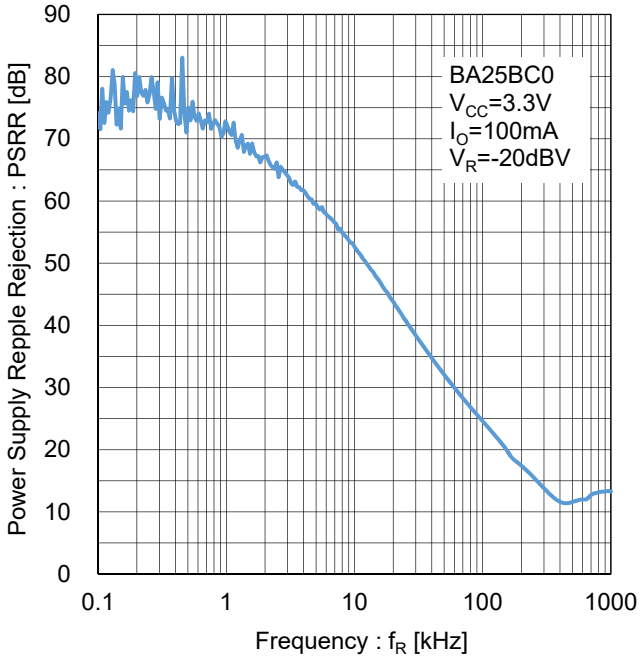


Figure 39. Ripple Rejection
Test Circuit G

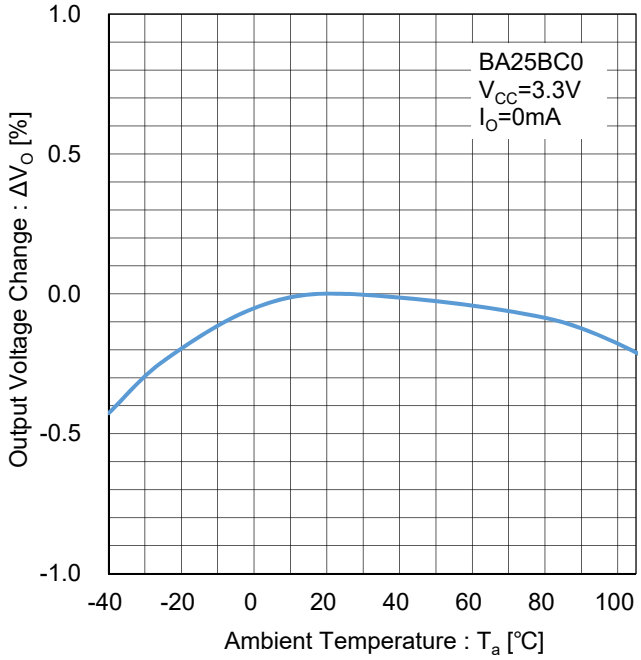


Figure 40. Output Voltage Temperature Stability
Test Circuit H

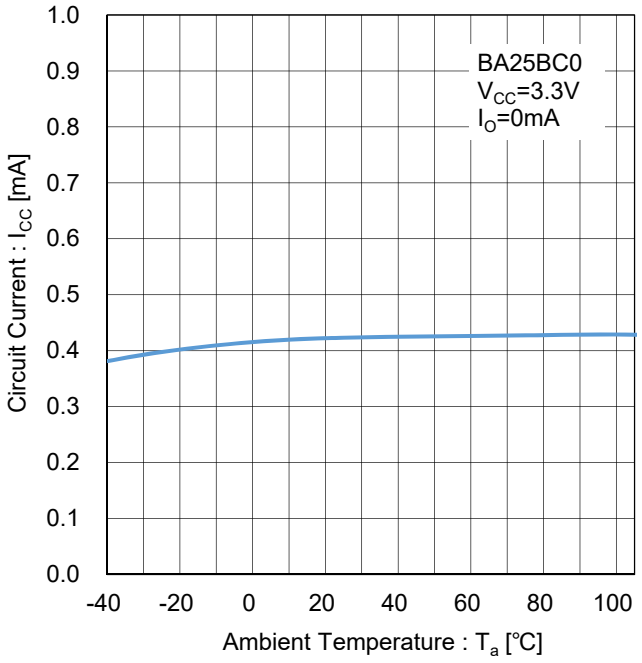


Figure 41. Circuit Current vs Temperature
Test Circuit I

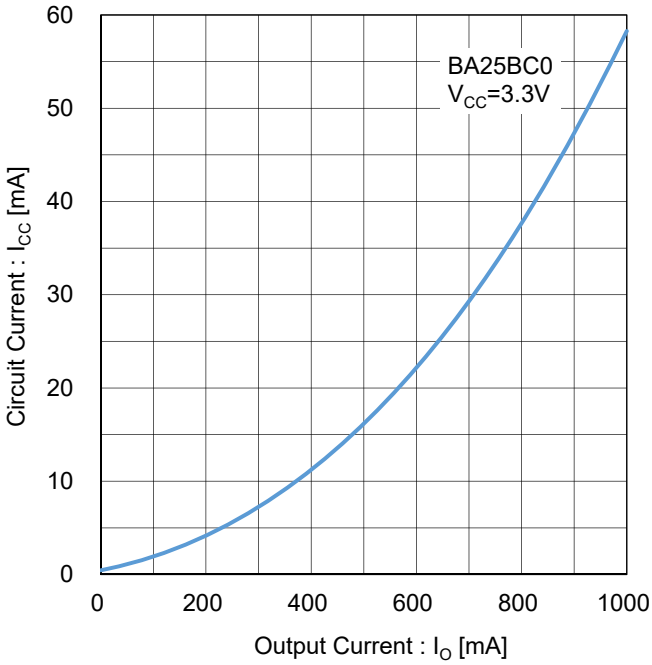


Figure 42. Circuit Current vs Output Current
Test Circuit J

BA25BC0 (V_O=2.5V)

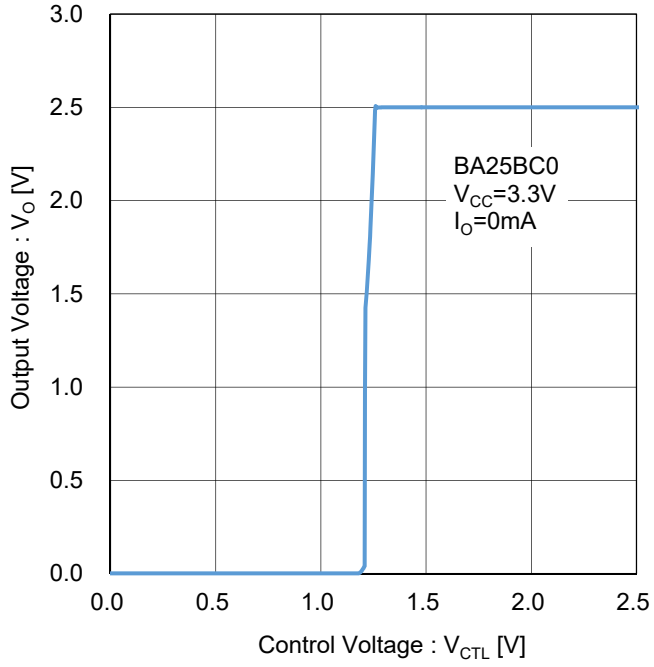


Figure 43. Output Voltage vs CTL Pin Voltage
Test Circuit K

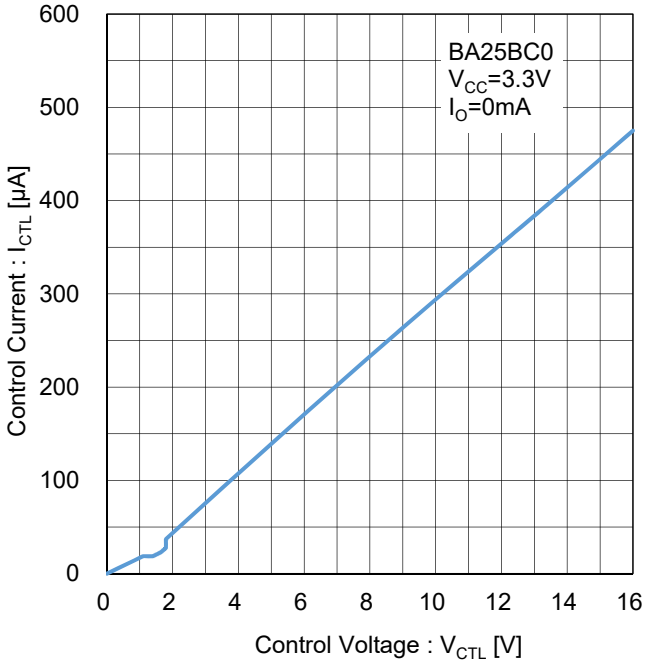


Figure 44. CTL Pin Current
Test Circuit L

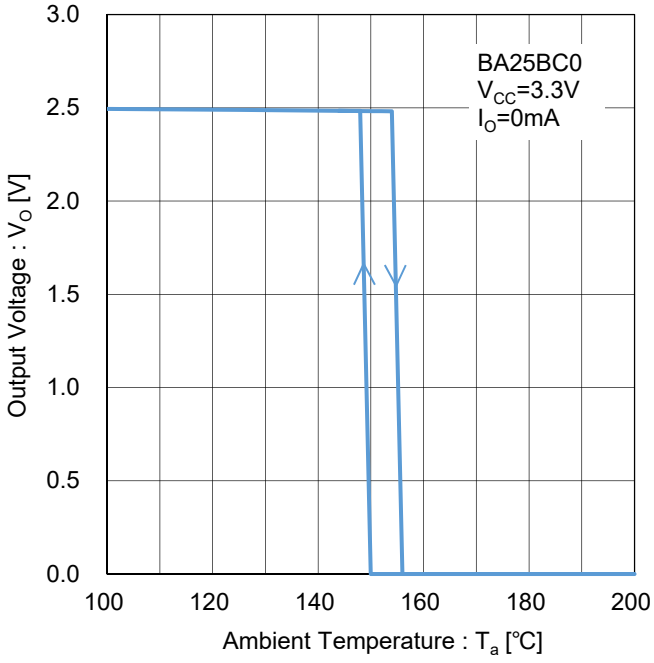


Figure 45. Thermal Shutdown
Test Circuit M

BA30BC0 (V_O=3.0V)

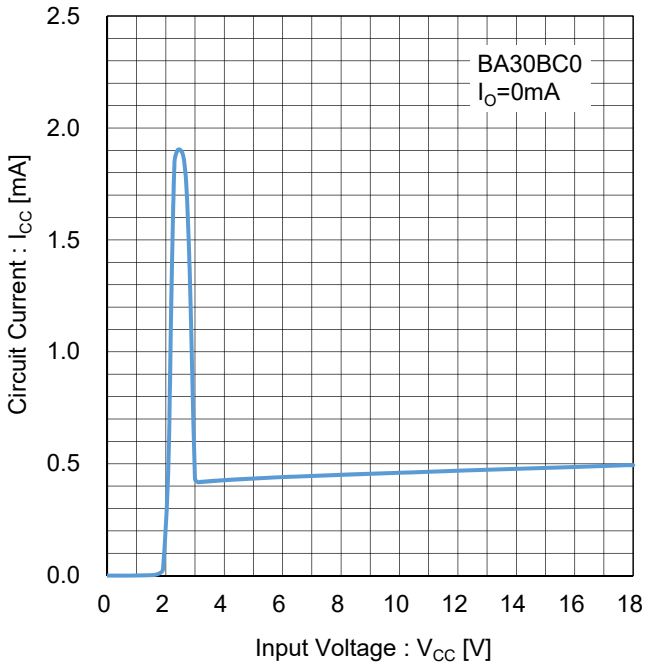


Figure 46. Circuit Current
Test Circuit A

Refer to BA33BC0 data.

Figure 47. Dropout Voltage vs Output Current
Test Circuit B

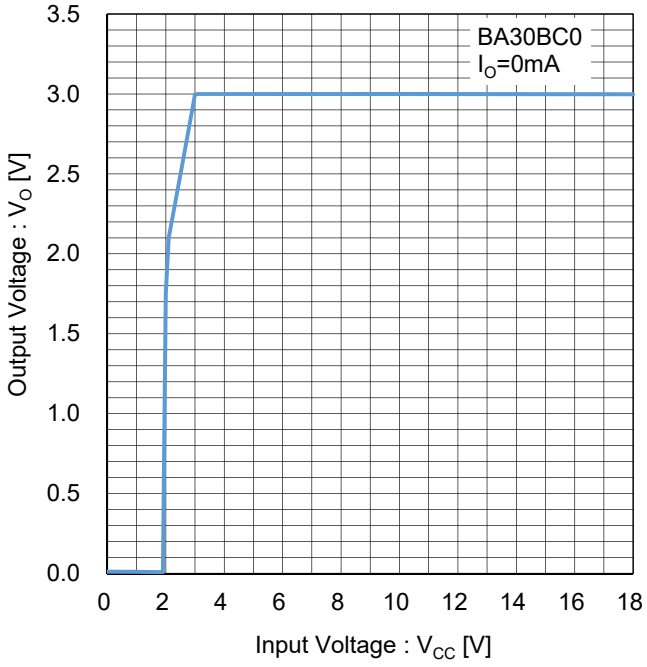


Figure 48. Output Voltage vs Input Voltage
(I_O=0mA)
Test Circuit C

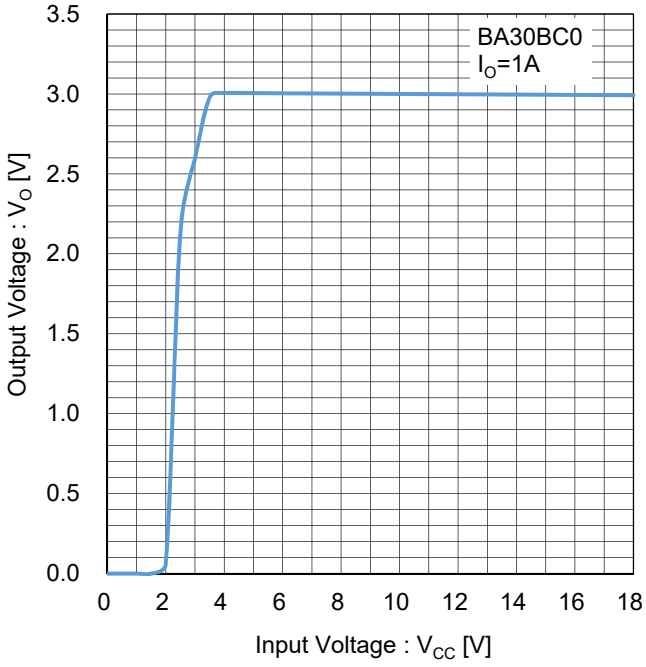


Figure 49. Output Voltage vs Input Voltage
(I_O=1A)
Test Circuit C

BA30BC0 (V_O=3.0V)

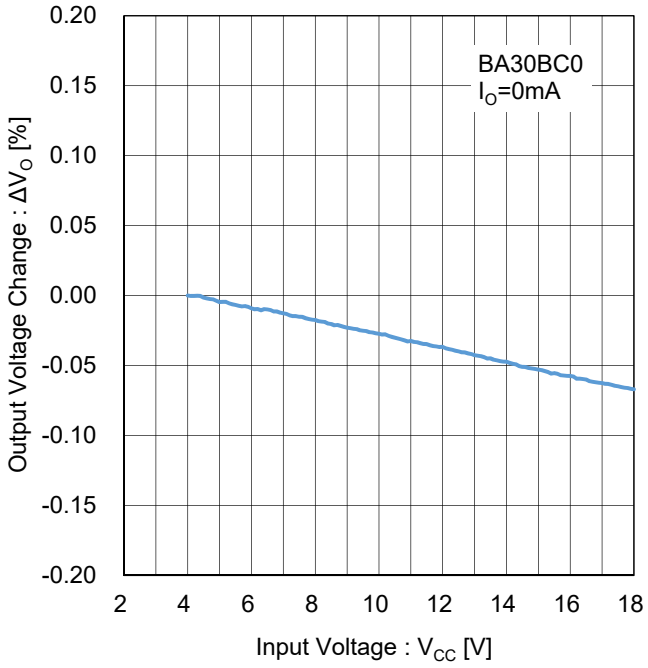


Figure 50. Line Regulation
(I_O=0mA)
Test Circuit D

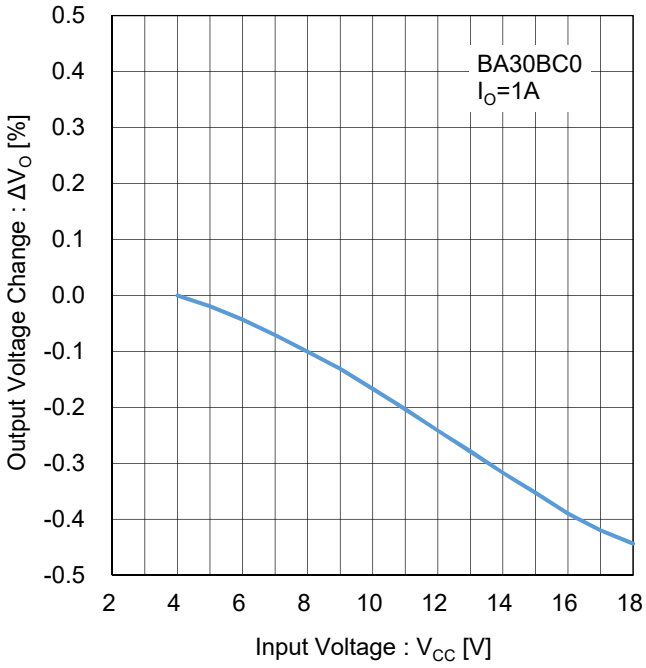


Figure 51. Line Regulation
(I_O=1A)
Test Circuit D

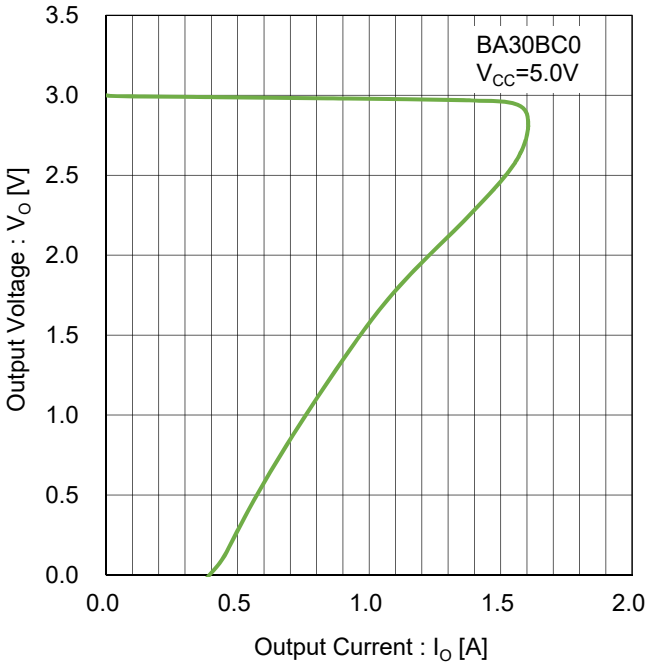


Figure 52. Overcurrent Protection
Test Circuit E

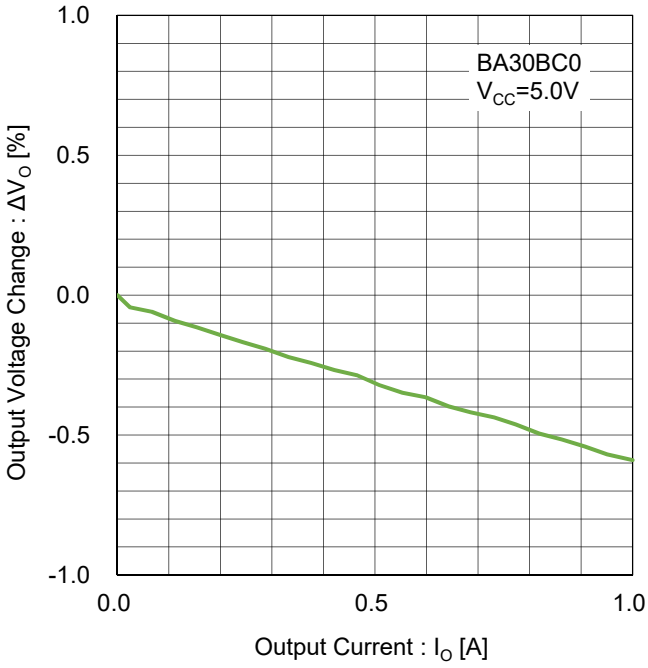


Figure 53. Load Regulation
Test Circuit F

BA30BC0 (V_O=3.0V)

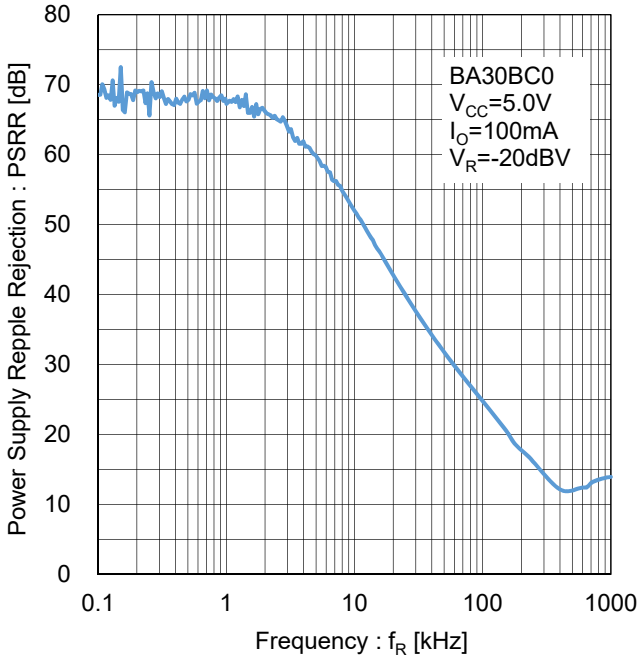


Figure 54. Ripple Rejection
Test Circuit G

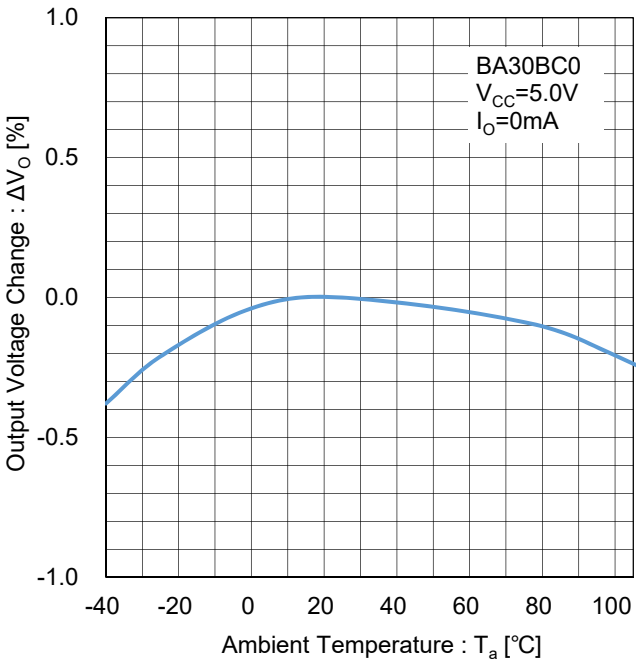


Figure 55. Output Voltage Temperature Stability
Test Circuit H

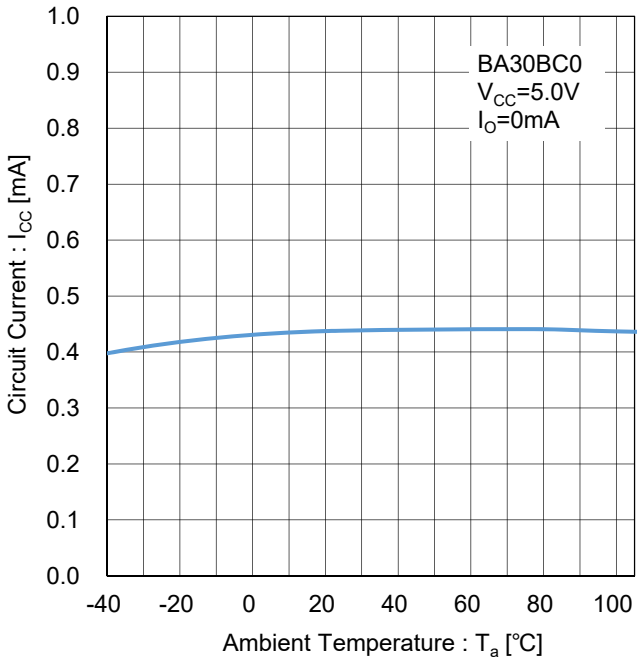


Figure 56. Circuit Current vs Temperature
Test Circuit I

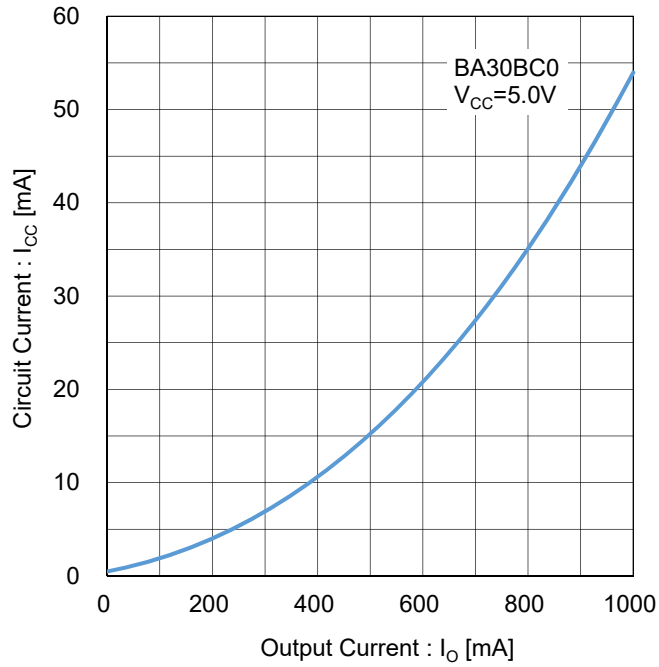


Figure 57. Circuit Current vs Output Current
Test Circuit J

BA30BC0 (V_O=3.0V)

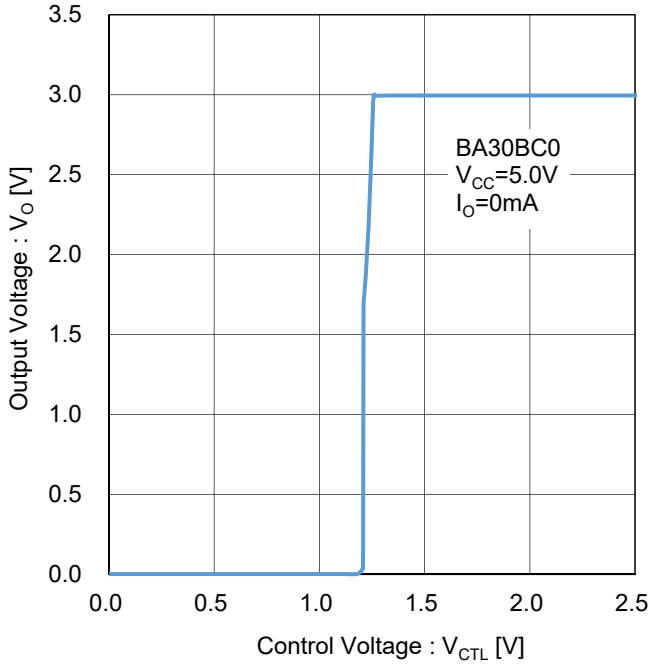


Figure 58. Output Voltage vs CTL Pin Voltage
Test Circuit K

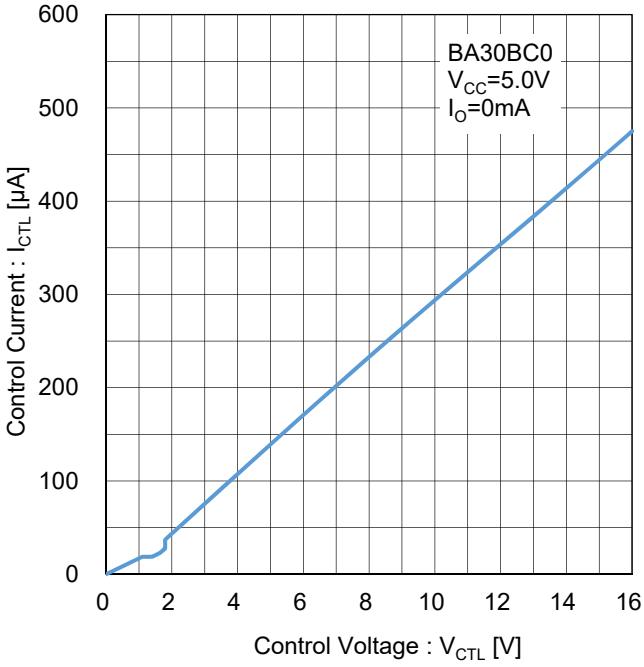


Figure 59. CTL Pin Current
Test Circuit L

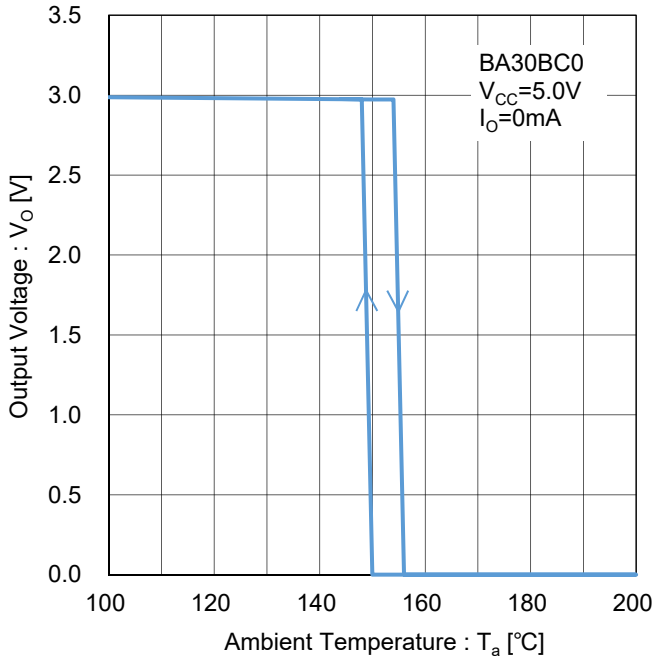


Figure 60. Thermal Shutdown
Test Circuit M

BA33BC0 (V_O=3.3V)

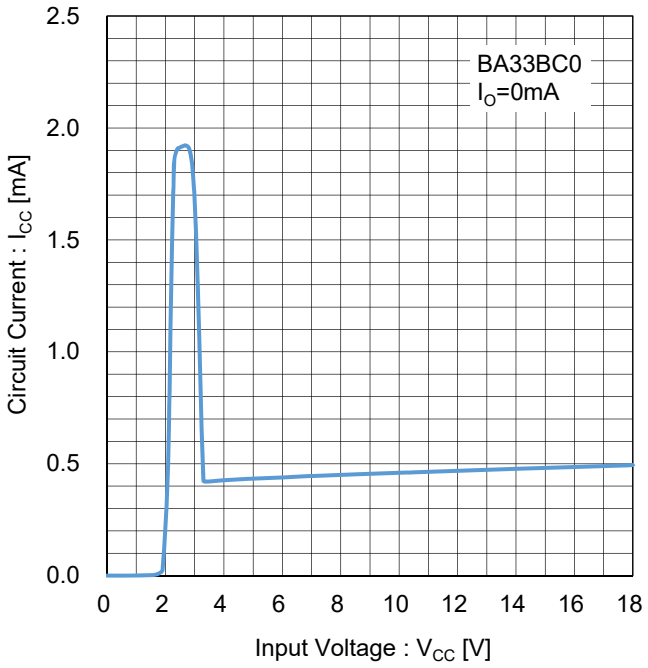


Figure 61. Circuit Current
Test Circuit A

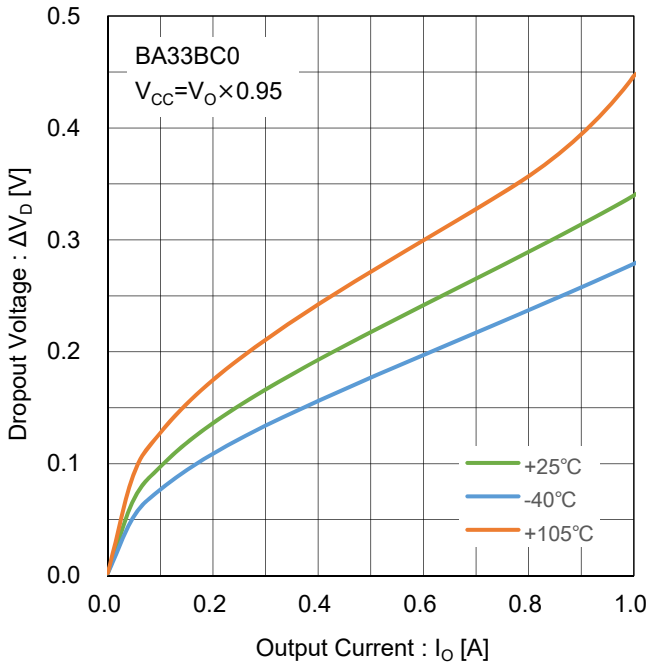


Figure 62. Dropout Voltage vs Output Current
Test Circuit B

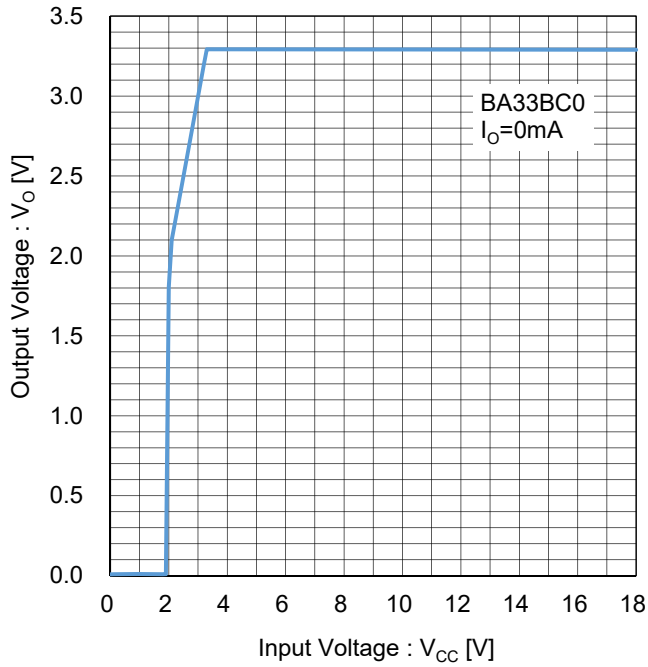


Figure 63. Output Voltage vs Input Voltage
(I_O=0mA)
Test Circuit C

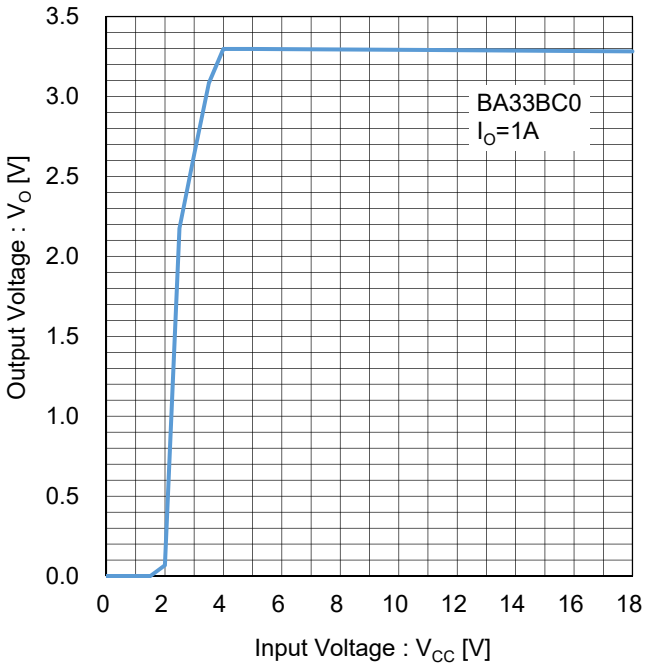


Figure 64. Output Voltage vs Input Voltage
(I_O=1A)
Test Circuit C

BA33BC0 (V_O=3.3V)

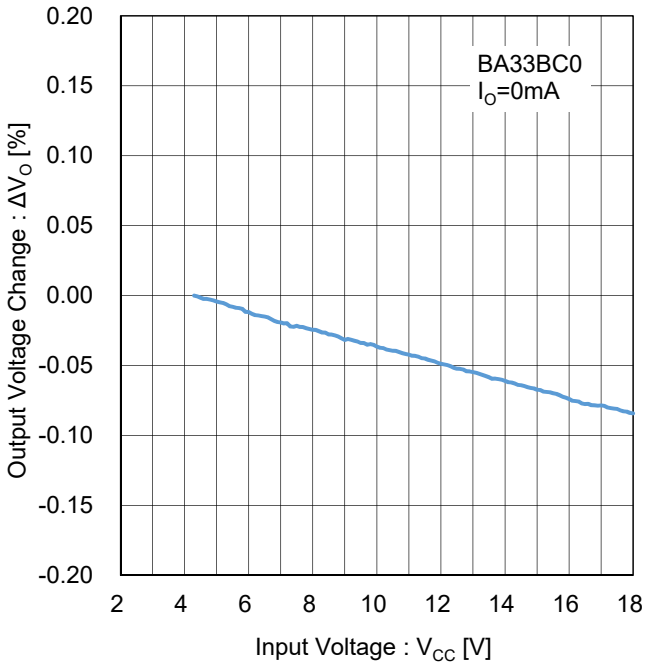


Figure 65. Line Regulation
(I_O=0mA)
Test Circuit D

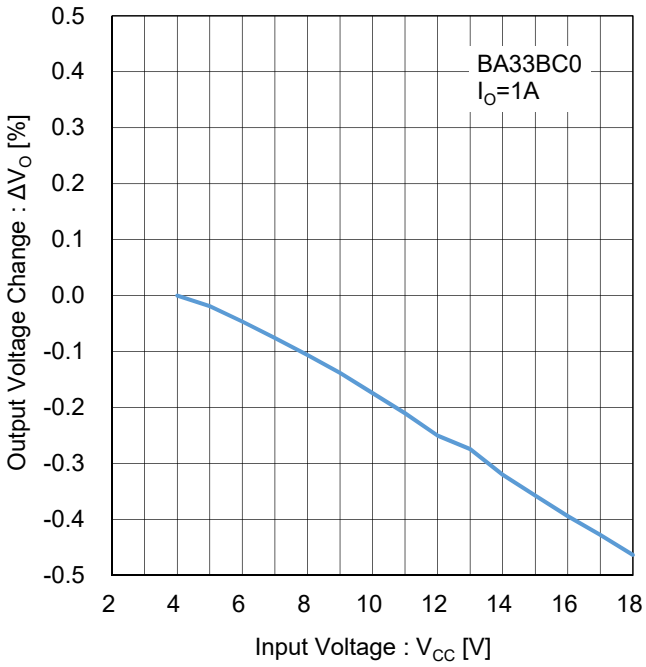


Figure 66. Line Regulation
(I_O=1A)
Test Circuit D

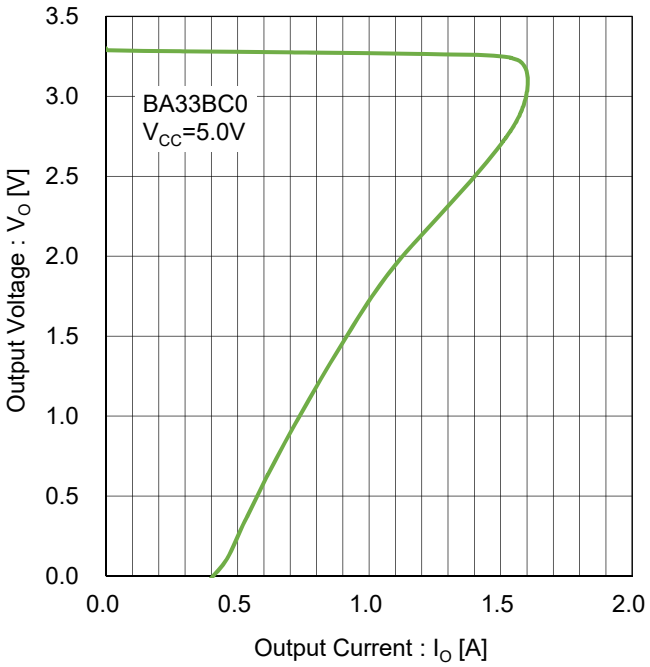


Figure 67. Overcurrent Protection
Test Circuit E

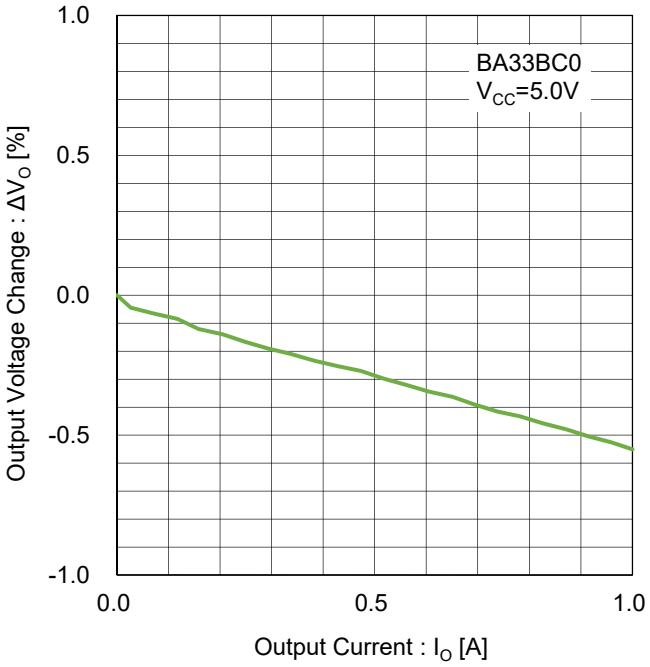


Figure 68. Load Regulation
Test Circuit F

BA33BC0 (V_O=3.3V)

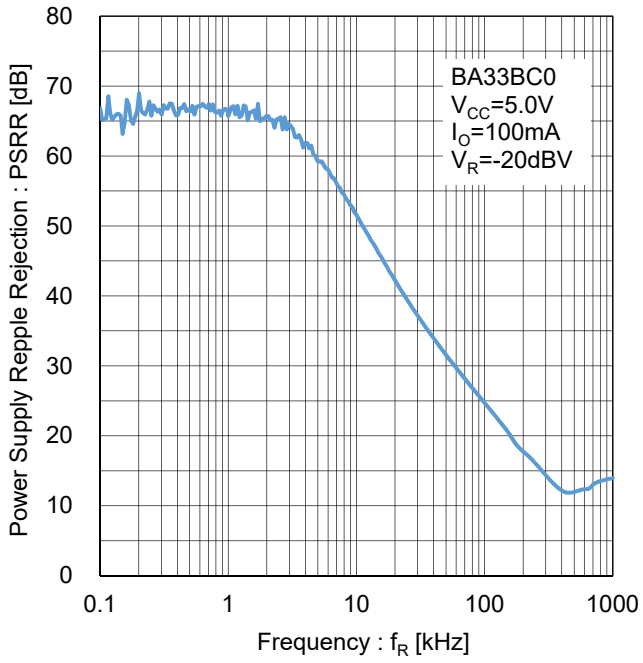


Figure 69. Ripple Rejection
Test Circuit G

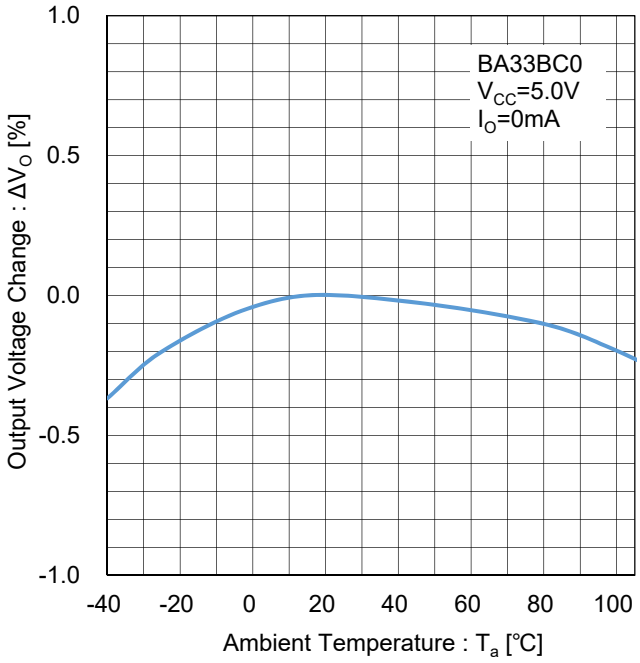


Figure 70. Output Voltage Temperature Stability
Test Circuit H

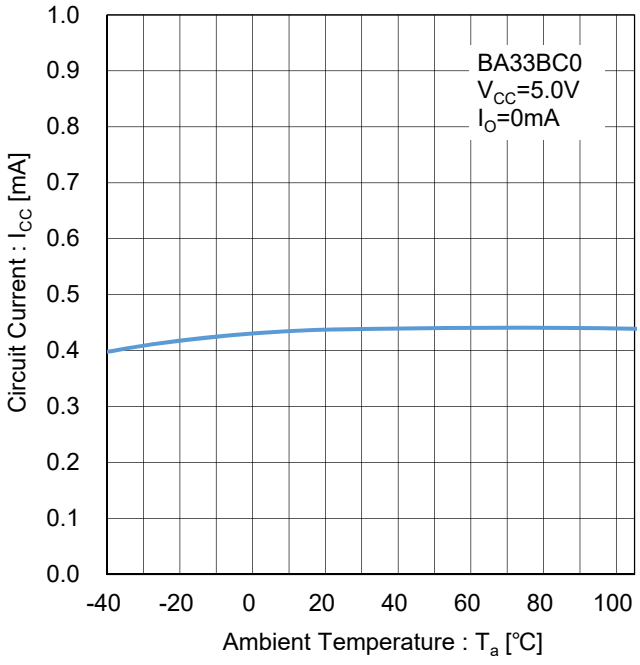


Figure 71. Circuit Current vs Temperature
Test Circuit I

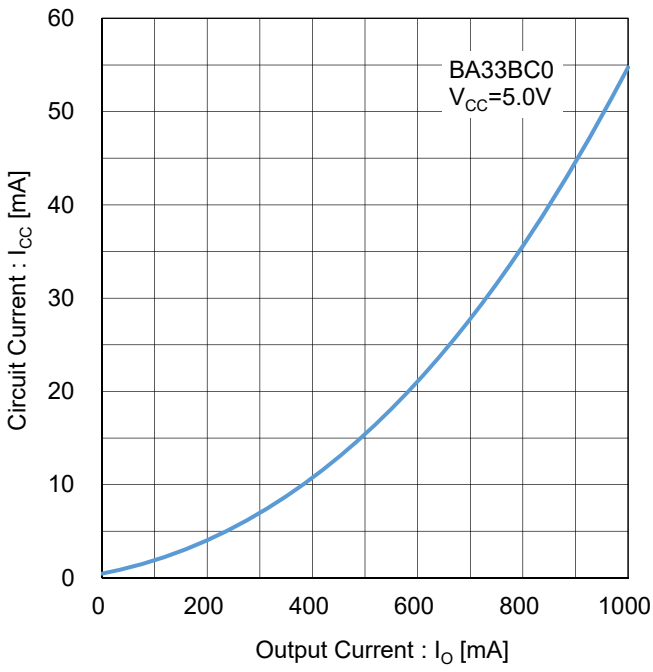


Figure 72. Circuit Current vs Output Current
Test Circuit J

BA33BC0 (V_O=3.3V)

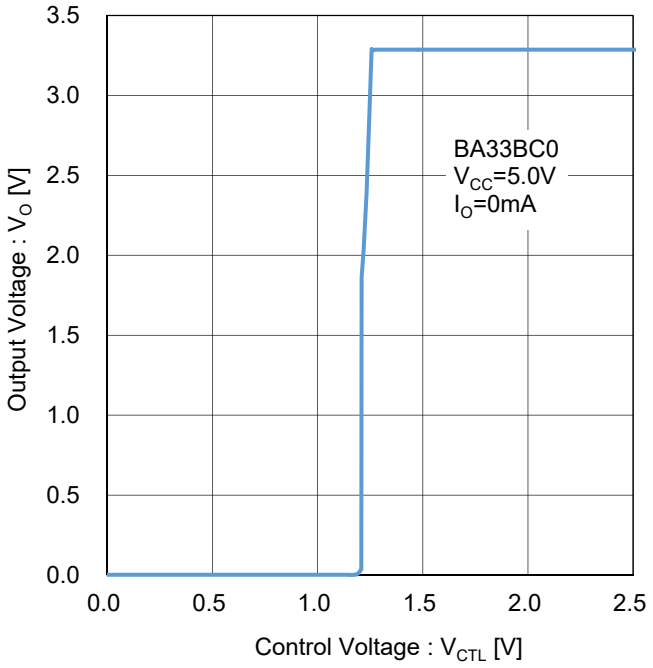


Figure 73. Output Voltage vs CTL Pin Voltage
Test Circuit K

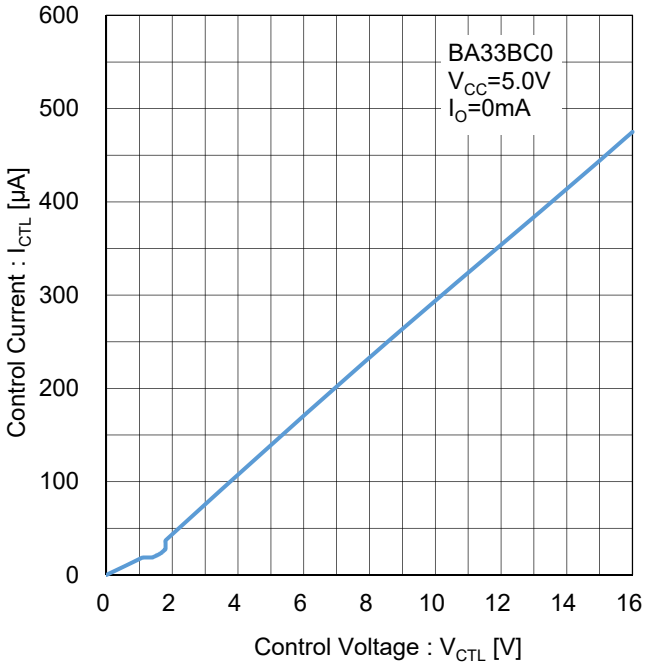


Figure 74. CTL Pin Current
Test Circuit L

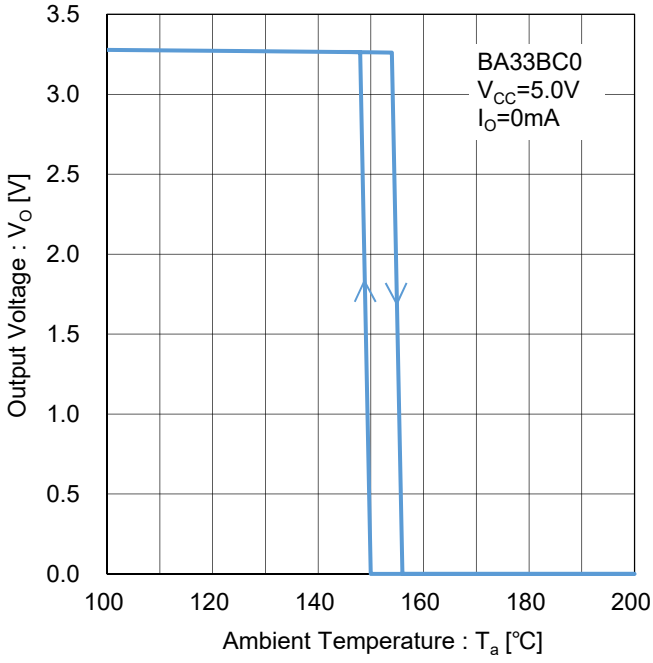


Figure 75. Thermal Shutdown
Test Circuit M

BA50BC0 (V_O=5.0V)

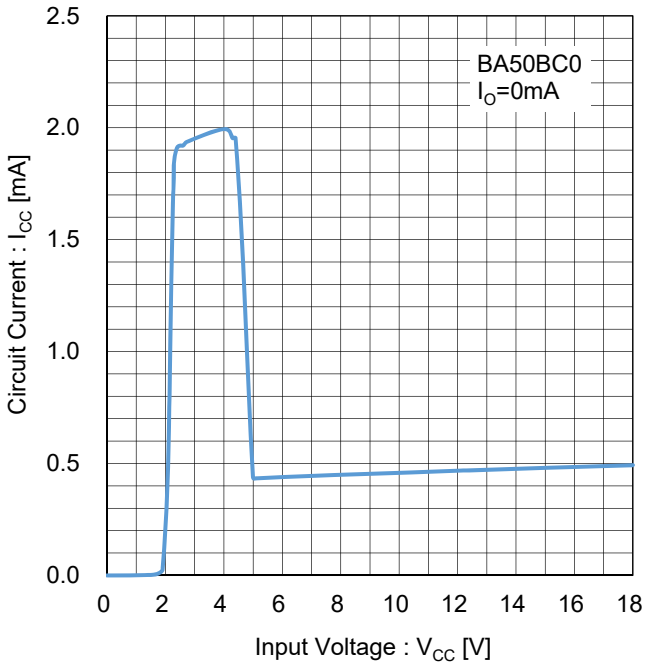


Figure 76. Circuit Current
Test Circuit A

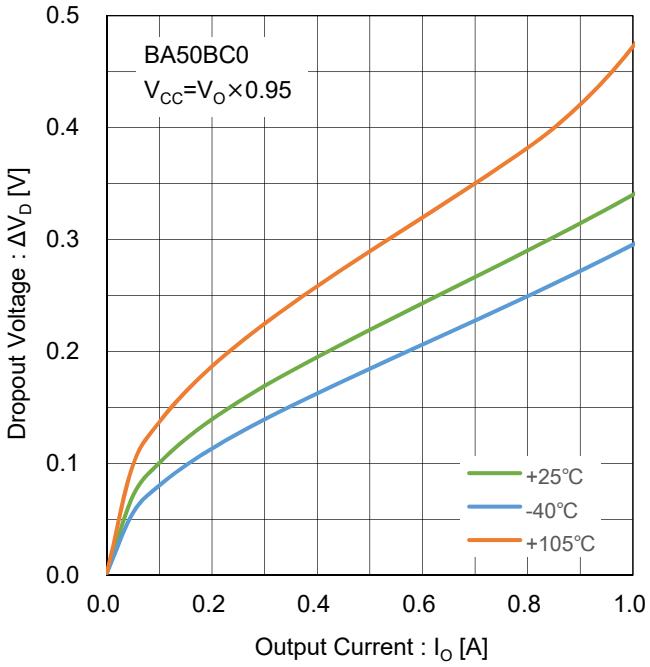


Figure 77. Dropout Voltage vs Output Current
Test Circuit B

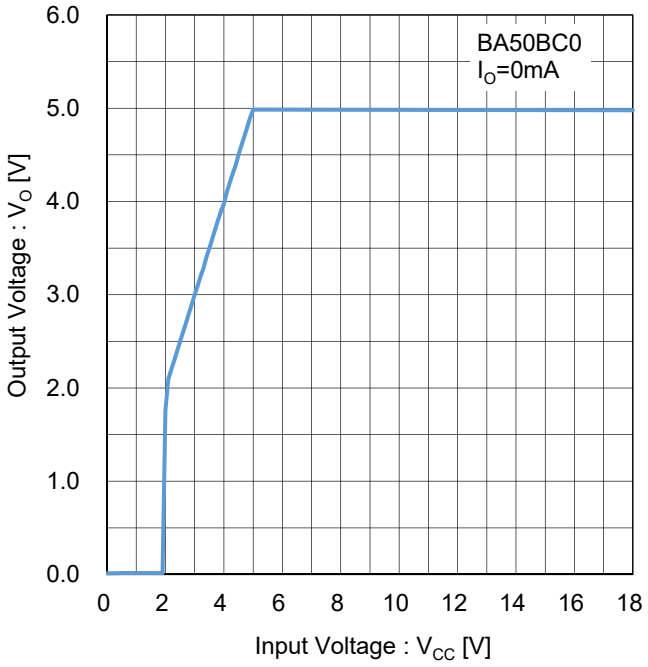


Figure 78. Output Voltage vs Input Voltage
(I_O=0mA)
Test Circuit C

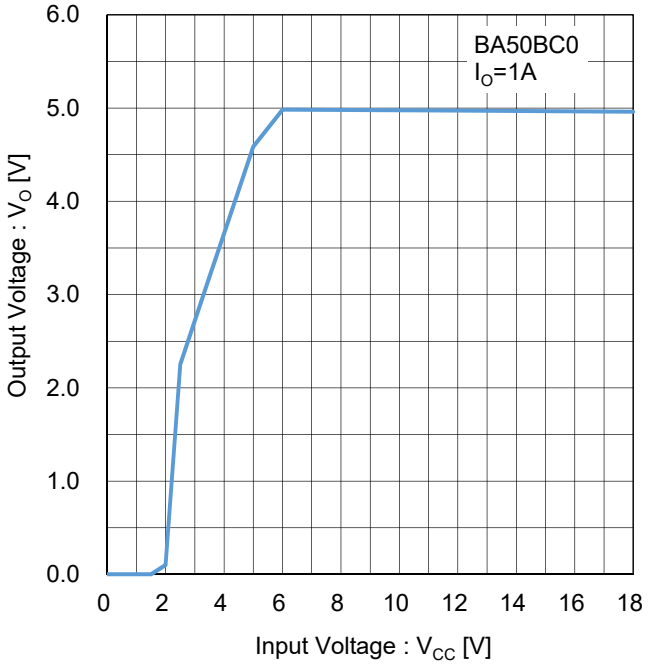


Figure 79. Output Voltage vs Input Voltage
(I_O=1A)
Test Circuit C

BA50BC0 (V_O=5.0V)

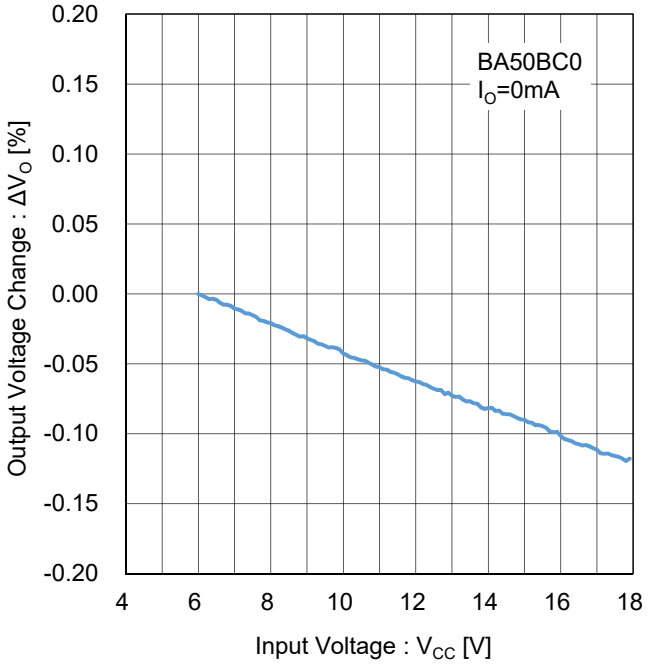


Figure 80. Line Regulation
(I_O=0mA)
Test Circuit D

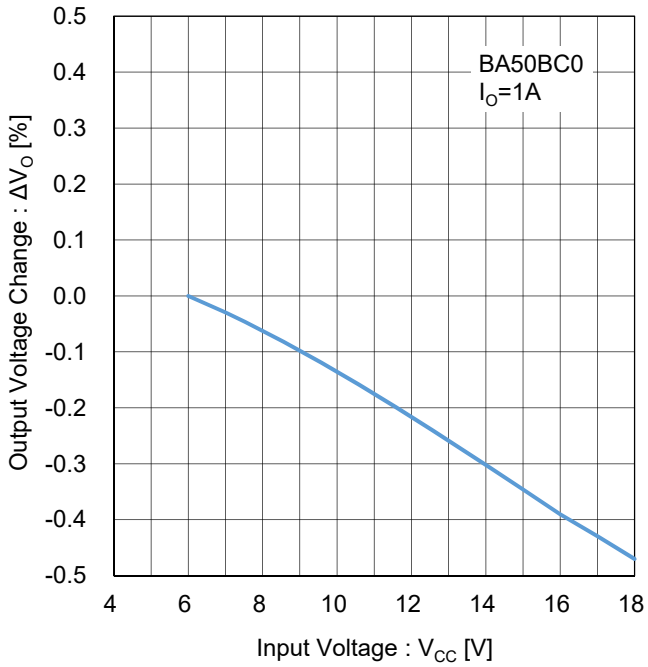


Figure 81. Line Regulation
(I_O=1A)
Test Circuit D

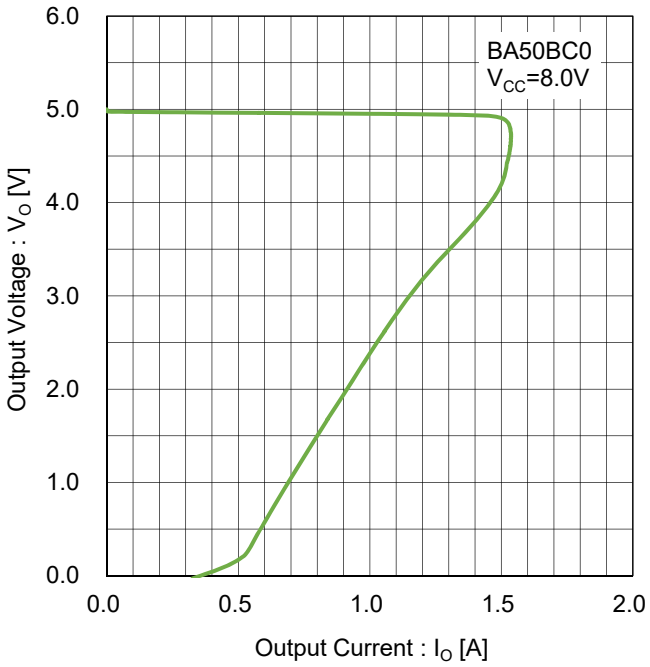


Figure 82. Overcurrent Protection
Test Circuit E

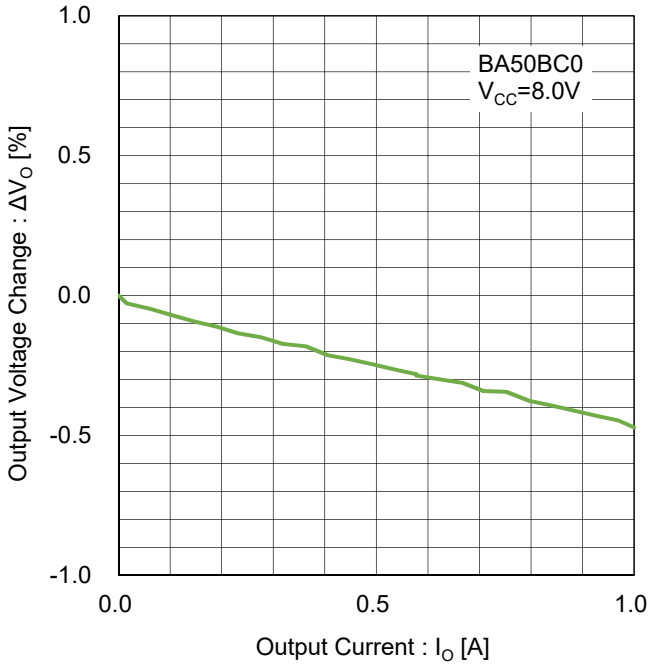


Figure 83. Load Regulation
Test Circuit F

BA50BC0 (V_O=5.0V)

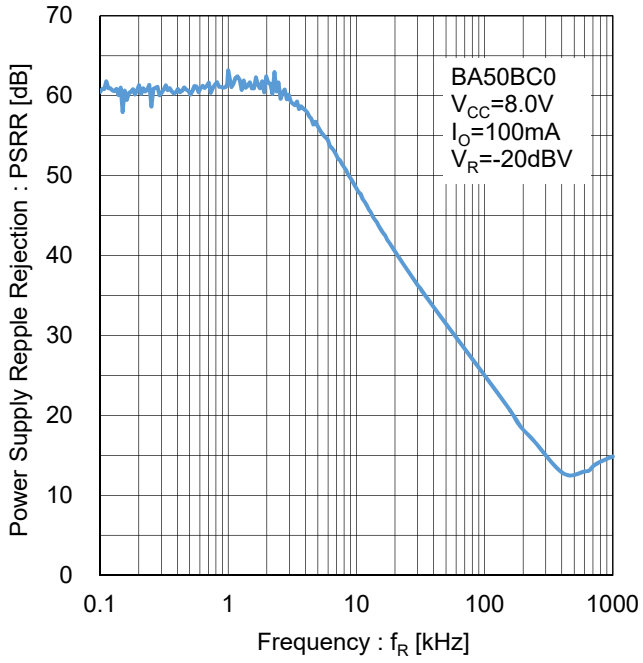


Figure 84. Ripple Rejection
Test Circuit G

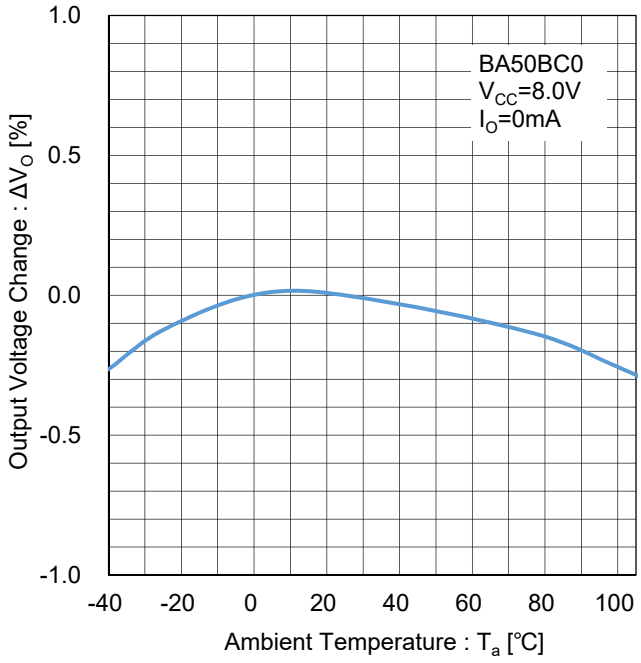


Figure 85. Output Voltage Temperature Stability
Test Circuit H

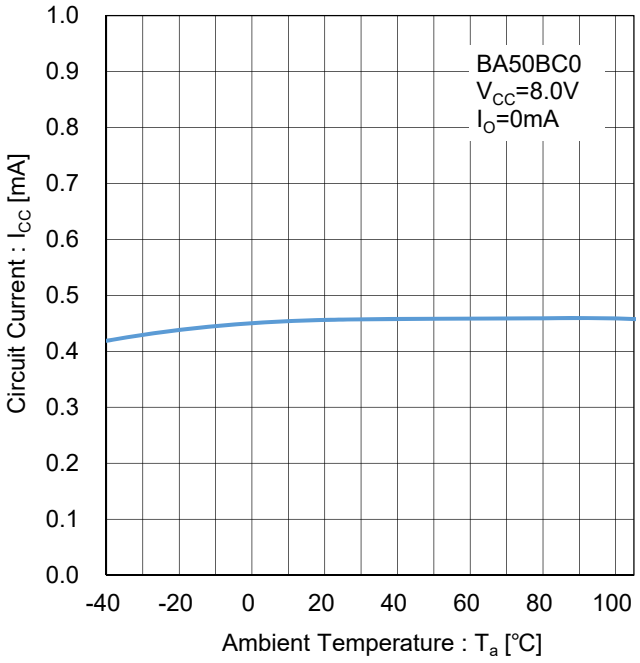


Figure 86. Circuit Current vs Temperature
Test Circuit I

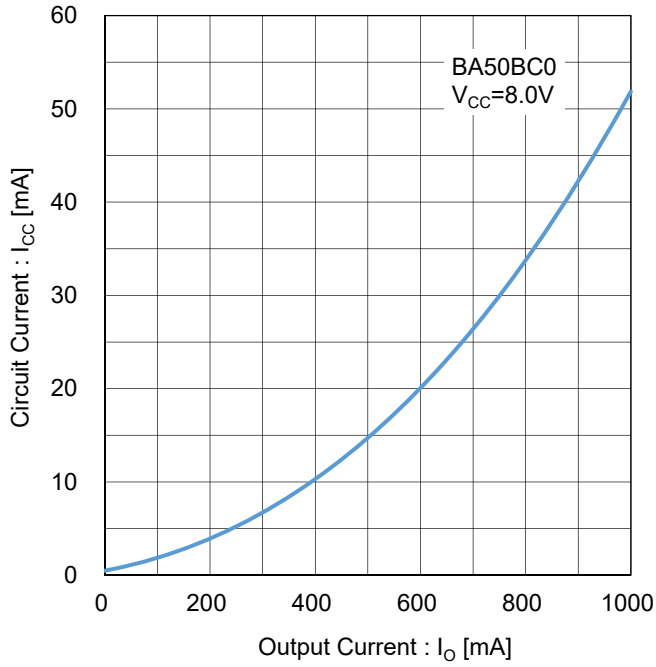


Figure 87. Circuit Current vs Output Current
Test Circuit J

BA50BC0 (V_O=5.0V)

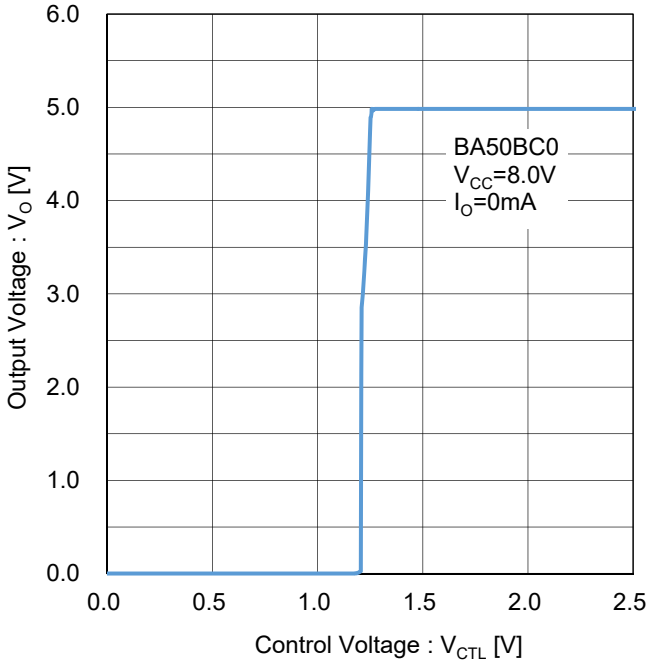


Figure 88. Output Voltage vs CTL Pin Voltage
Test Circuit K

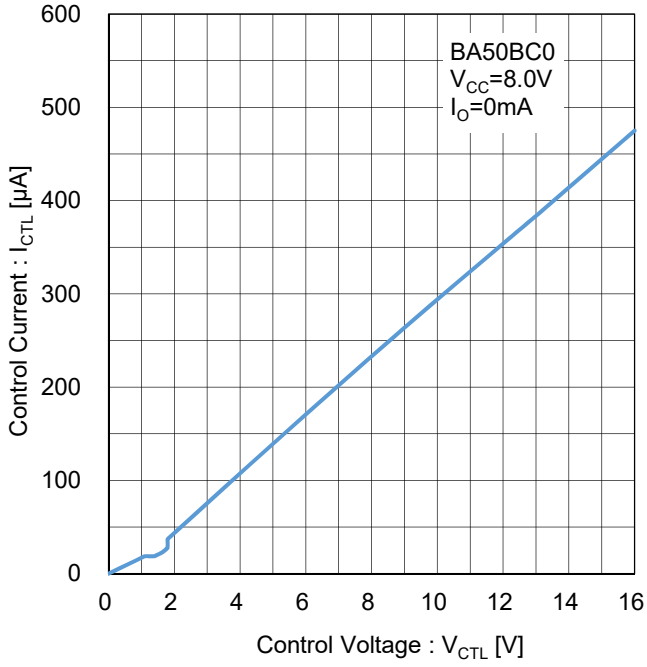


Figure 89. CTL Pin Current
Test Circuit L

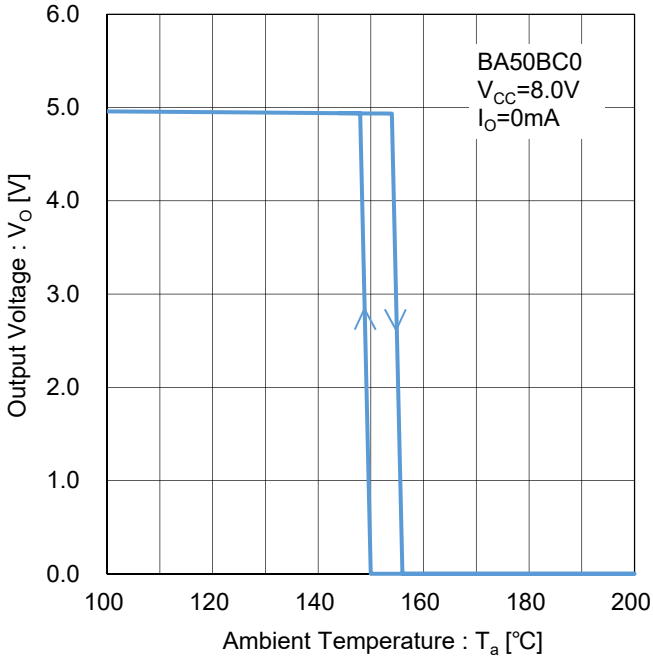


Figure 90. Thermal Shutdown
Test Circuit M

BA60BC0 (V_O=6.0V)

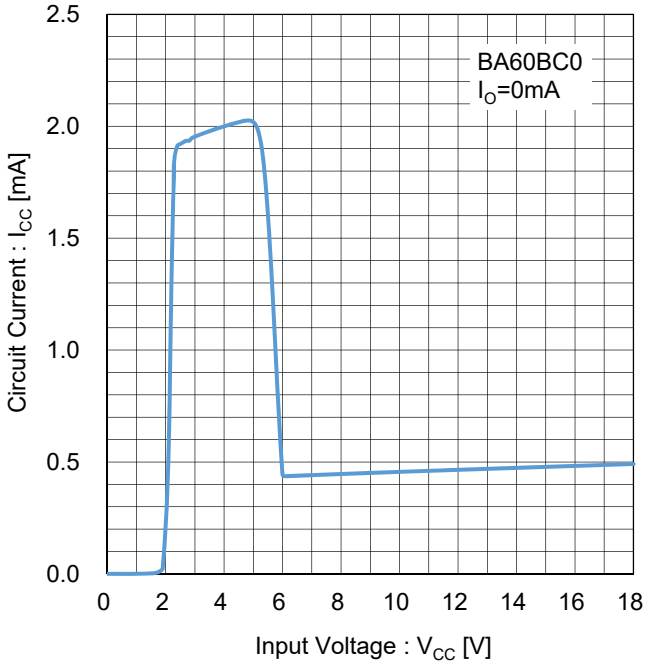


Figure 91. Circuit Current
Test Circuit A

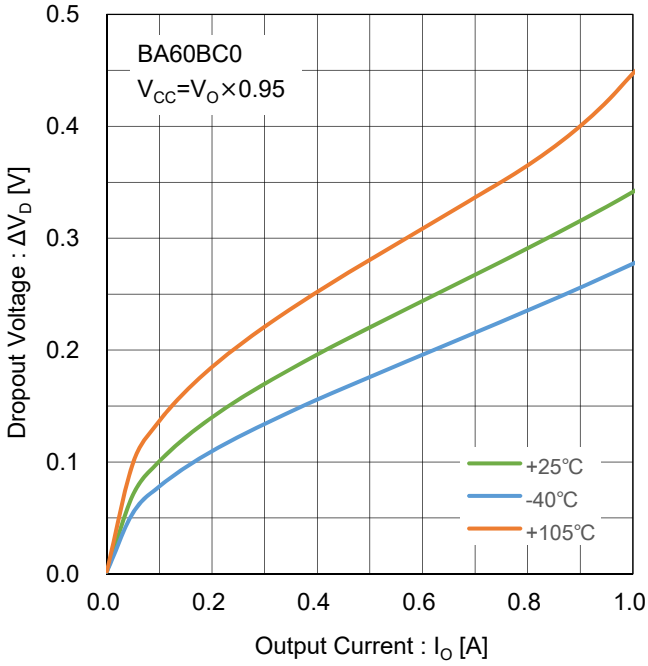


Figure 92. Dropout Voltage vs Output Current
Test Circuit B

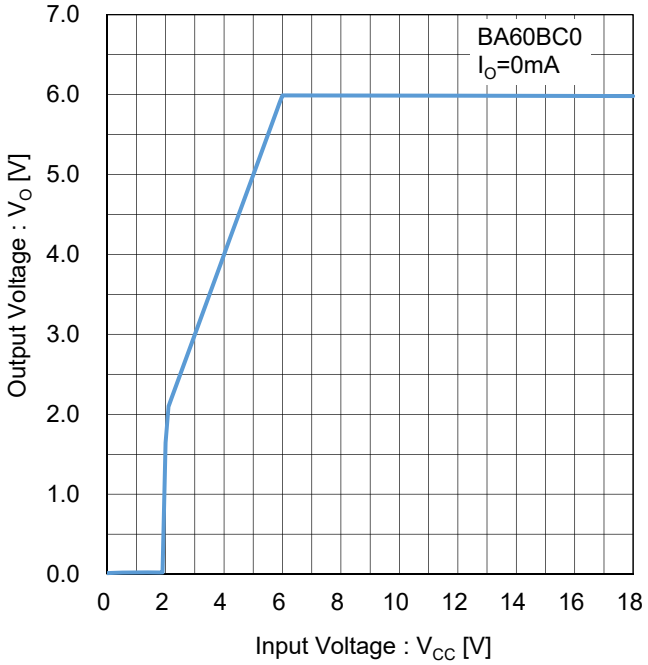


Figure 93. Output Voltage vs Input Voltage (I_O=0mA)
Test Circuit C

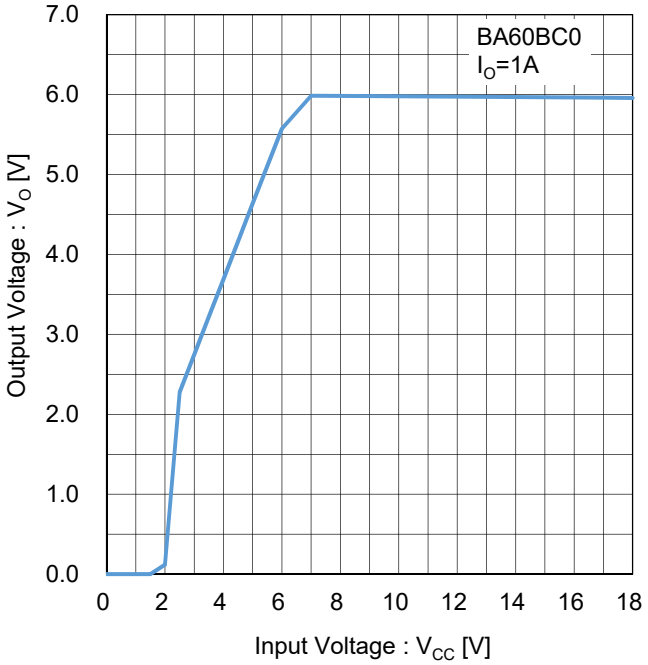


Figure 94. Output Voltage vs Input Voltage (I_O=1A)
Test Circuit C

BA60BC0 (V_O=6.0V)

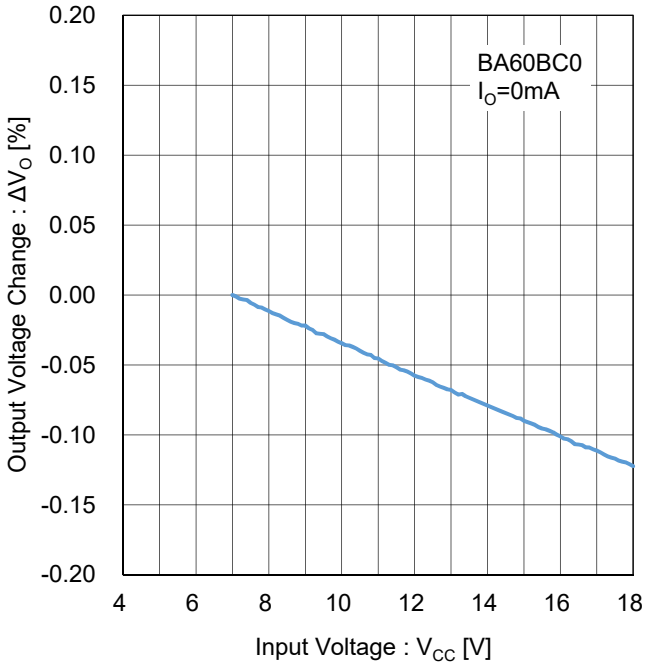


Figure 95. Line Regulation
(I_O=0mA)
Test Circuit D

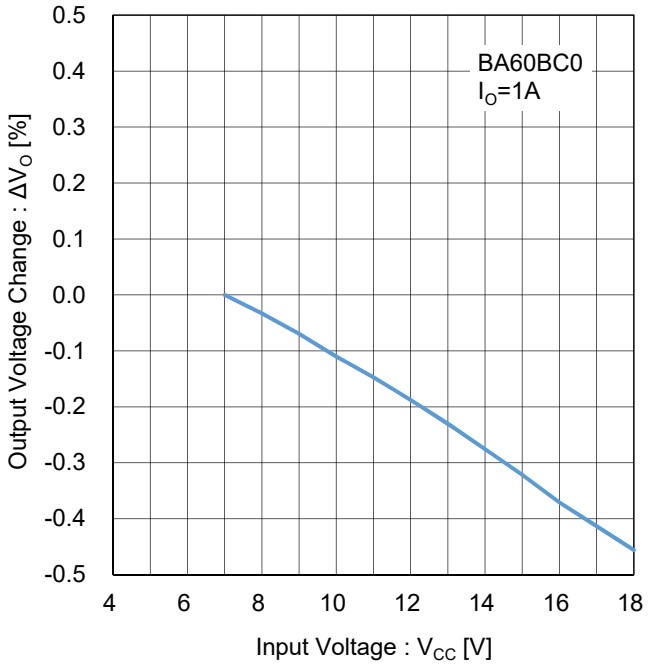


Figure 96. Line Regulation
(I_O=1A)
Test Circuit D

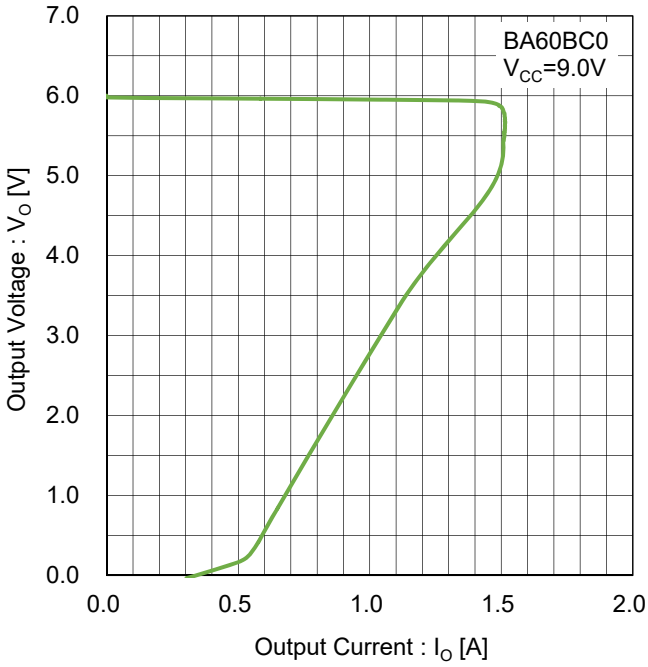


Figure 97. Overcurrent Protection
Test Circuit E

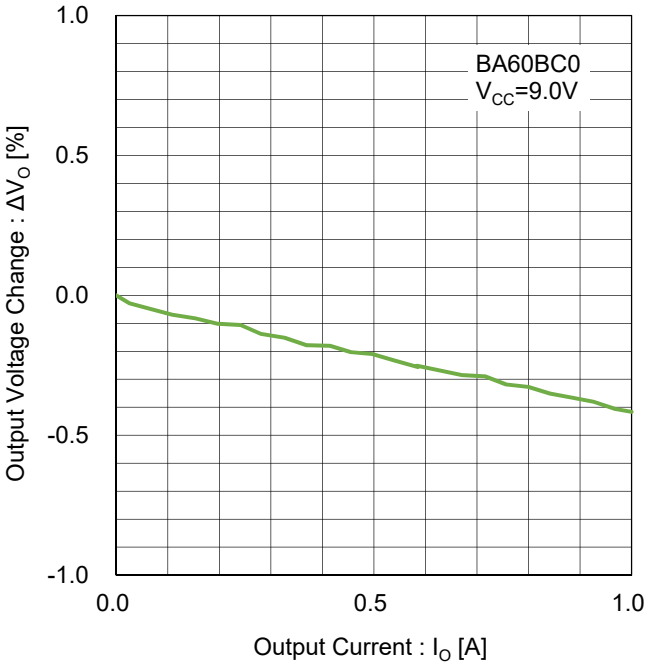


Figure 98. Load Regulation
Test Circuit F

BA60BC0 (V_O=6.0V)

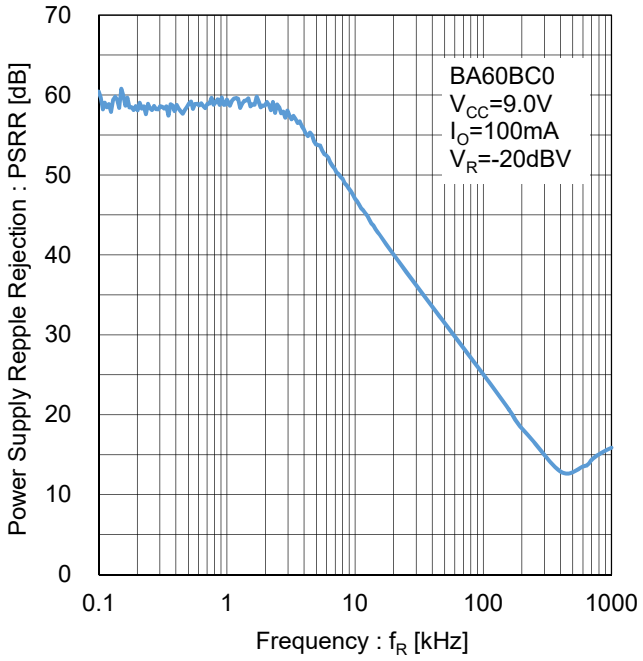


Figure 99. Ripple Rejection
Test Circuit G

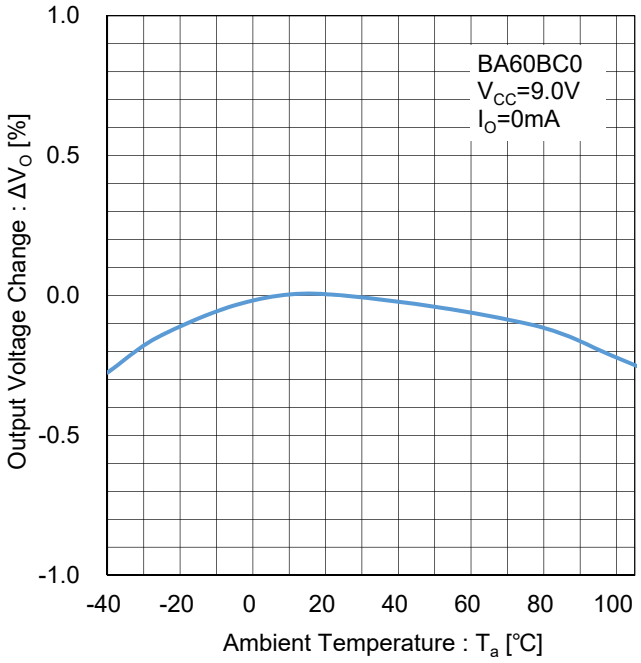


Figure 100. Output Voltage Temperature Stability
Test Circuit H

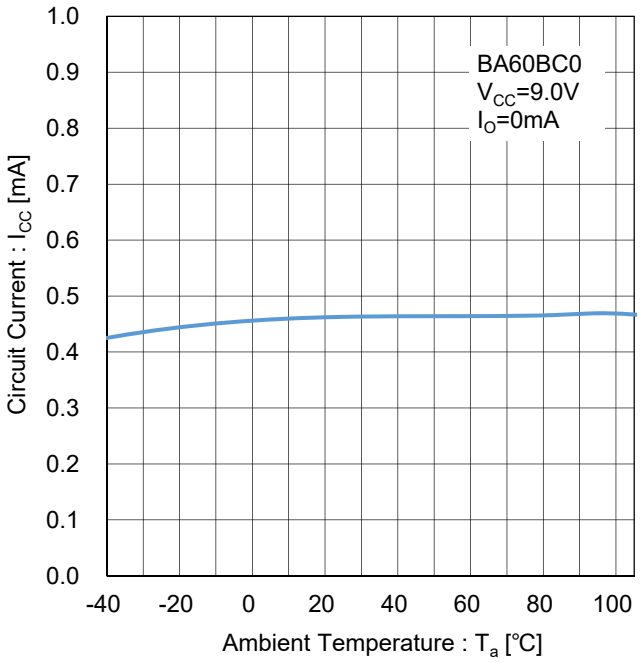


Figure 101. Circuit Current vs Temperature
Test Circuit I

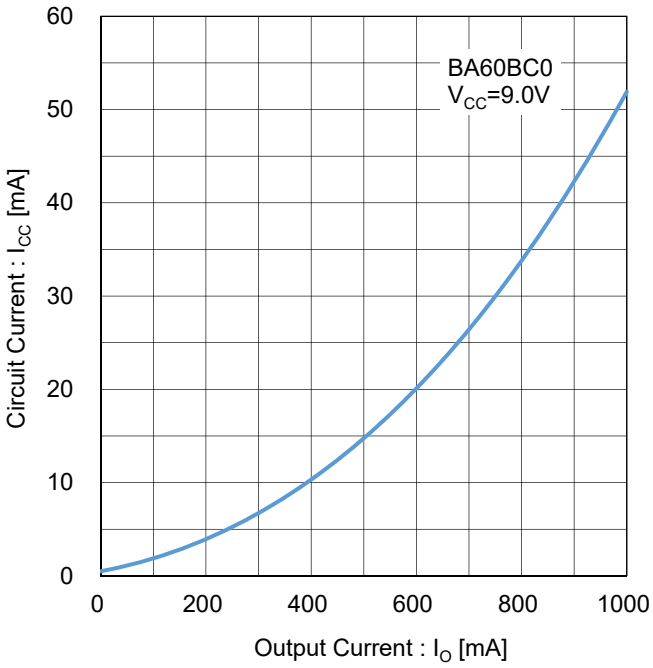


Figure 102. Circuit Current vs Output Current
Test Circuit J

BA60BC0 (V_O=6.0V)

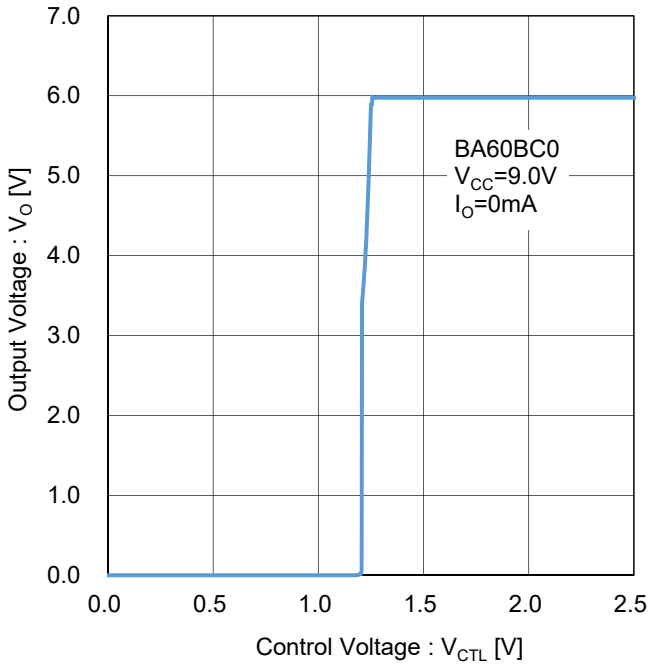


Figure 103. Output Voltage vs CTL Pin Voltage
Test Circuit K

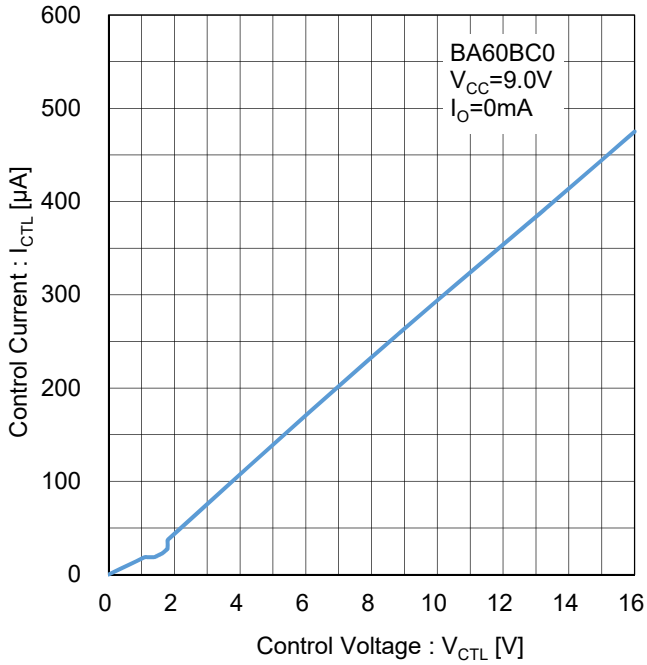


Figure 104. CTL Pin Current
Test Circuit L

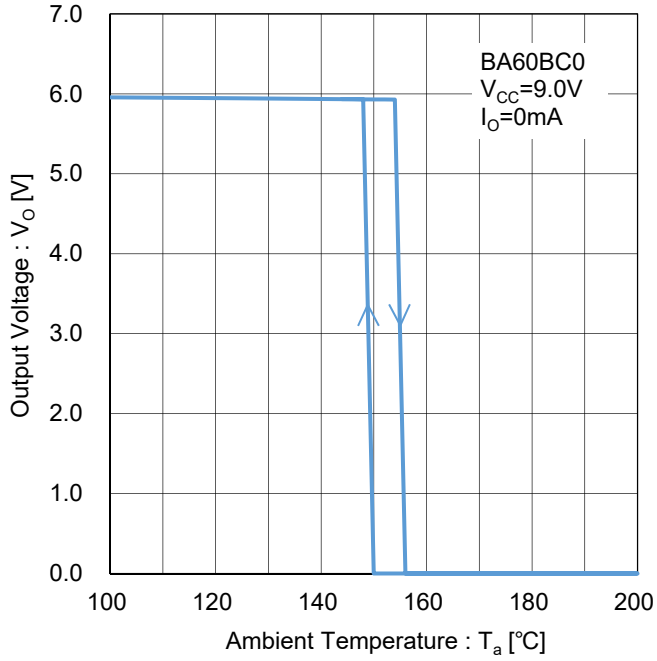


Figure 105. Thermal Shutdown
Test Circuit M

BA70BC0 (V_O=7.0V)

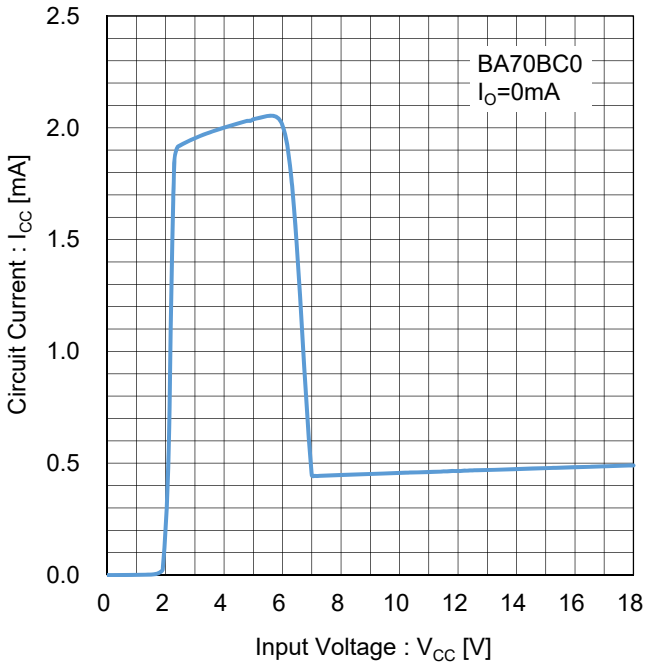


Figure 106. Circuit Current
Test Circuit A

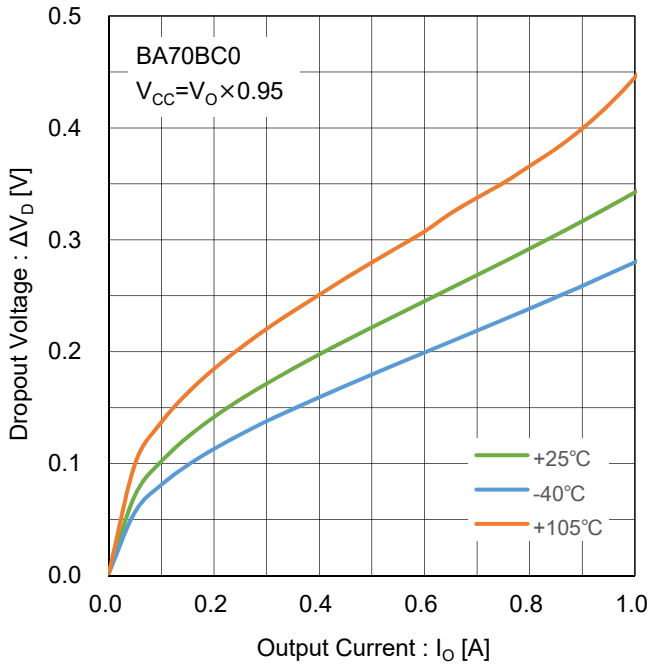


Figure 107. Dropout Voltage vs Output Current
Test Circuit B

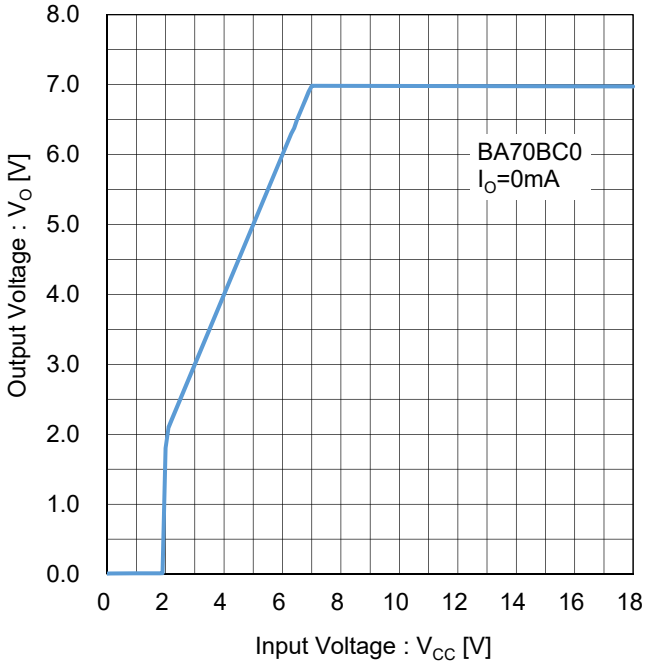


Figure 108. Output Voltage vs Input Voltage (I_O=0mA)
Test Circuit C

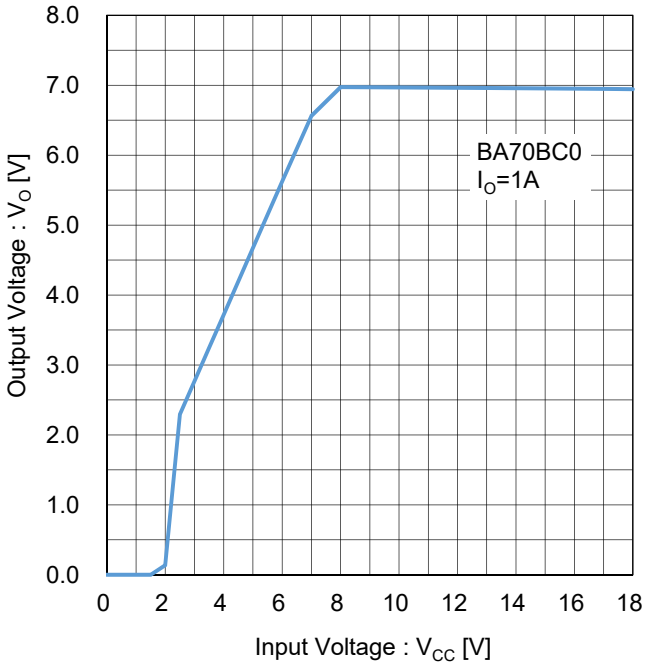


Figure 109. Output Voltage vs Input Voltage (I_O=1A)
Test Circuit C

BA70BC0 (V_O=7.0V)

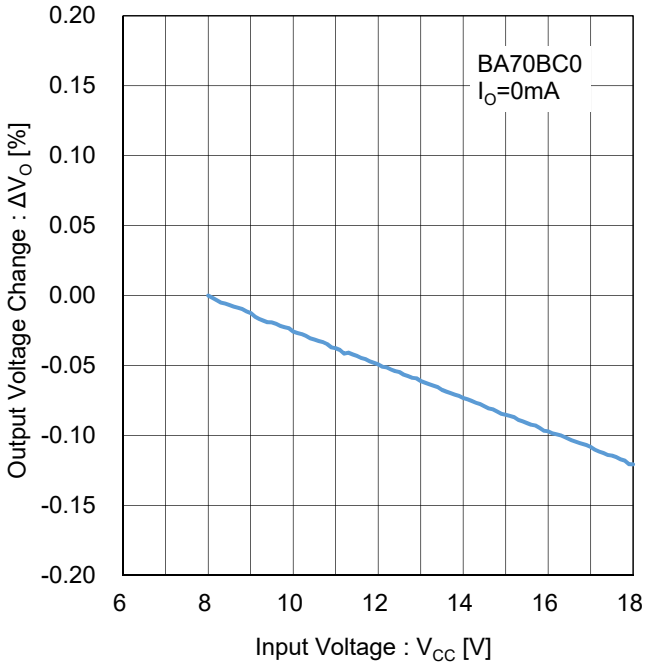


Figure 110. Line Regulation (I_O=0mA)
Test Circuit D

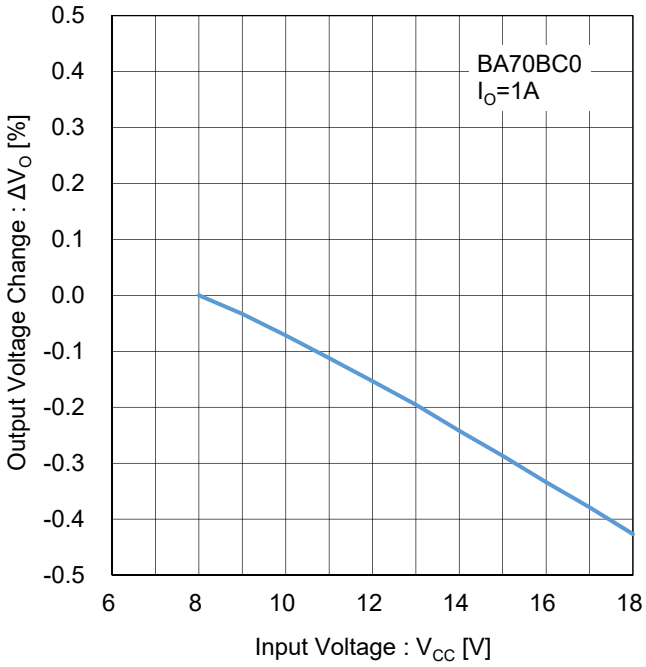


Figure 111. Line Regulation (I_O=1A)
Test Circuit D

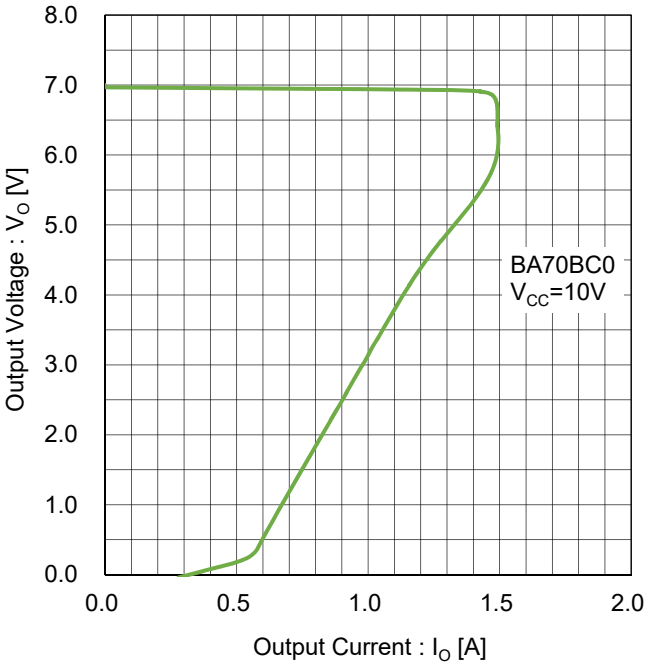


Figure 112. Overcurrent Protection
Test Circuit E

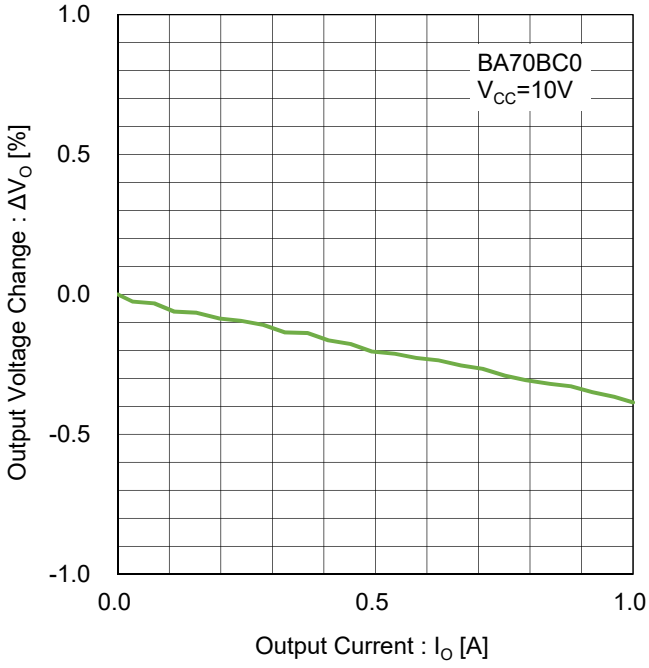


Figure 113. Load Regulation
Test Circuit F

BA70BC0 (V_O=7.0V)

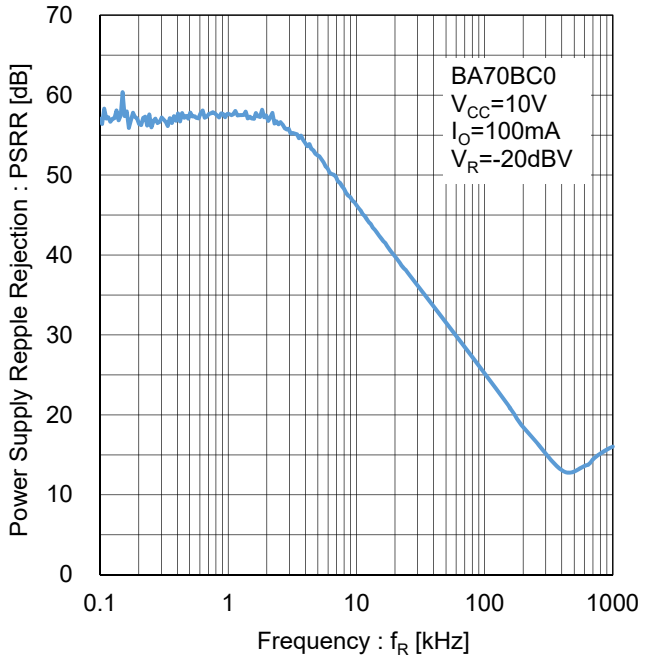


Figure 114. Ripple Rejection
Test Circuit G

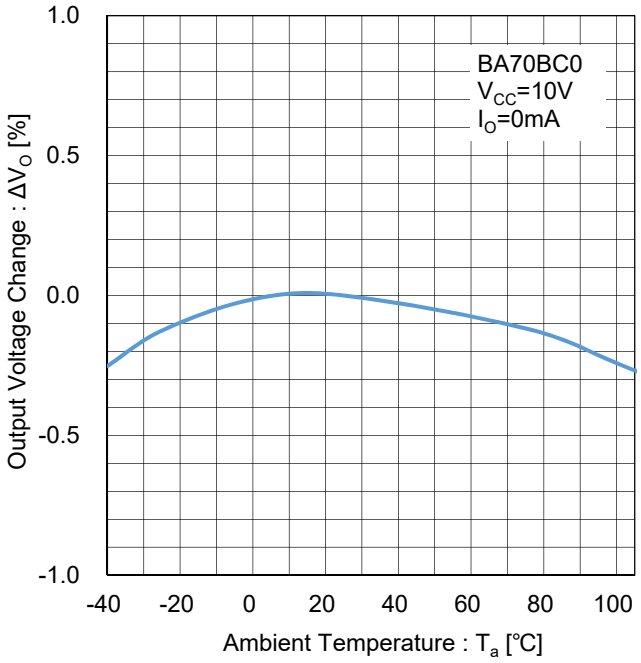


Figure 115. Output Voltage Temperature Stability
Test Circuit H

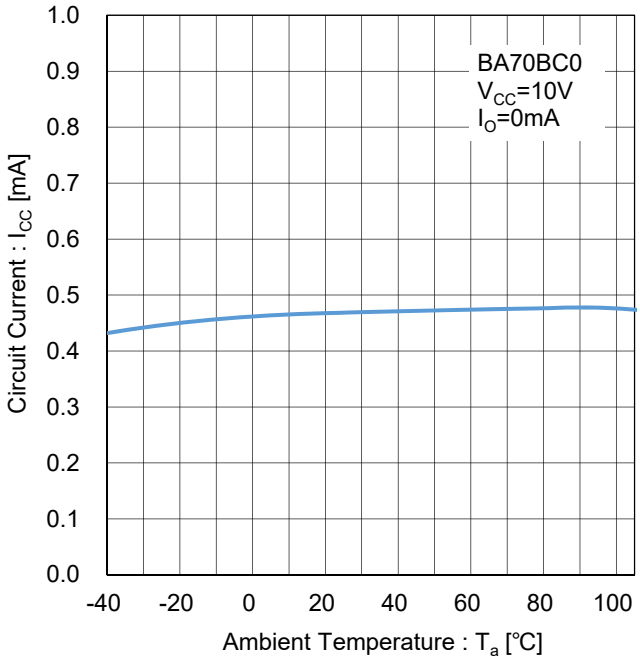


Figure 116. Circuit Current vs Temperature
Test Circuit I

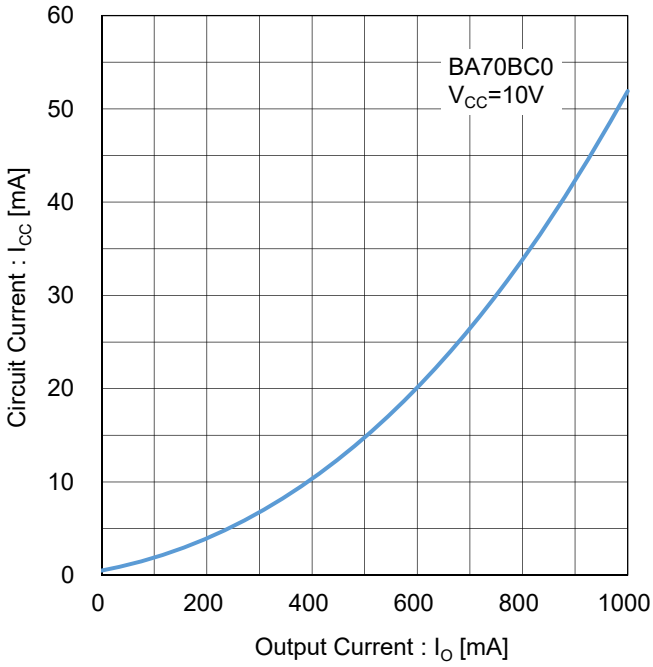


Figure 117. Circuit Current vs Output Current
Test Circuit J

BA70BC0 (V_O=7.0V)

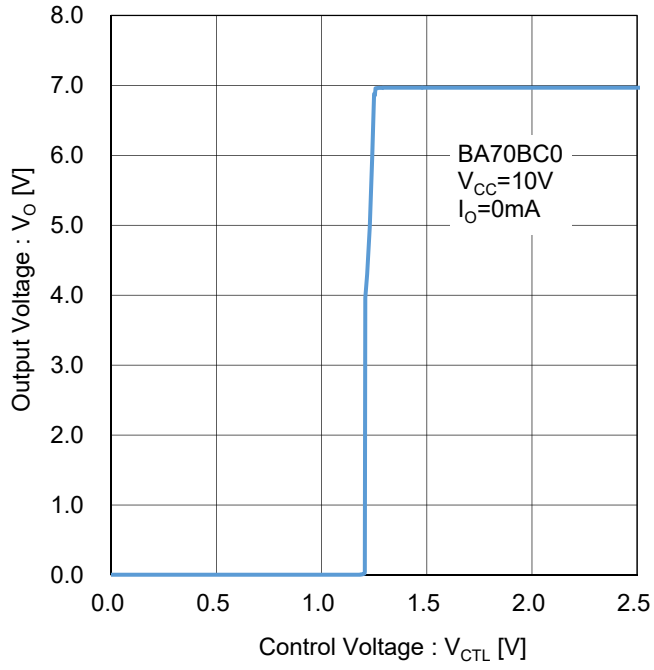


Figure 118. Output Voltage vs CTL Pin Voltage
Test Circuit K

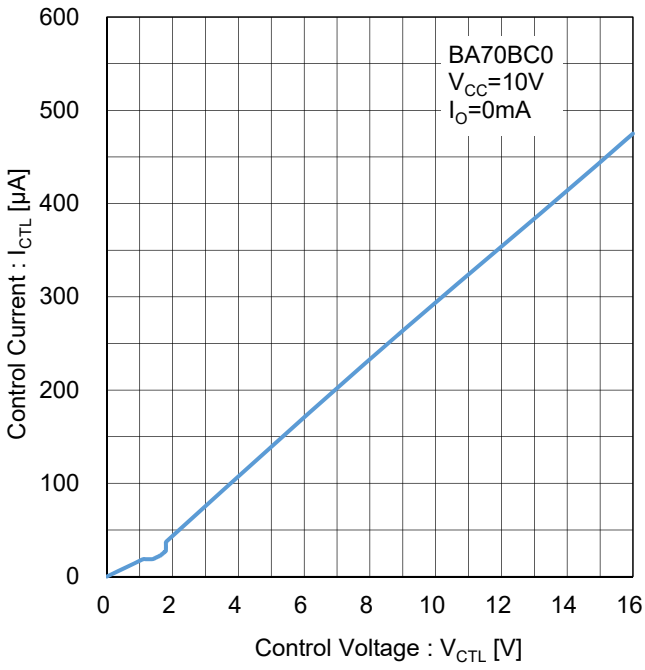


Figure 119. CTL Pin Current
Test Circuit L

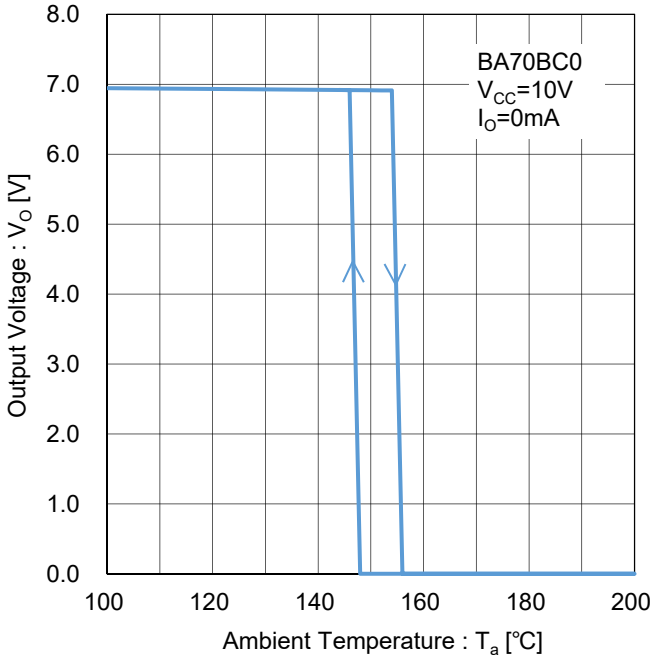


Figure 120. Thermal Shutdown
Test Circuit M

BA80BC0 (V_O=8.0V)

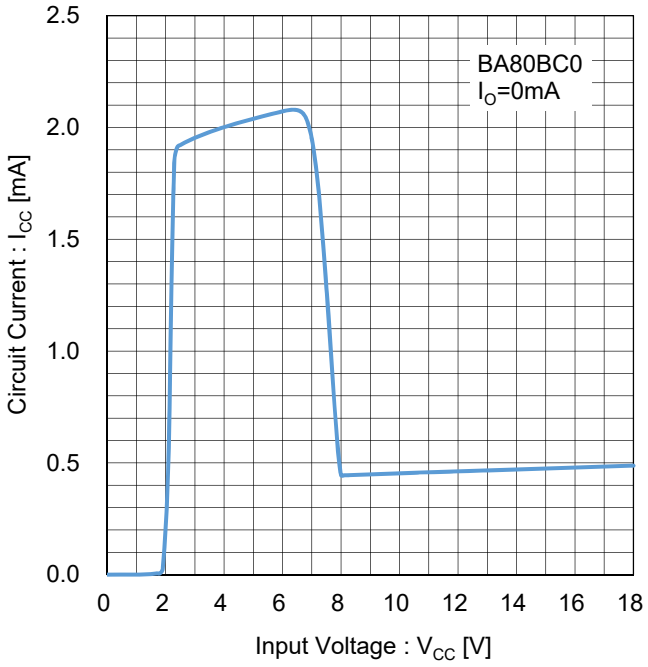


Figure 121. Circuit Current
Test Circuit A

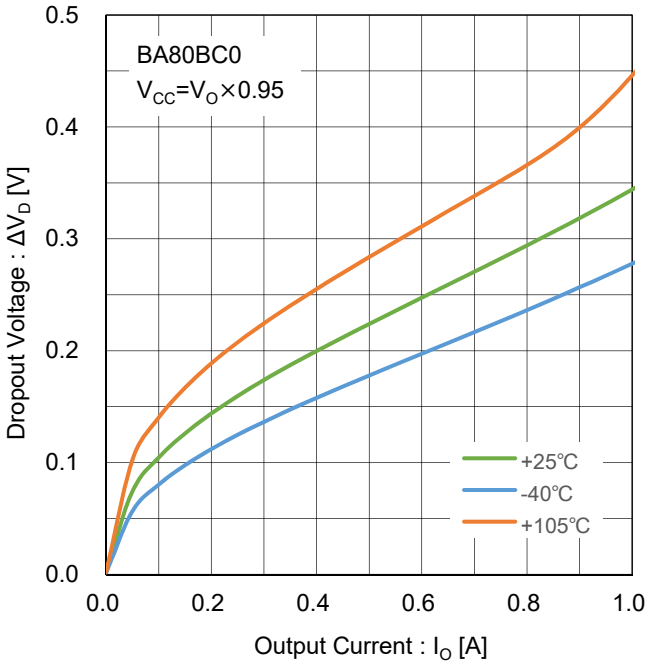


Figure 122. Dropout Voltage vs Output Current
Test Circuit B

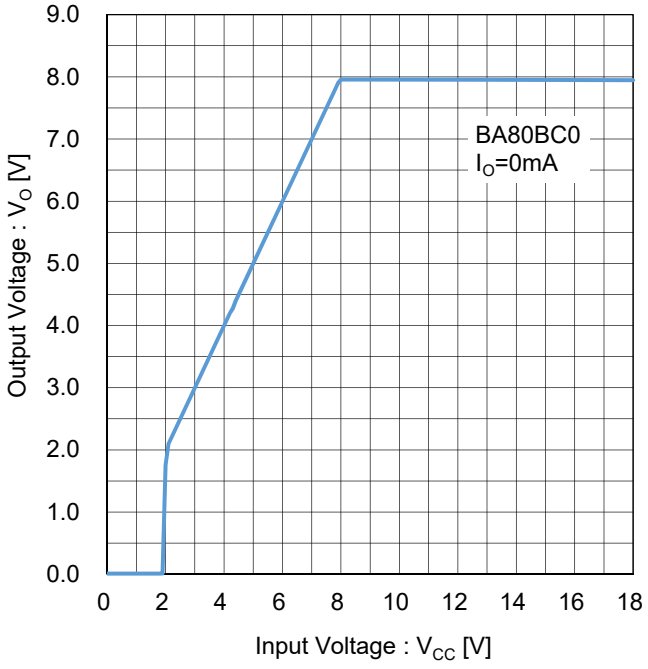


Figure 123. Output Voltage vs Input Voltage (I_O=0mA)
Test Circuit C

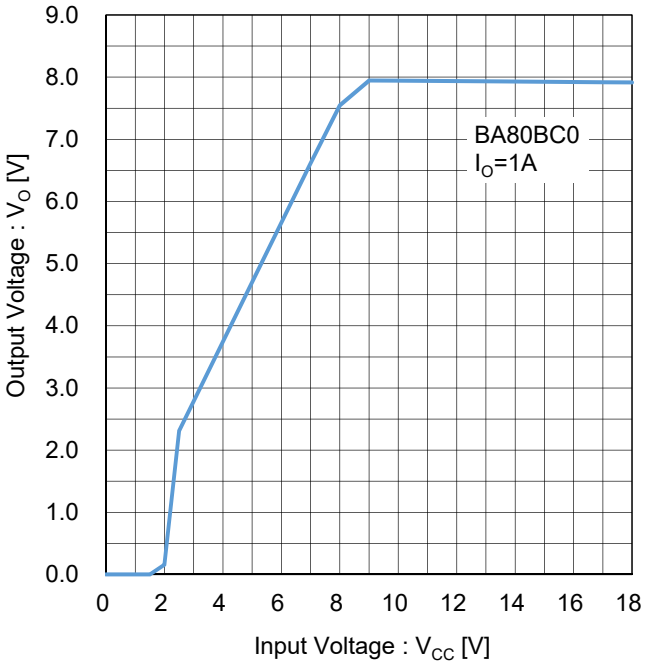


Figure 124. Output Voltage vs Input Voltage (I_O=1A)
Test Circuit C

BA80BC0 (V_O=8.0V)

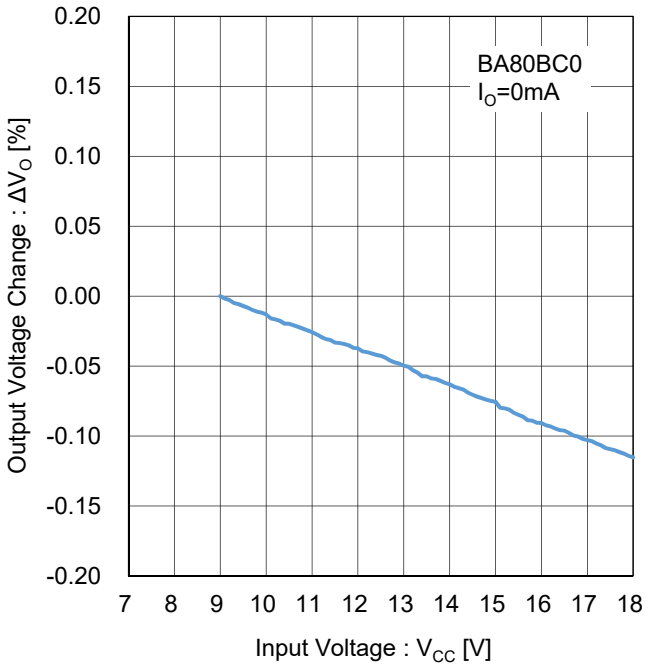


Figure 125. Line Regulation
(I_O=0mA)
Test Circuit D

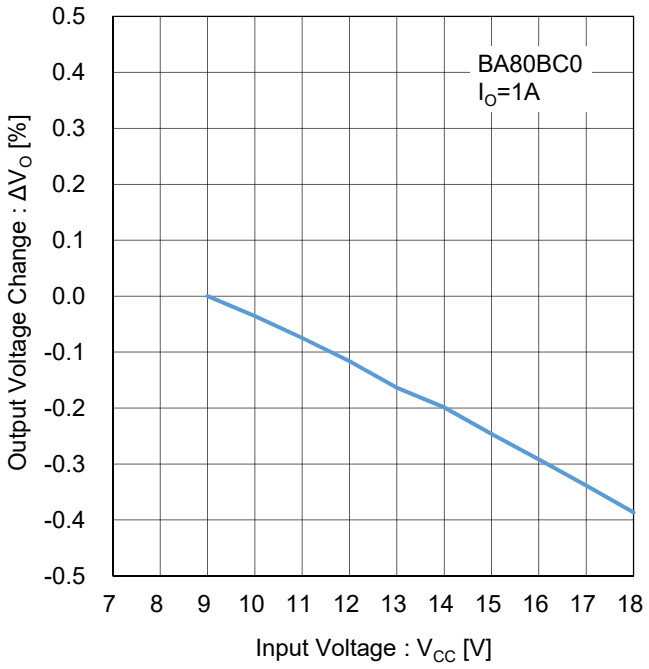


Figure 126. Line Regulation
(I_O=1A)
Test Circuit D

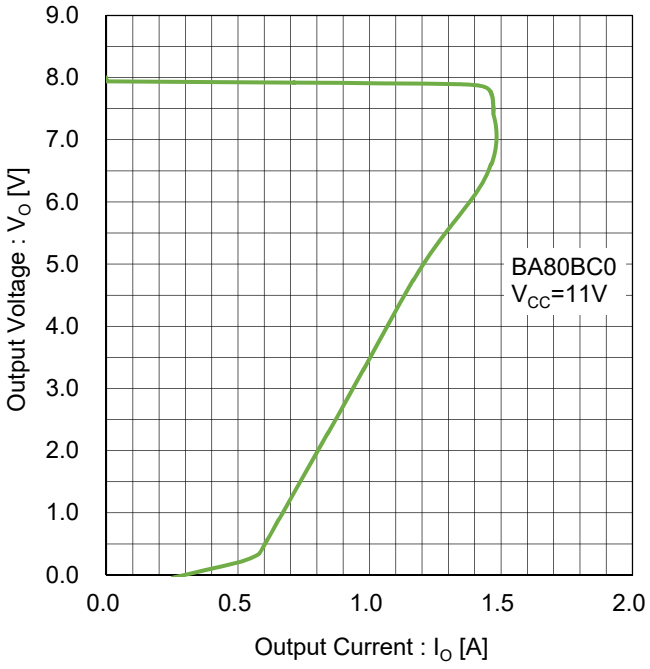


Figure 127. Overcurrent Protection
Test Circuit E

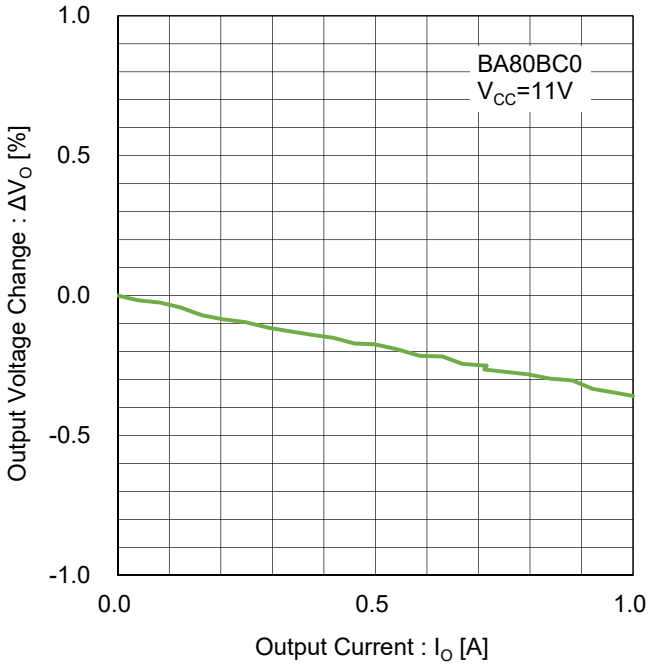


Figure 128. Load Regulation
Test Circuit F

BA80BC0 (V_O=8.0V)

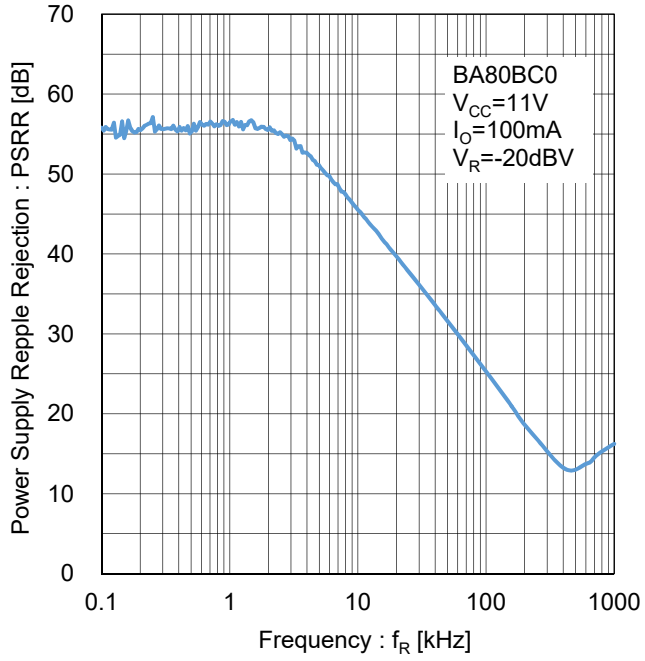


Figure 129. Ripple Rejection
Test Circuit G

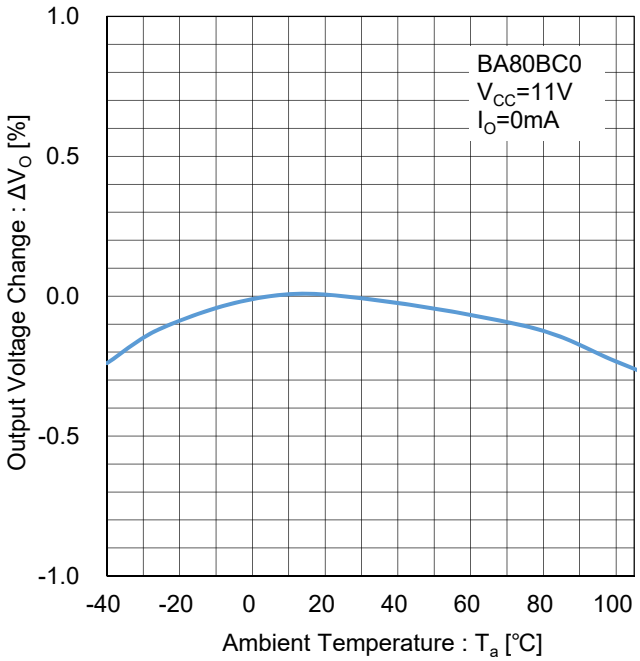


Figure 130. Output Voltage Temperature Stability
Test Circuit H

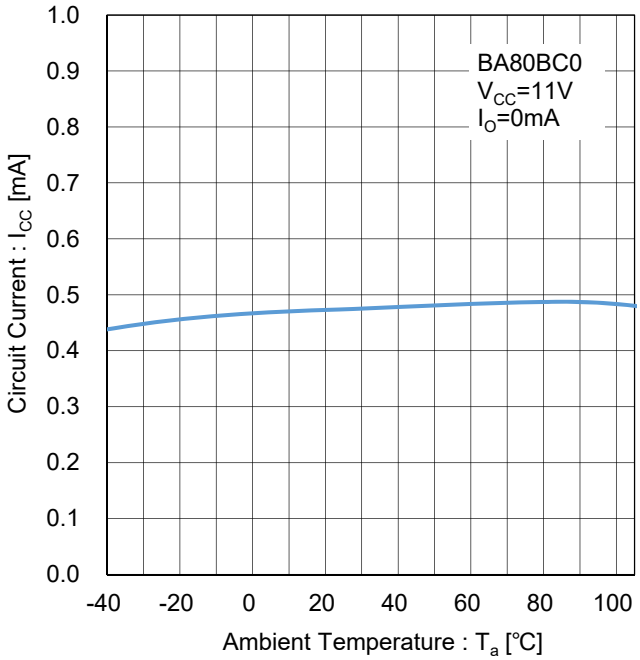


Figure 131. Circuit Current vs Temperature
Test Circuit I

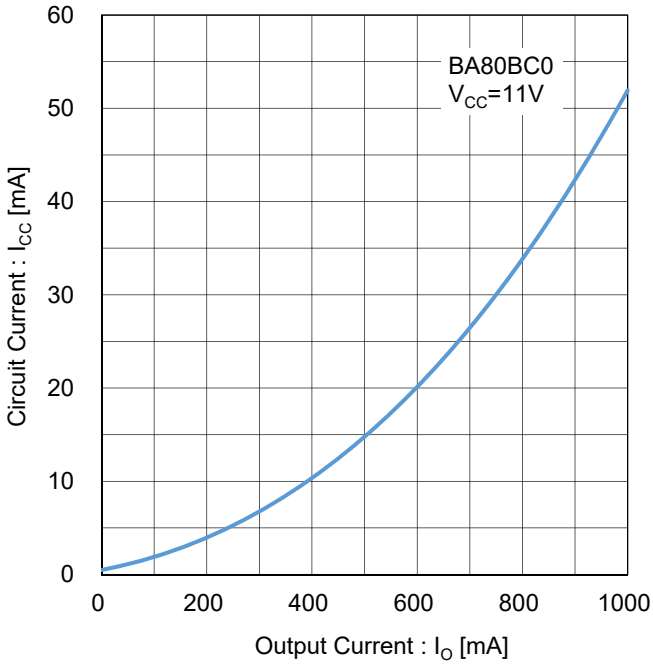


Figure 132. Circuit Current vs Output Current
Test Circuit J

BA80BC0 (V_O=8.0V)

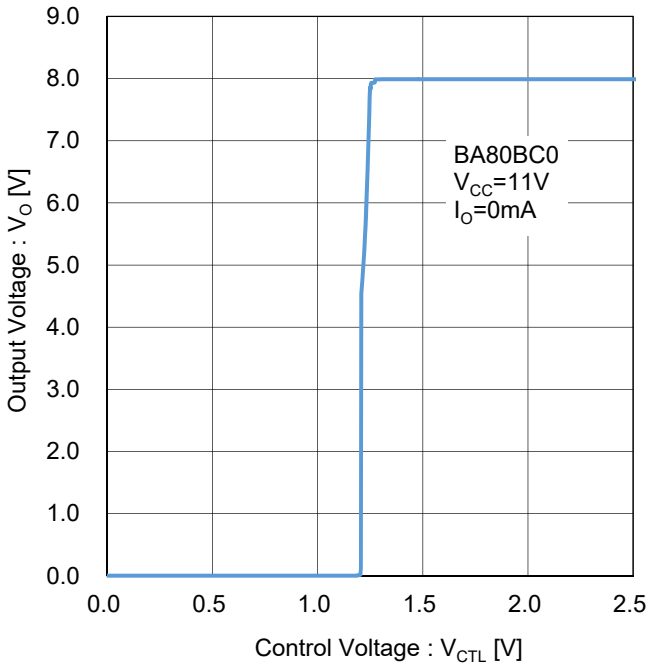


Figure 133. Output Voltage vs CTL Pin Voltage
Test Circuit K

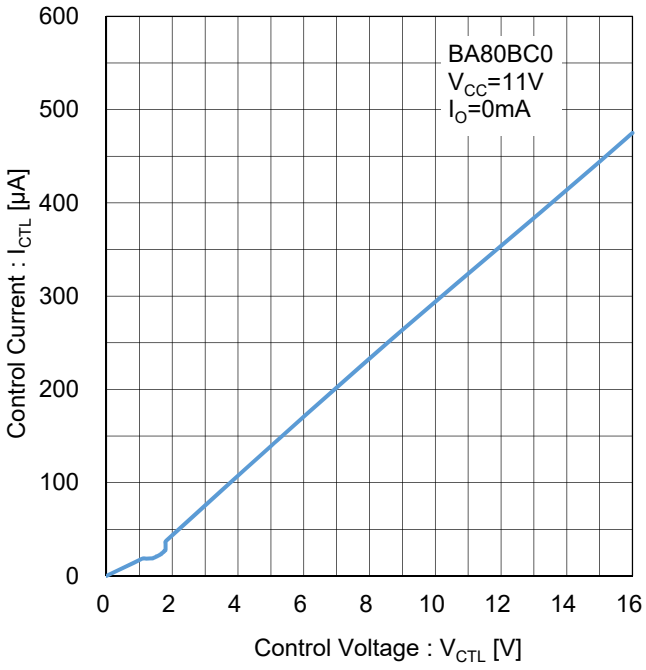


Figure 134. CTL Pin Current
Test Circuit L

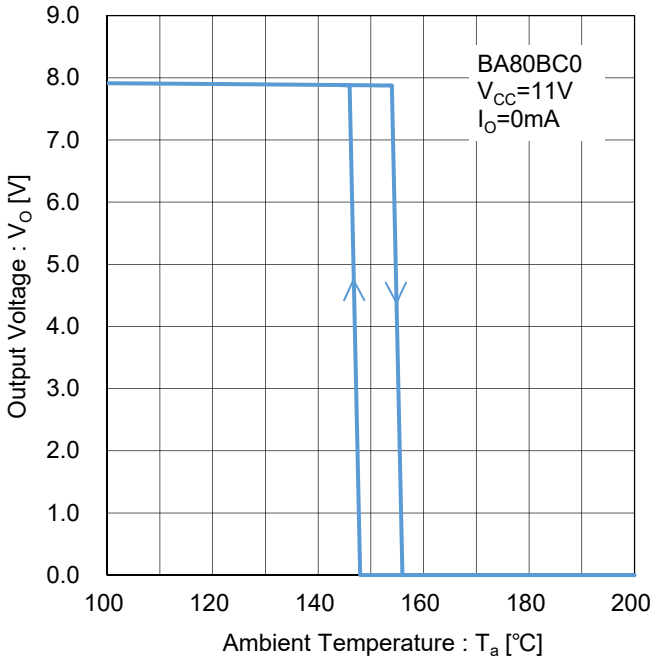


Figure 135. Thermal Shutdown
Test Circuit M

BA90BC0 (V_O=9.0V)

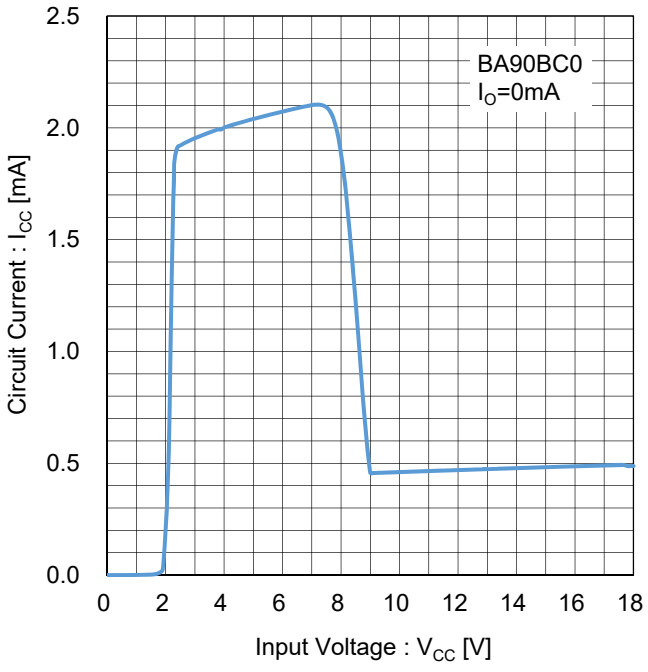


Figure 136. Circuit Current
Test Circuit A

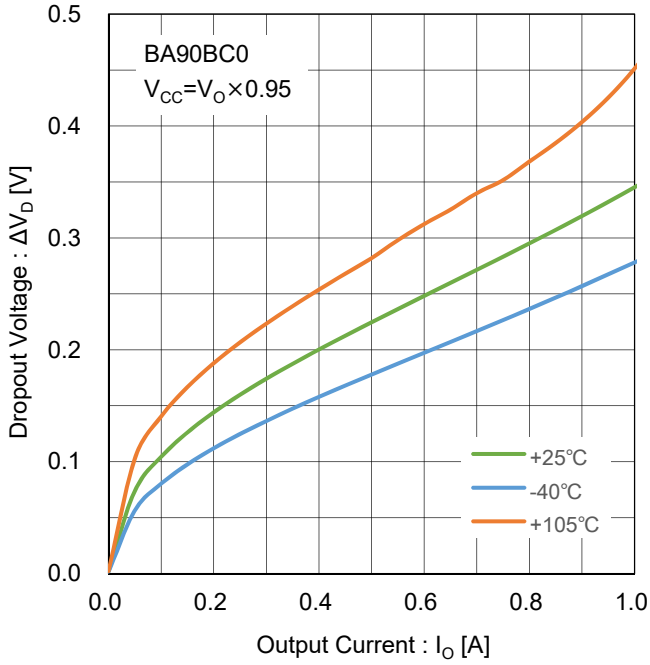


Figure 137. Dropout Voltage vs Output Current
Test Circuit B

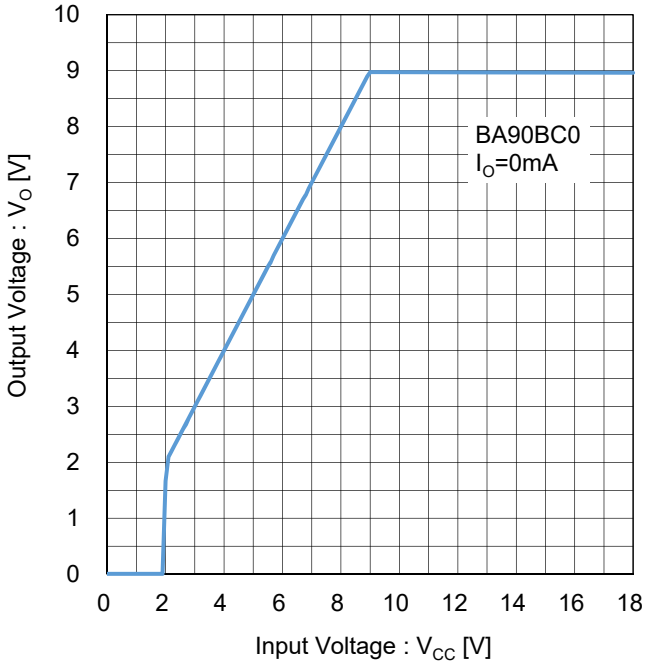


Figure 138. Output Voltage vs Input Voltage (I_O=0mA)
Test Circuit C

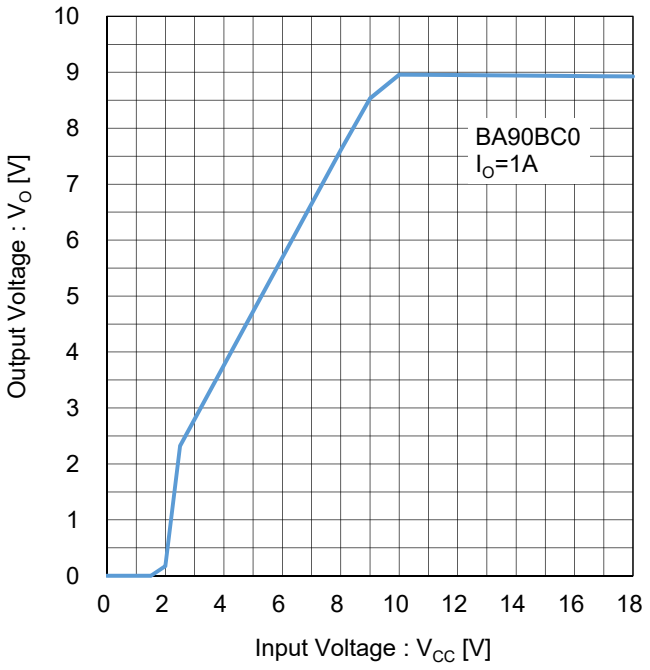


Figure 139. Output Voltage vs Input Voltage (I_O=1A)
Test Circuit C

BA90BC0 (V_O=9.0V)

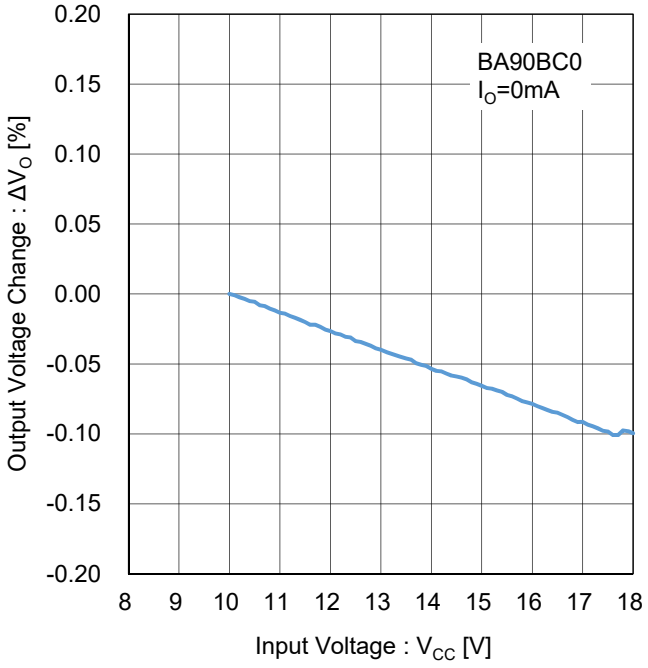


Figure 140. Line Regulation
(I_O=0mA)
Test Circuit D

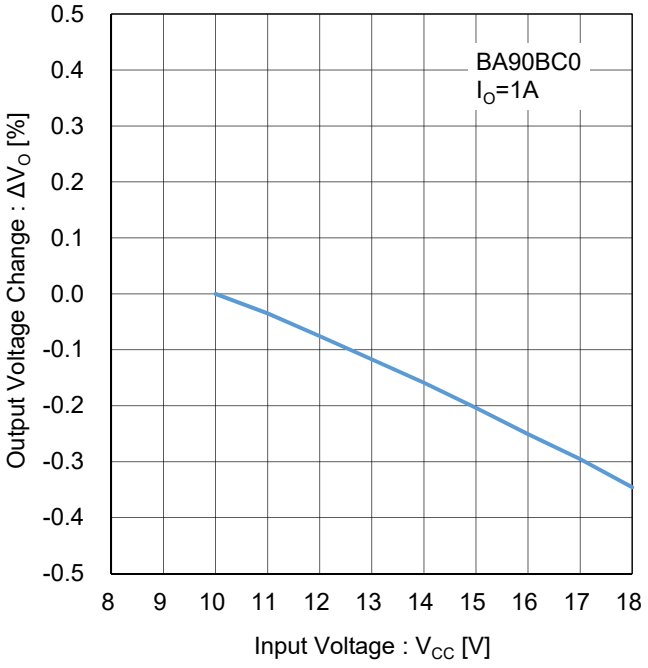


Figure 141. Line Regulation
(I_O=1A)
Test Circuit D

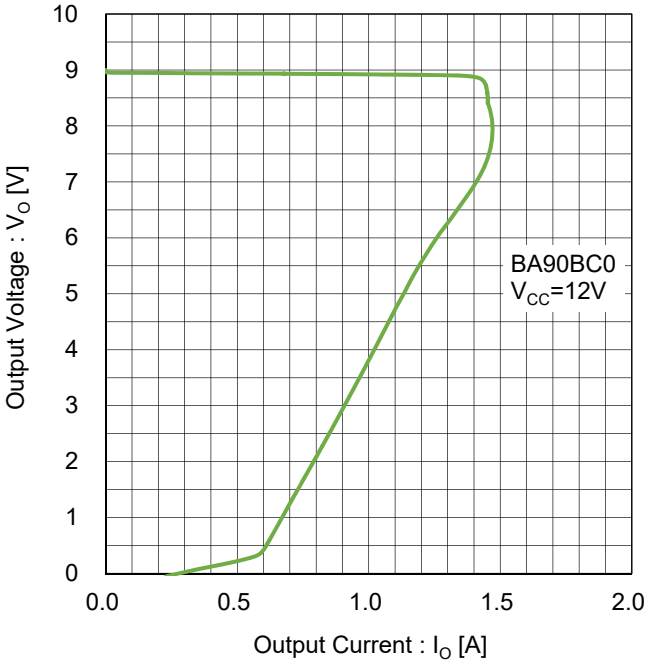


Figure 142. Overcurrent Protection
Test Circuit E

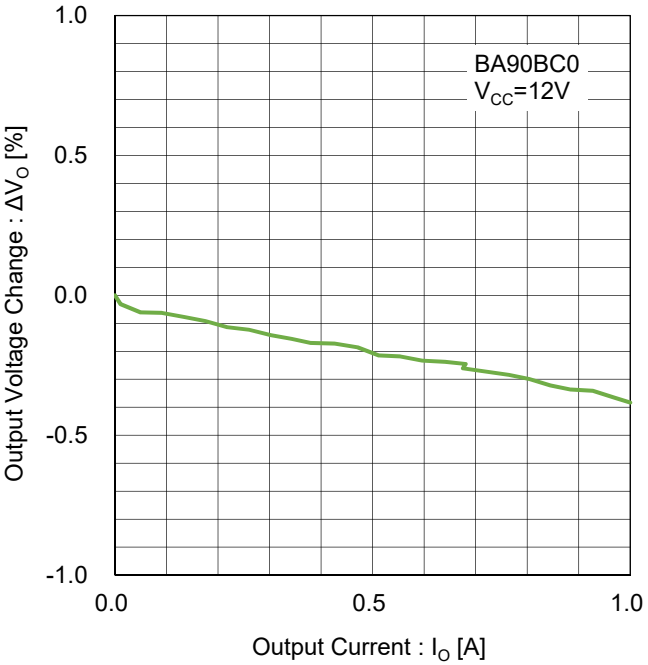


Figure 143. Load Regulation
Test Circuit F

BA90BC0 (V_O=9.0V)

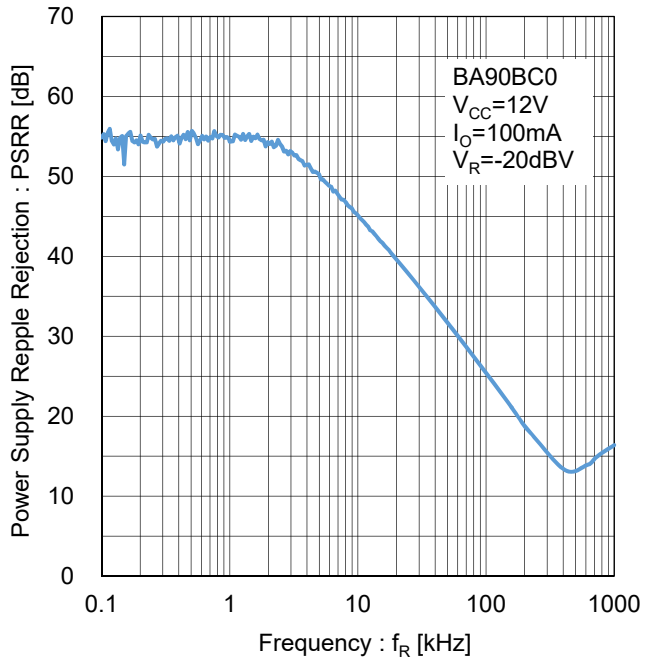


Figure 144. Ripple Rejection
Test Circuit G

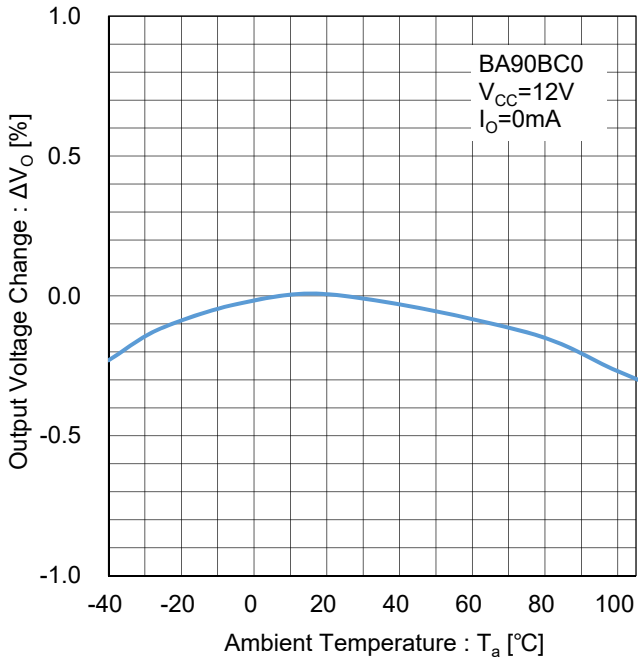


Figure 145. Output Voltage Temperature Stability
Test Circuit H

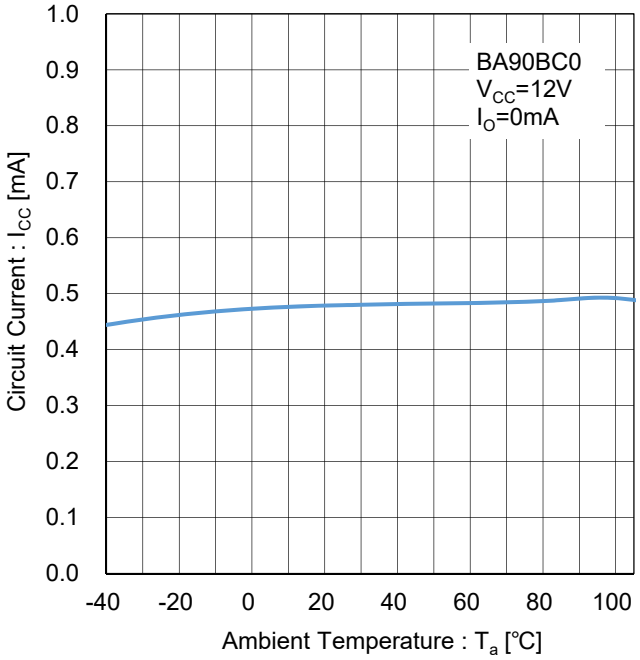


Figure 146. Circuit Current vs Temperature
Test Circuit I

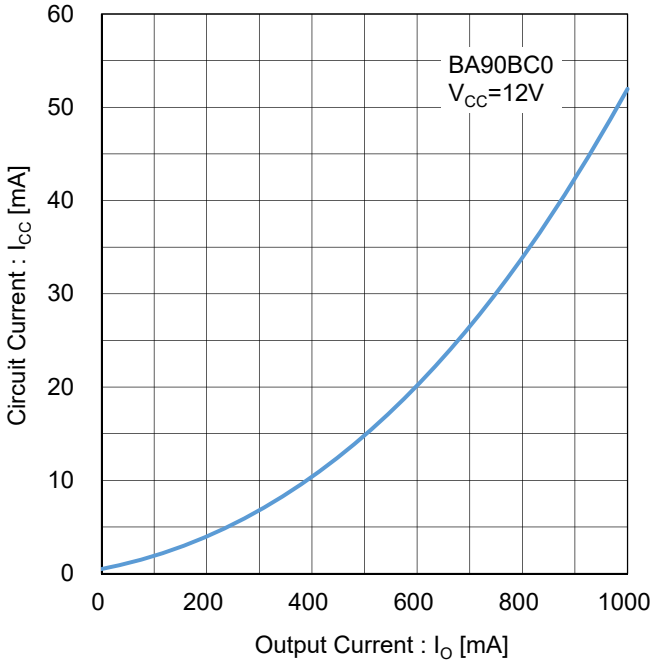


Figure 147. Circuit Current vs Output Current
Test Circuit J

BA90BC0 (V_O=9.0V)

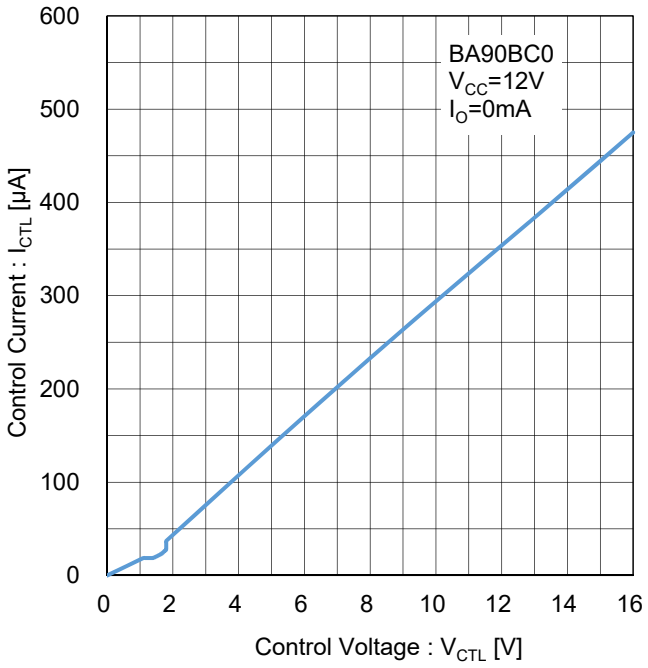


Figure 148. Output Voltage vs CTL Pin Voltage
Test Circuit K

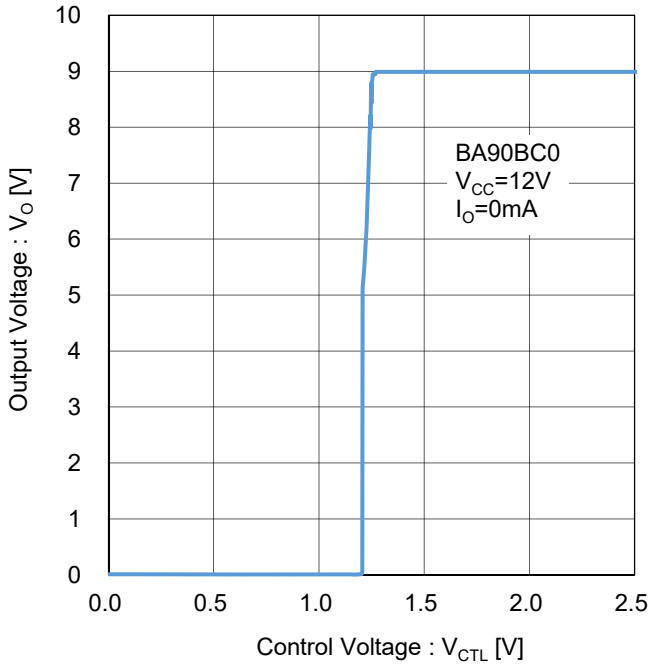


Figure 149. CTL Pin Current
Test Circuit L

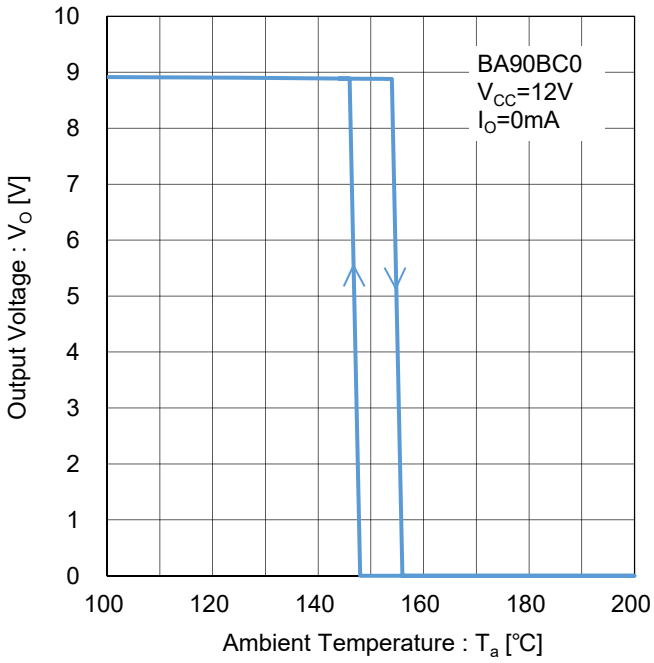


Figure 150. Thermal Shutdown
Test Circuit M

BAJ0BC0 (V_O=10V)

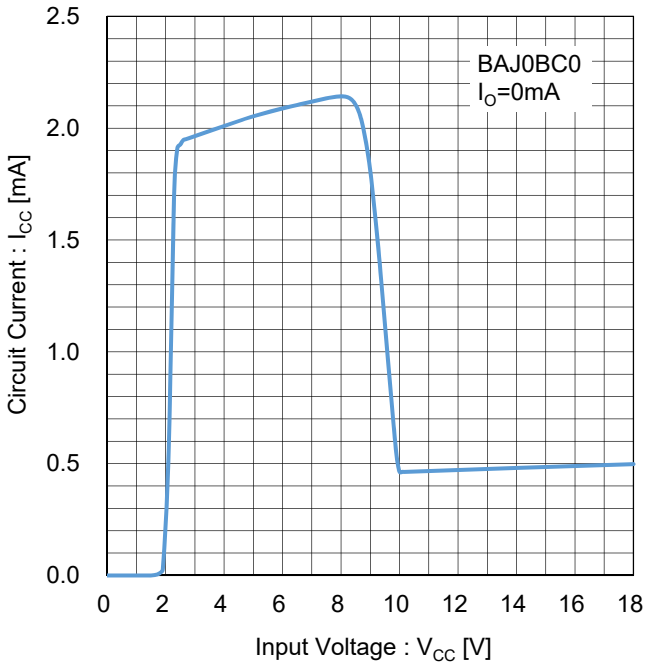


Figure 151. Circuit Current
Test Circuit A

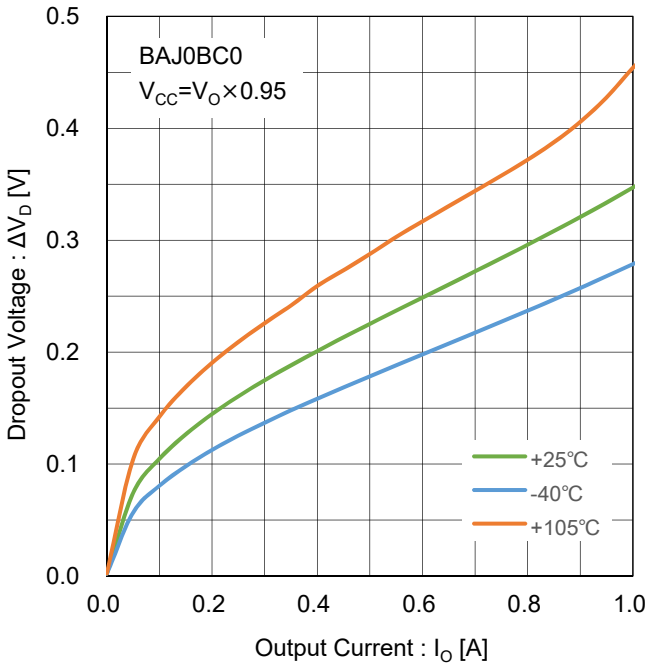


Figure 152. Dropout Voltage vs Output Current
Test Circuit B

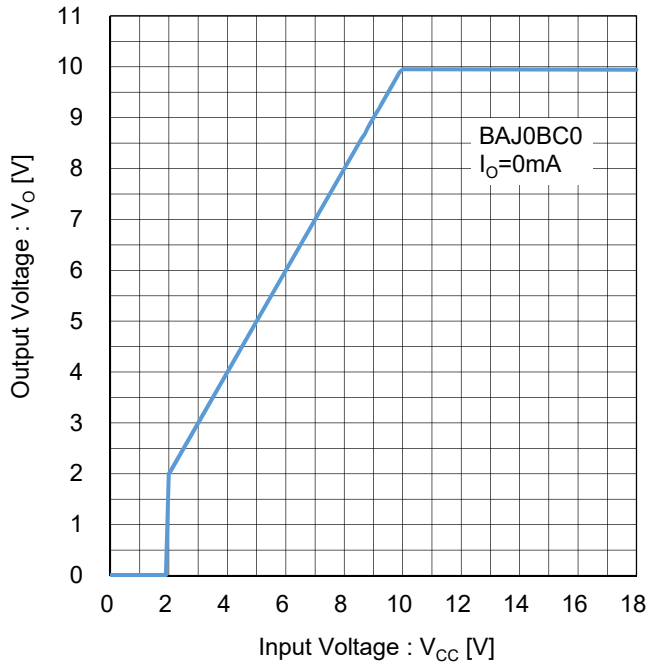


Figure 153. Output Voltage vs Input Voltage (I_O=0mA)
Test Circuit C

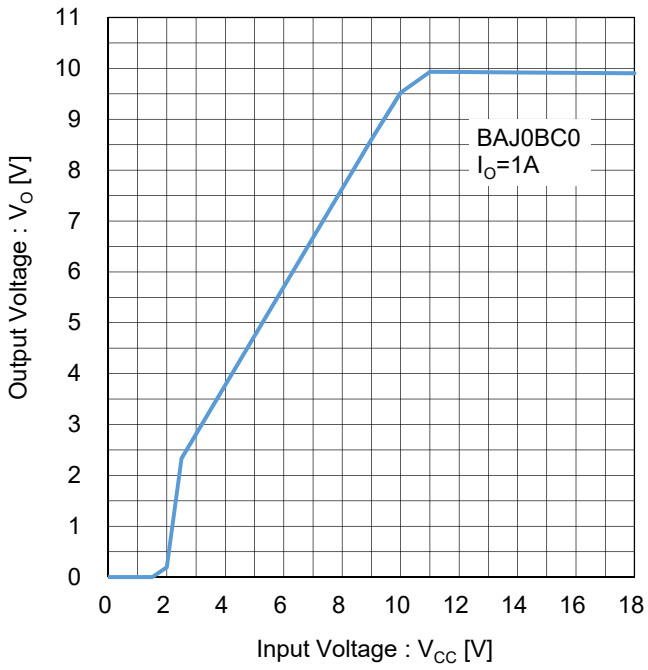


Figure 154. Output Voltage vs Input Voltage (I_O=1A)
Test Circuit C

BAJ0BC0 (V_O=10V)

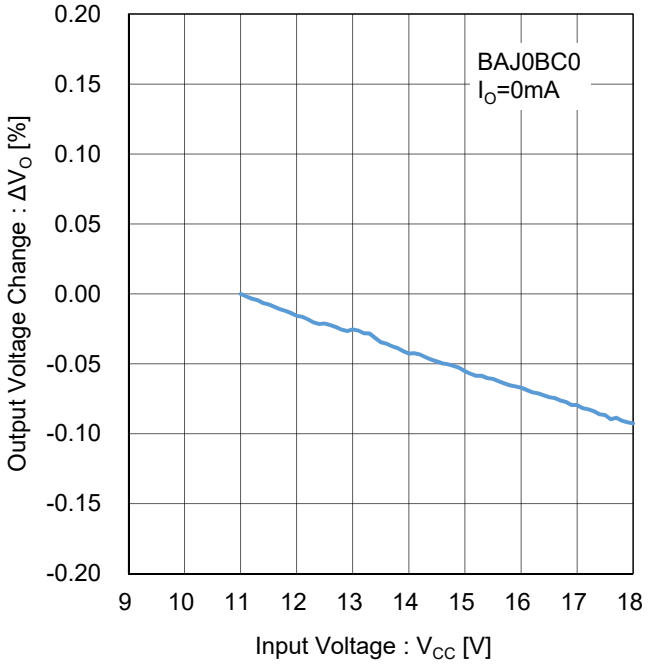


Figure 155. Line Regulation
(I_O=0mA)
Test Circuit D

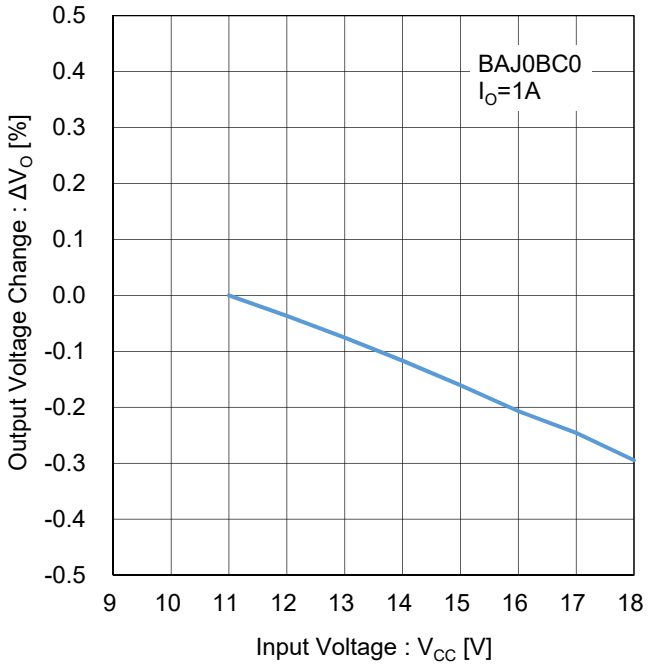


Figure 156. Line Regulation
(I_O=1A)
Test Circuit D

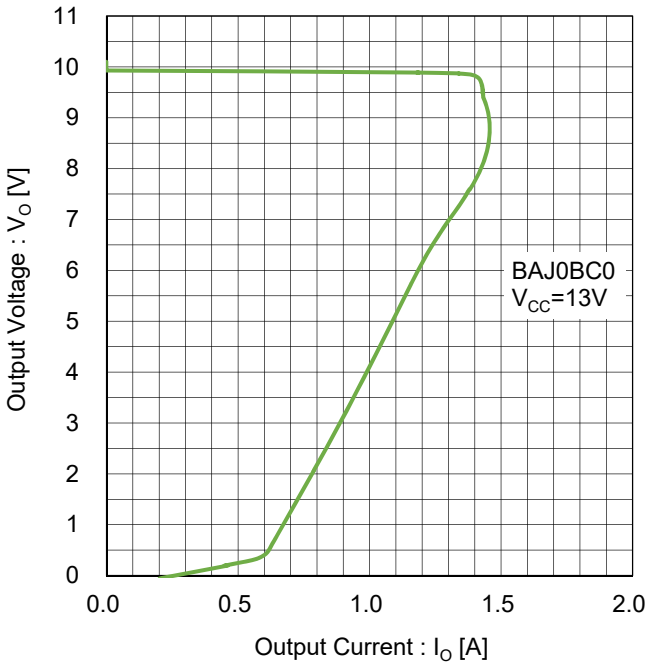


Figure 157. Overcurrent Protection
Test Circuit E

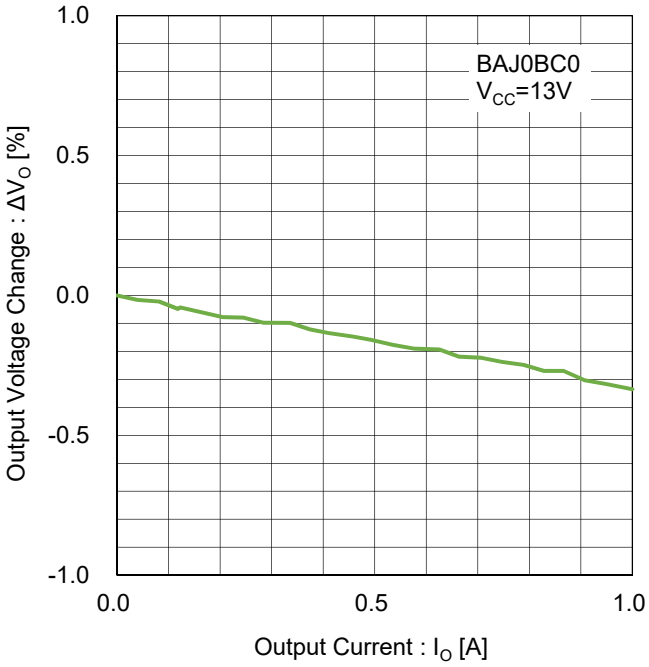


Figure 158. Load Regulation
Test Circuit F

BAJ0BC0 (V_O=10V)

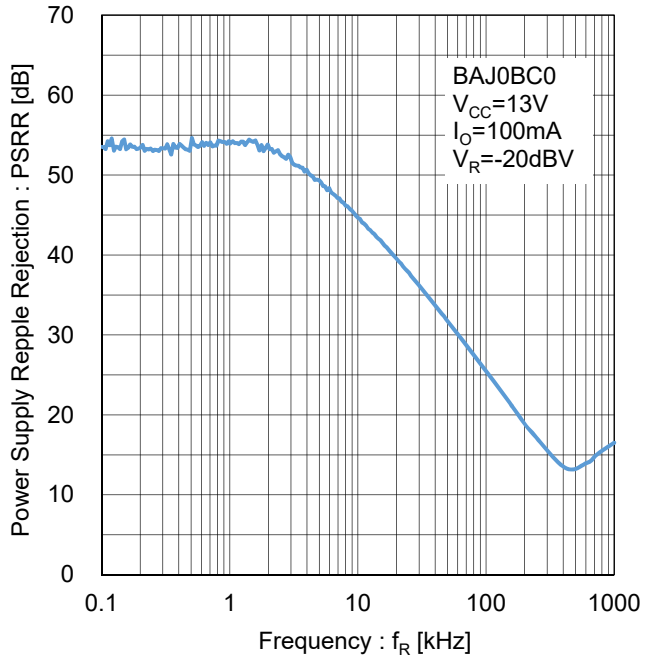


Figure 159. Ripple Rejection
Test Circuit G

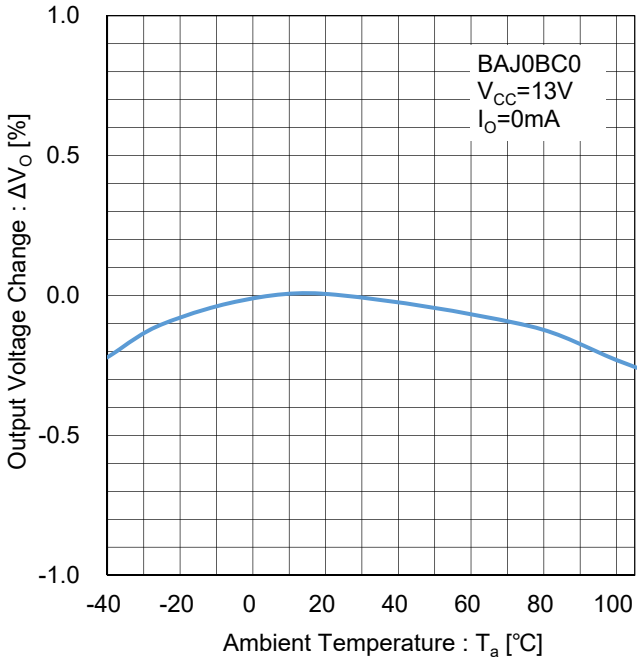


Figure 160. Output Voltage Temperature Stability
Test Circuit H

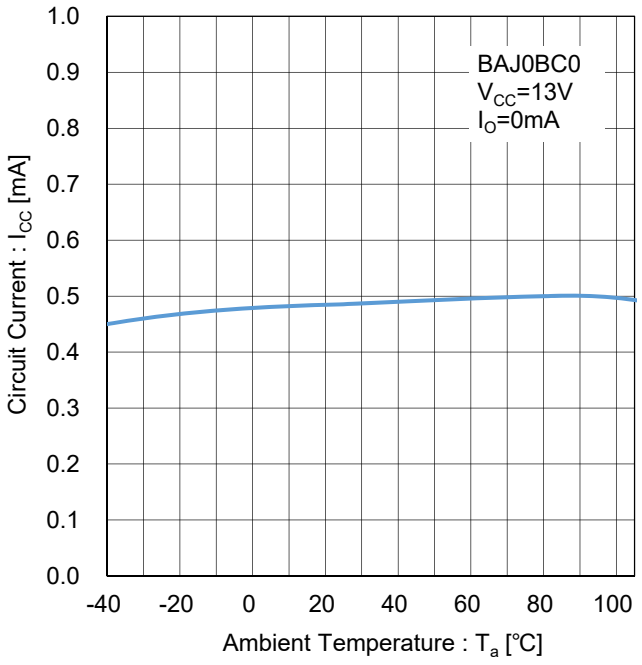


Figure 161. Circuit Current vs Temperature
Test Circuit I

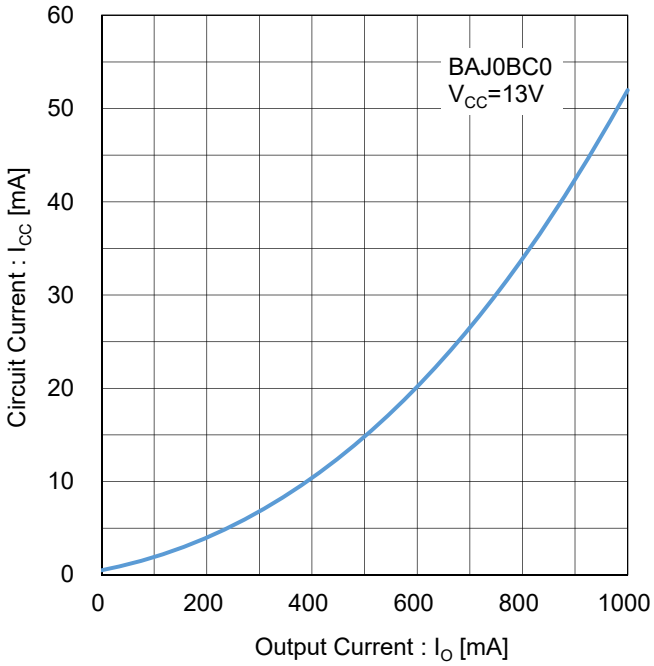


Figure 162. Circuit Current vs Output Current
Test Circuit J

BAJ0BC0 (V_O=10V)

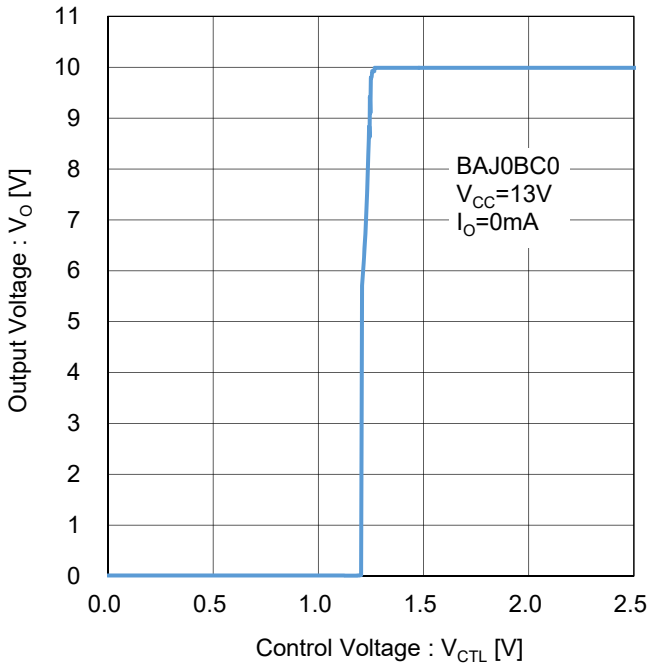


Figure 163. Output Voltage vs CTL Pin Voltage
Test Circuit K

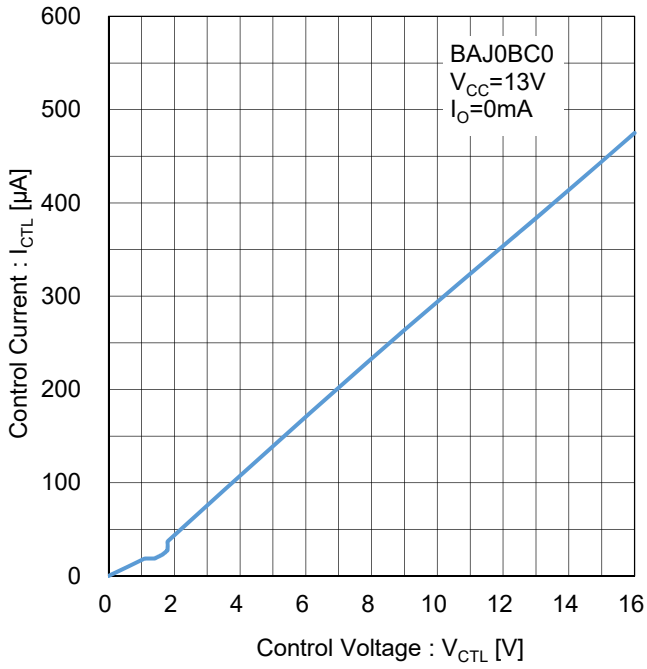


Figure 164. CTL Pin Current
Test Circuit L

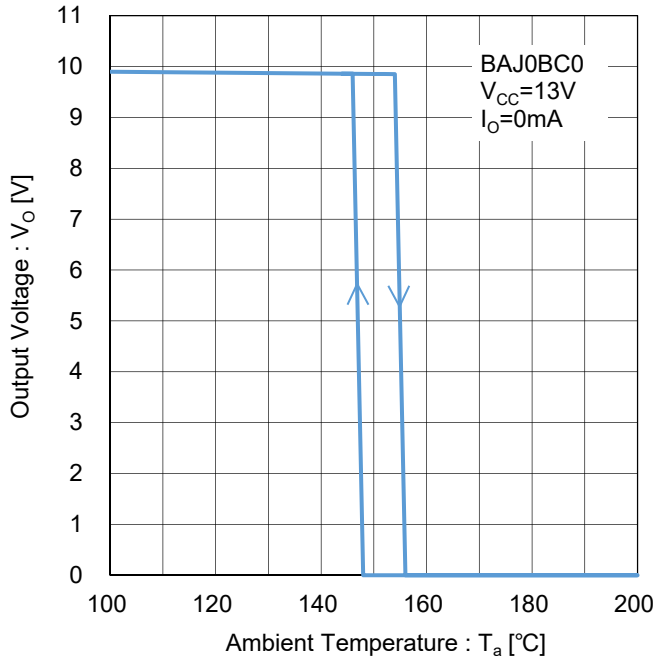
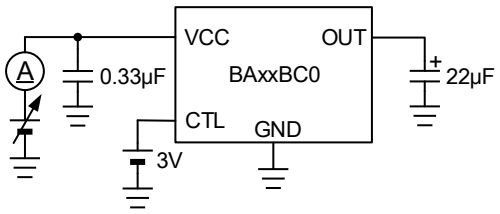
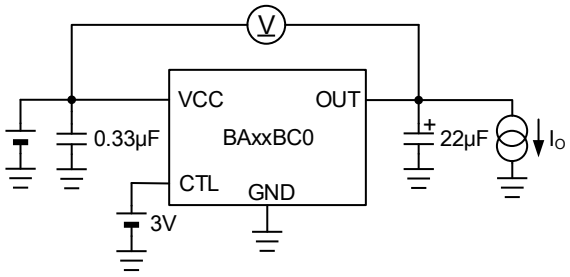


Figure 165. Thermal Shutdown
Test Circuit M

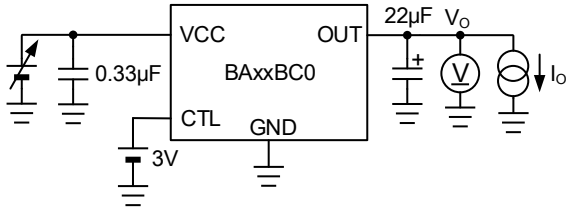
Test Circuits



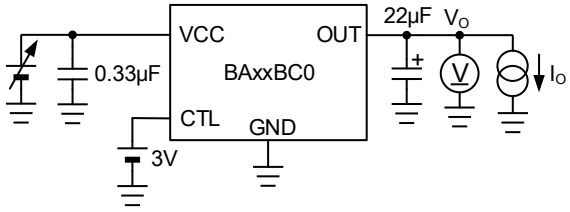
Test Circuit A. Circuit Current



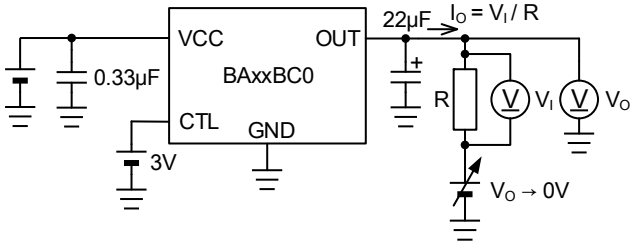
Test Circuit B. Dropout Voltage vs Output Current



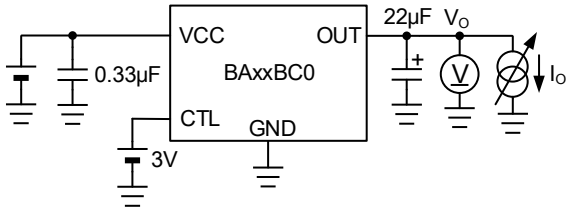
Test Circuit C. Output Voltage vs Input Voltage



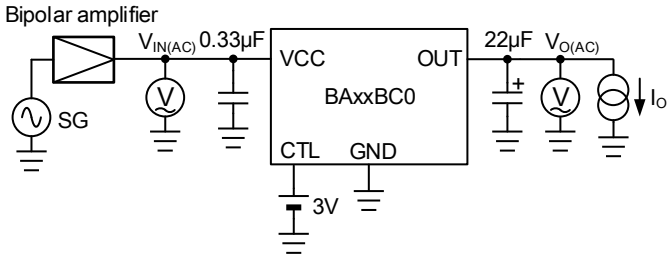
Test Circuit D. Line Regulation



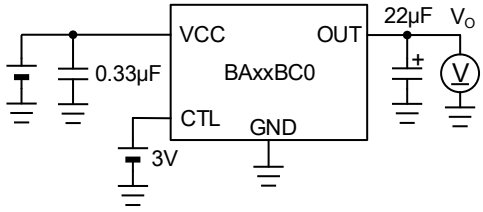
Test Circuit E. Overcurrent Protection



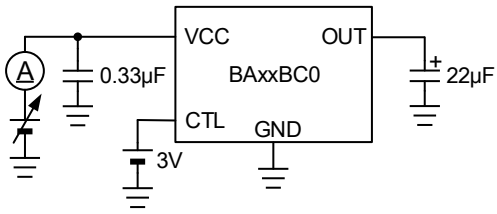
Test Circuit F. Load Regulation



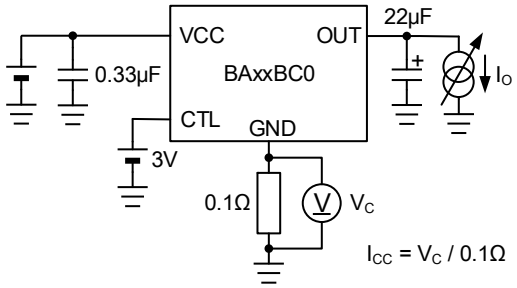
Test Circuit G. Ripple Rejection



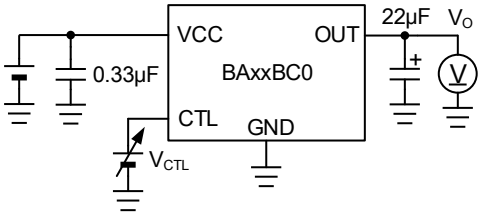
Test Circuit H. Output Voltage Temperature Stability



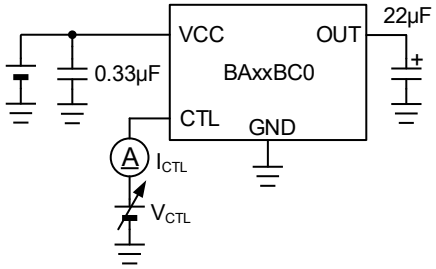
Test Circuit I. Circuit Current vs Temperature



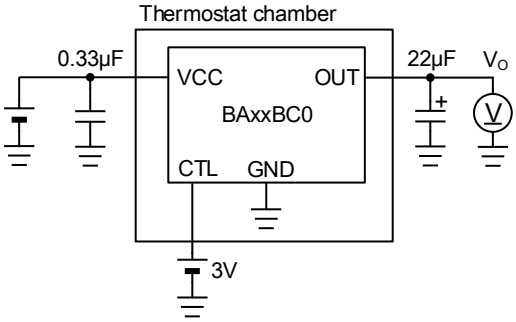
Test Circuit J. Circuit Current vs Output Current



Test Circuit K. Output Voltage vs CTL Pin Voltage



Test Circuit L. CTL Pin Current



Test Circuit M. Thermal Shutdown

Notes

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3) Although ROHM is continuously working to improve product reliability and quality, semiconductors can break down and malfunction due to various factors.
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4) Examples of application circuits, circuit constants and any other information contained herein are provided only to illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.

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7) The Products specified in this document are not designed to be radiation tolerant.

8) For use of our Products in applications requiring a high degree of reliability (as exemplified below), please contact and consult with a ROHM representative : transportation equipment (i.e. cars, ships, trains), primary communication equipment, traffic lights, fire/crime prevention, safety equipment, medical systems, servers, solar cells, and power transmission systems.

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