Linear Regulator Series

BAxxCC0 Series Typical Performance Curves

No.AEK59-D1-0087-1
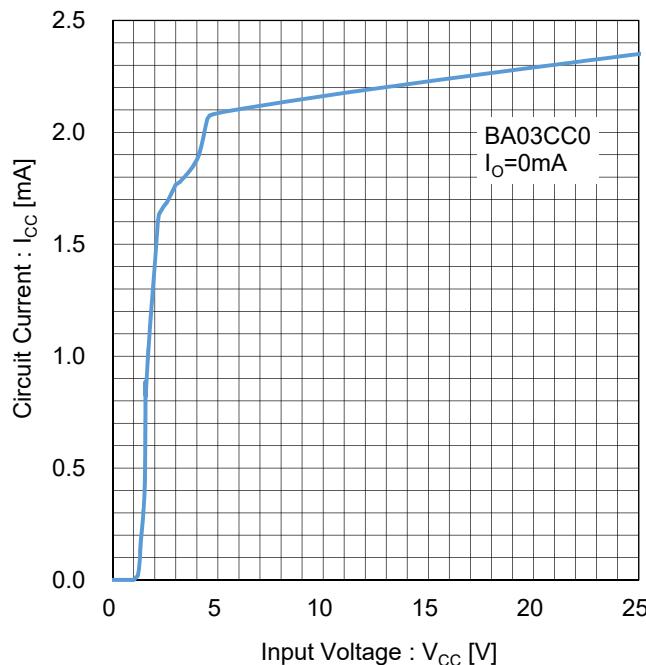
BA03CC0 (V$_O$=3.0V)

Figure 1. Circuit Current
Test Circuit A
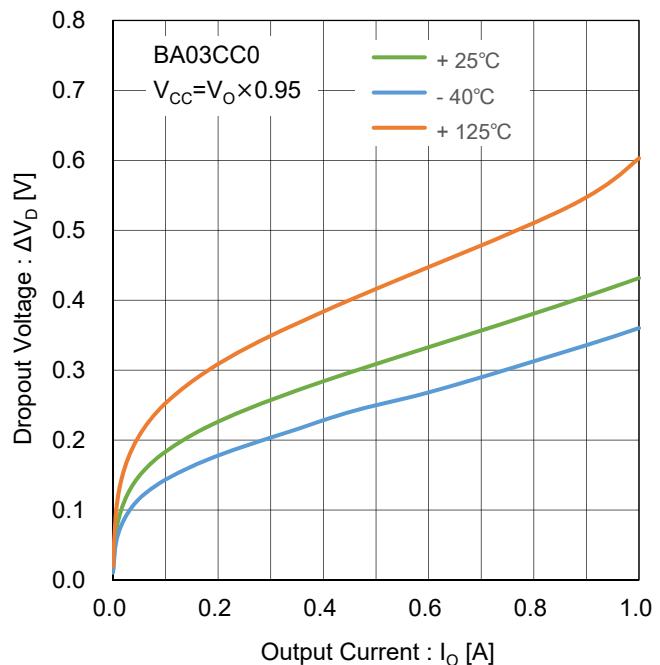
Figure 2. Dropout Voltage vs Output Current
Test Circuit B
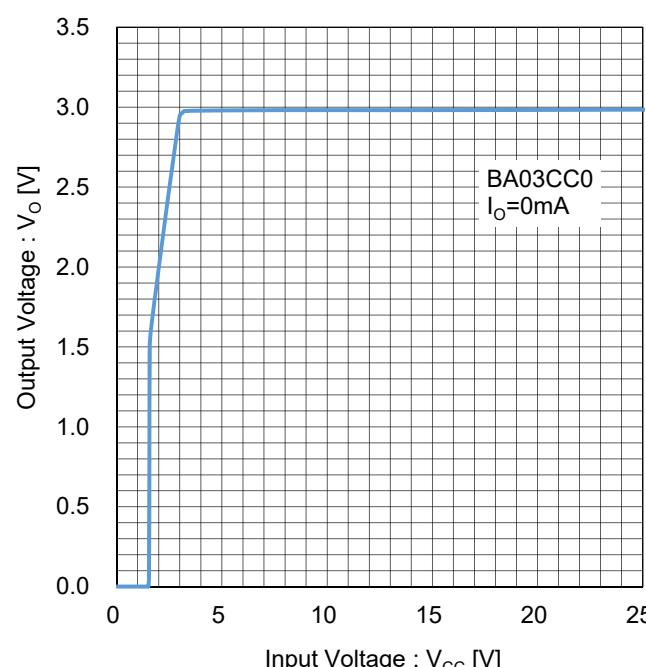
Figure 3. Output Voltage vs Input Voltage
(I$_O$=0mA)
Test Circuit C
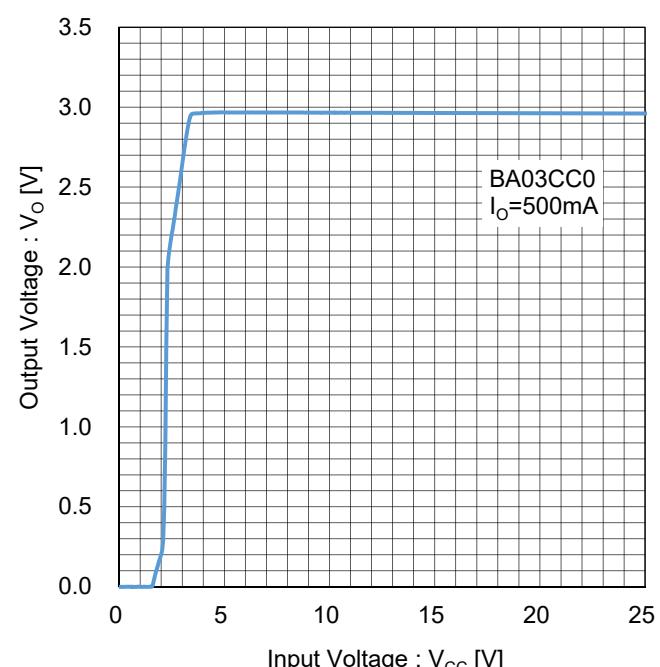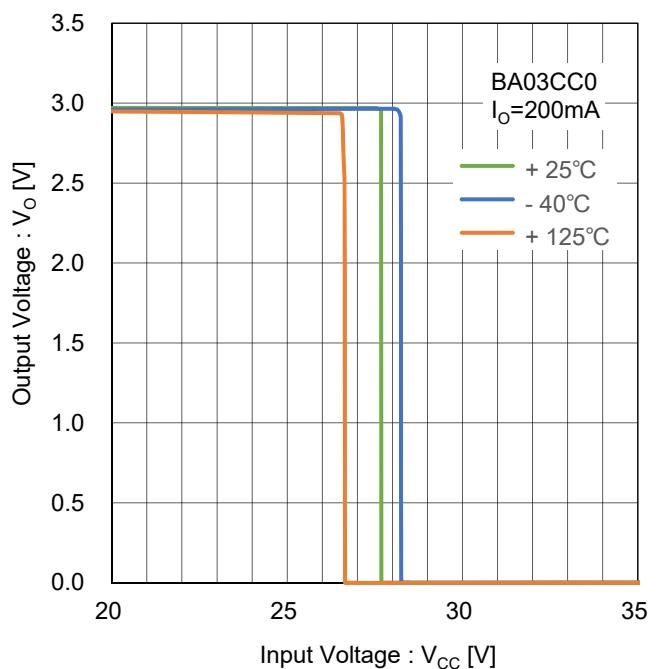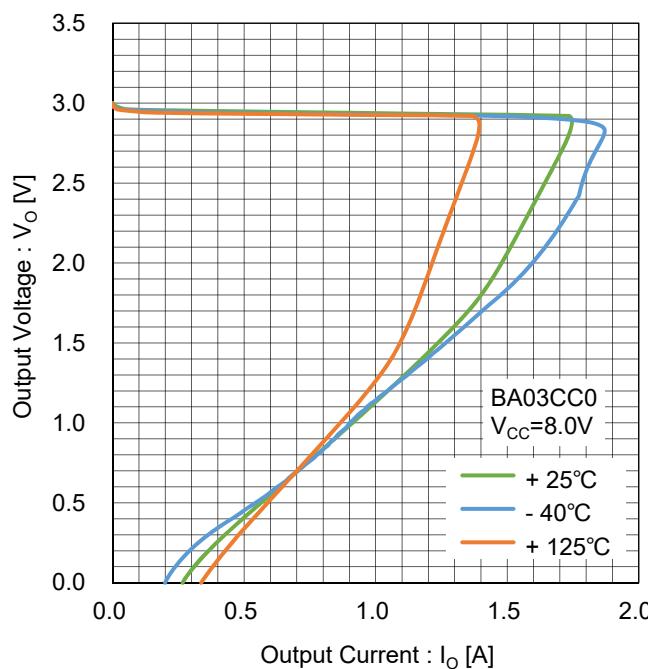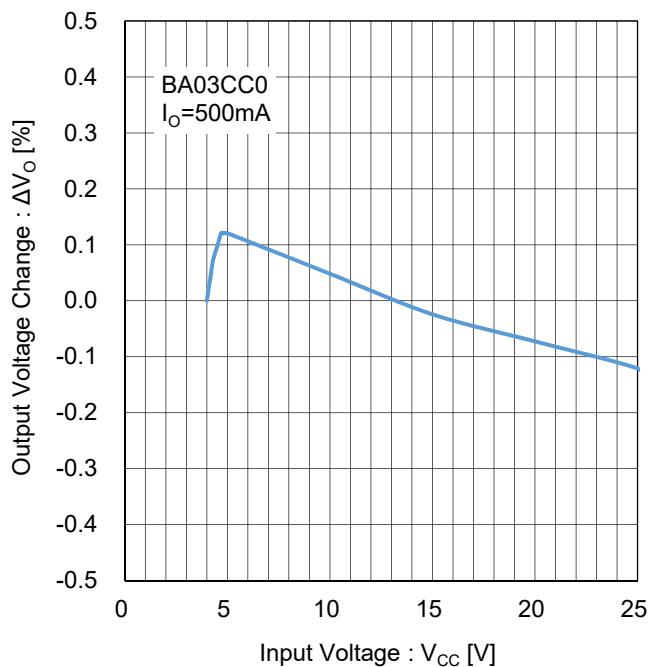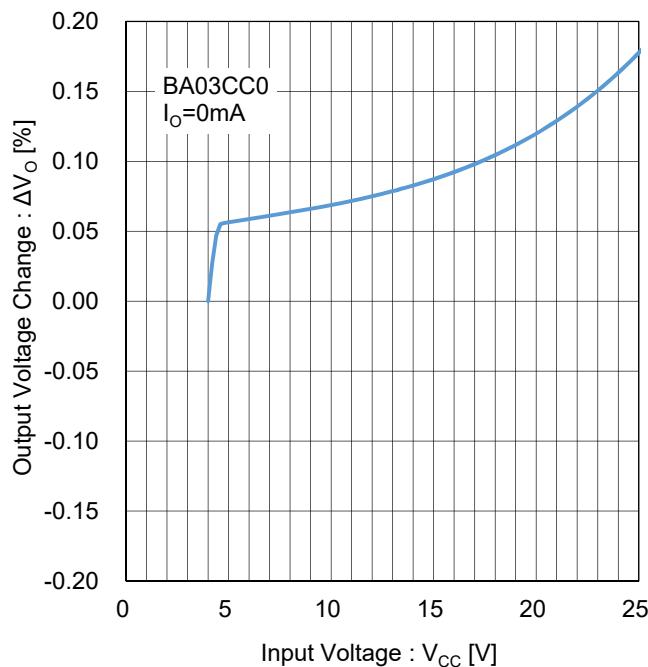
Figure 4. Output Voltage vs Input Voltage
(I$_O$=500mA)
Test Circuit C

BA03CC0 (V$_O$=3.0V)

Figure 5. Line Regulation
(I$_O$=0mA)
Test Circuit D

Figure 6. Line Regulation
(I$_O$=500mA)
Test Circuit D

Figure 7. Overcurrent Protection
Test Circuit E

Figure 8. Overvoltage Protection
Test Circuit F

BA03CC0 (V$_O$=3.0V)

Refer to the data of BA033CC0
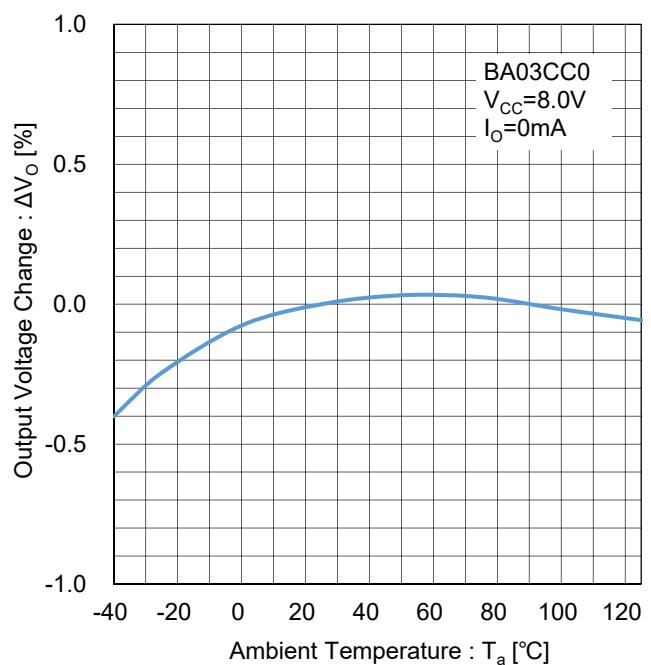

Figure 9. Ripple Rejection
Test Circuit G

Figure 10. Output Voltage Temperature Stability
Test Circuit H
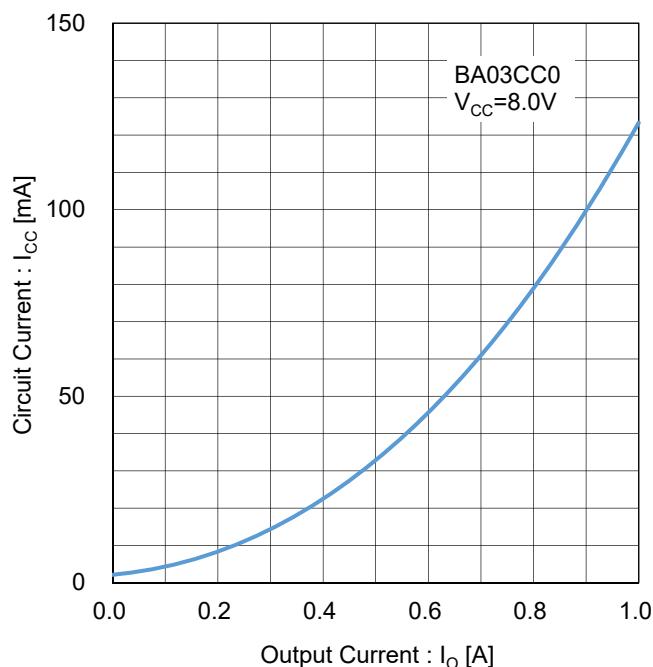
Figure 11. Circuit Current vs Output Current
Test Circuit I
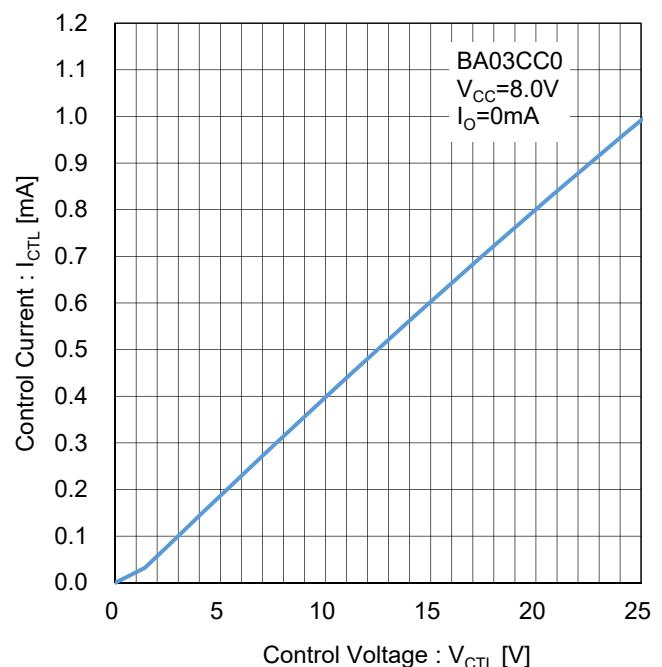
Figure 12. CTL Pin Current
Test Circuit J
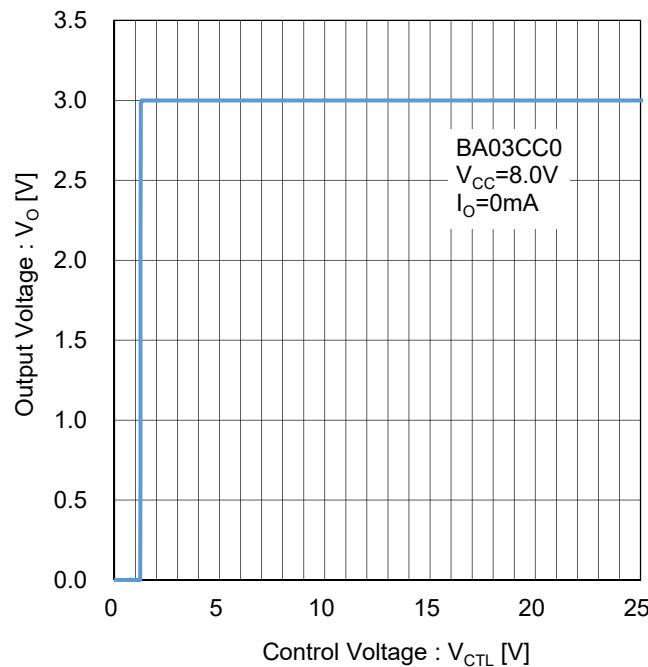
BA03CC0 (V$_O$=3.0V)

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

BA03CC0
V$_{CC}$=8.0V
I$_O$=0mA
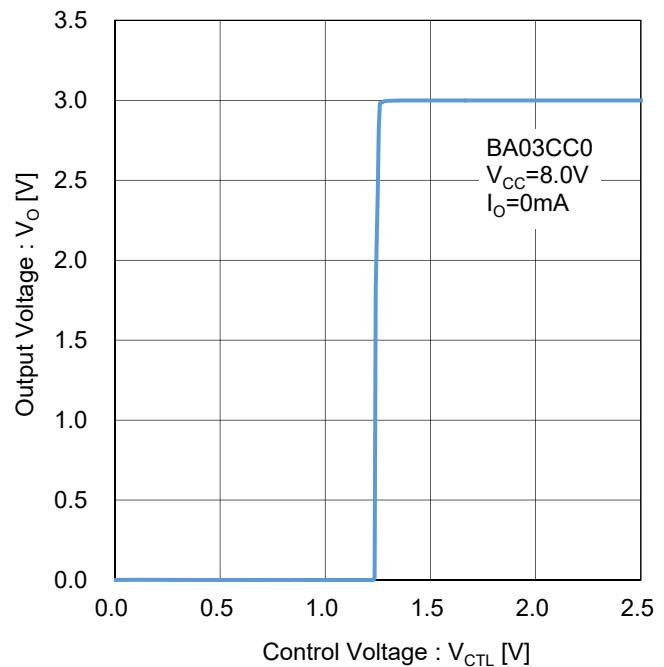
Figure 14. Output Voltage vs CTL Pin Voltage
Test Circuit K

BA03CC0
V$_{CC}$=8.0V
I$_O$=0mA
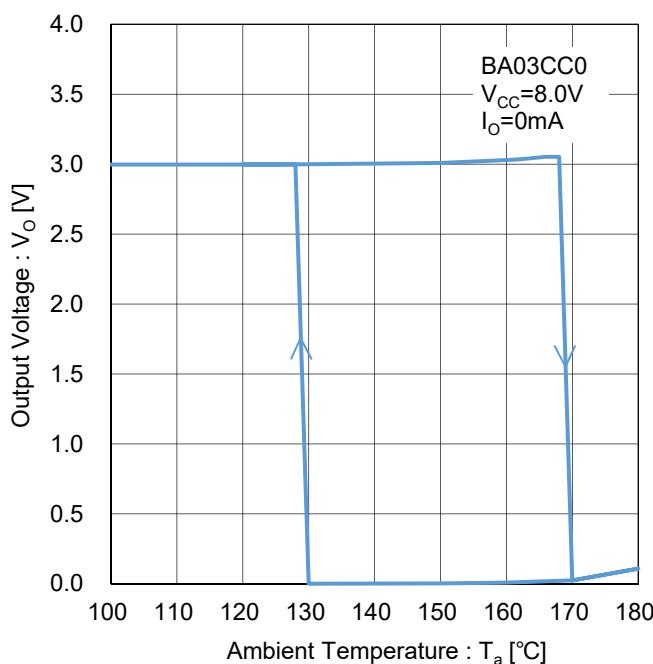
Figure 15. Thermal Shutdown
Test Circuit L

BA03CC0
V$_{CC}$=8.0V
I$_O$=0mA
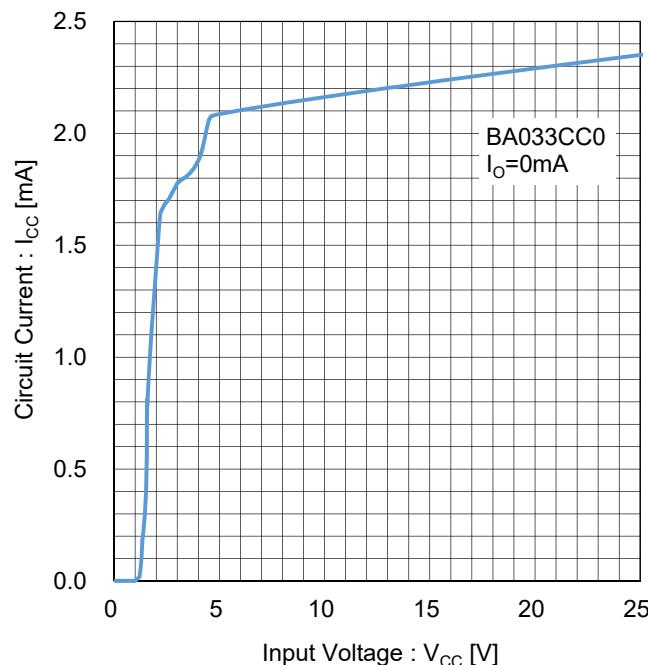
BA033CC0 (V$_O$=3.3V)


Figure 16. Circuit Current
Test Circuit A
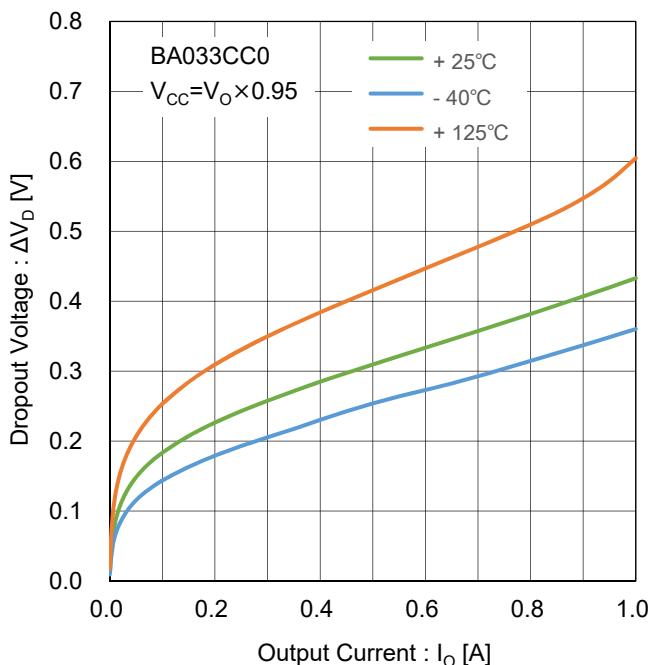
Figure 17. Dropout Voltage vs Output Current
Test Circuit B
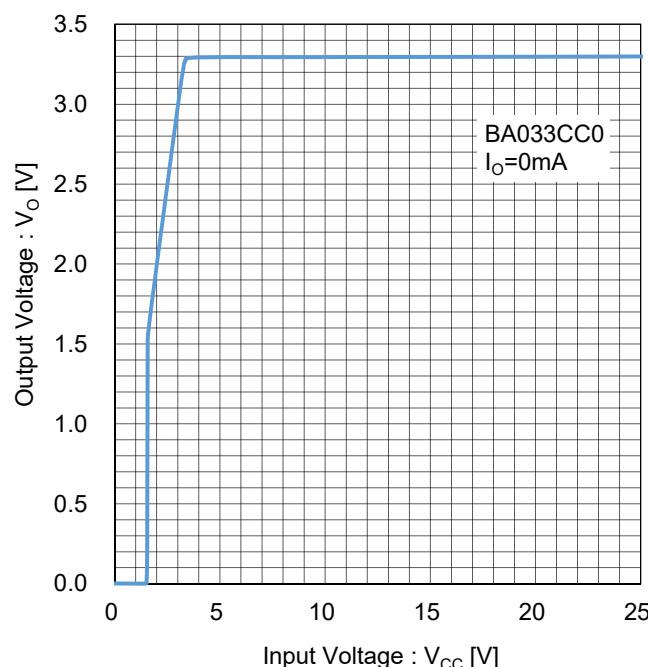
Figure 18. Output Voltage vs Input Voltage
(I$_O$=0mA)
Test Circuit C
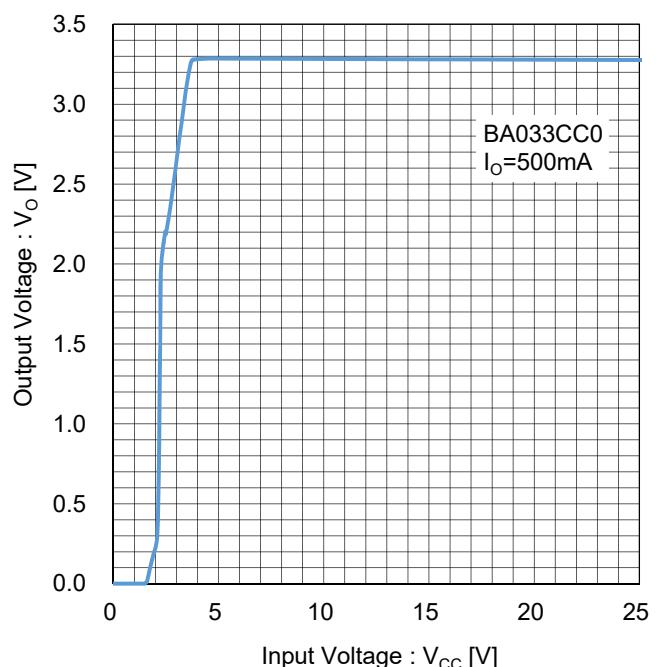
Figure 19. Output Voltage vs Input Voltage
(I$_O$=500mA)
Test Circuit C
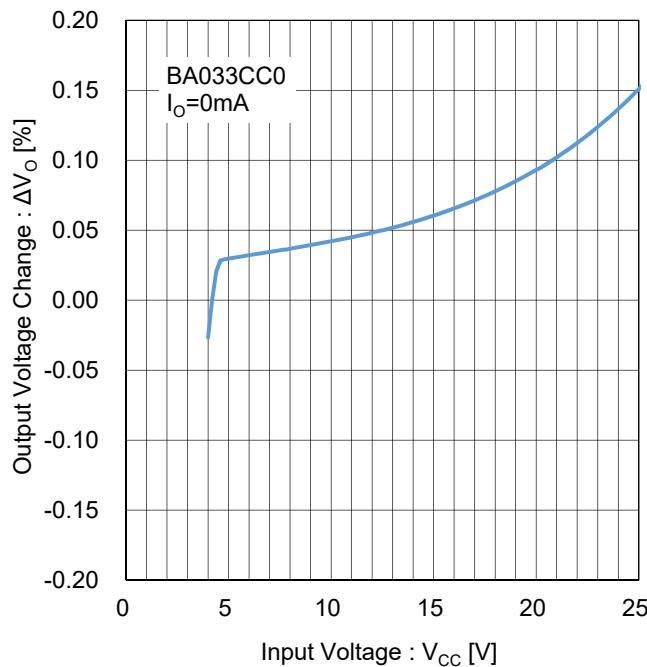
BA033CC0 (V$_O$=3.3V)

Figure 20. Line Regulation
(I$_O$=0mA)
Test Circuit D
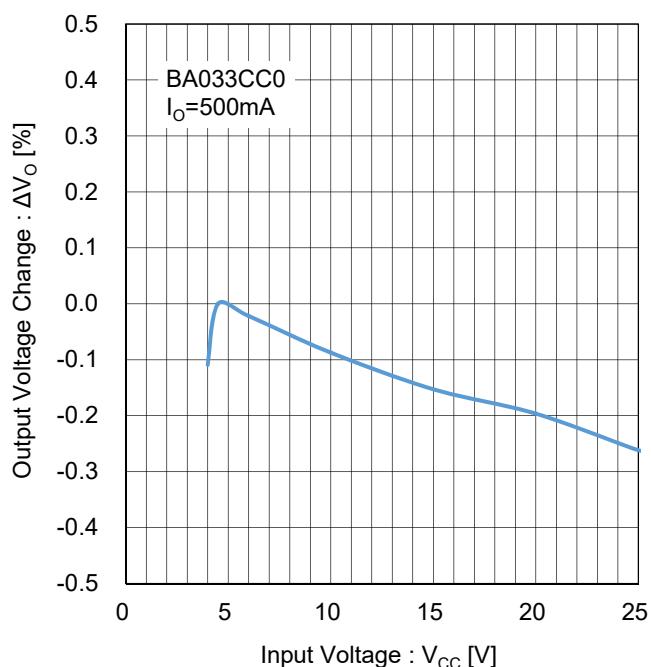
Figure 21. Line Regulation
(I$_O$=500mA)
Test Circuit D
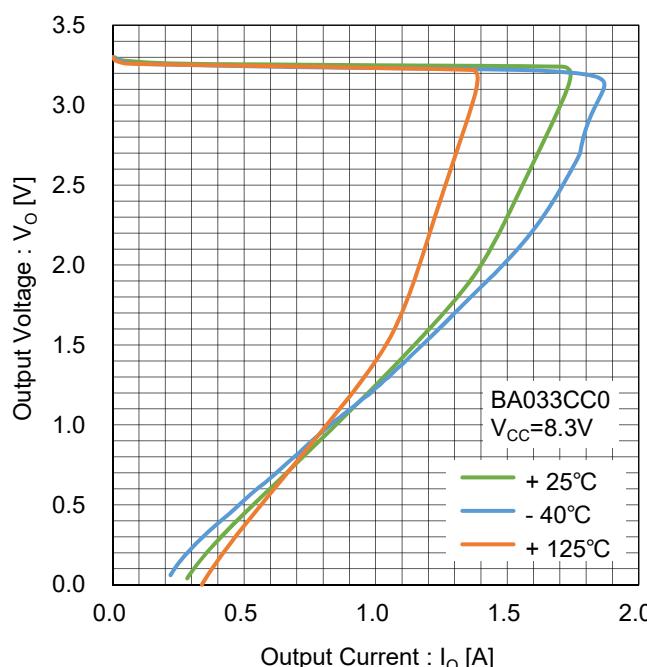
Figure 22. Overcurrent Protection
Test Circuit E
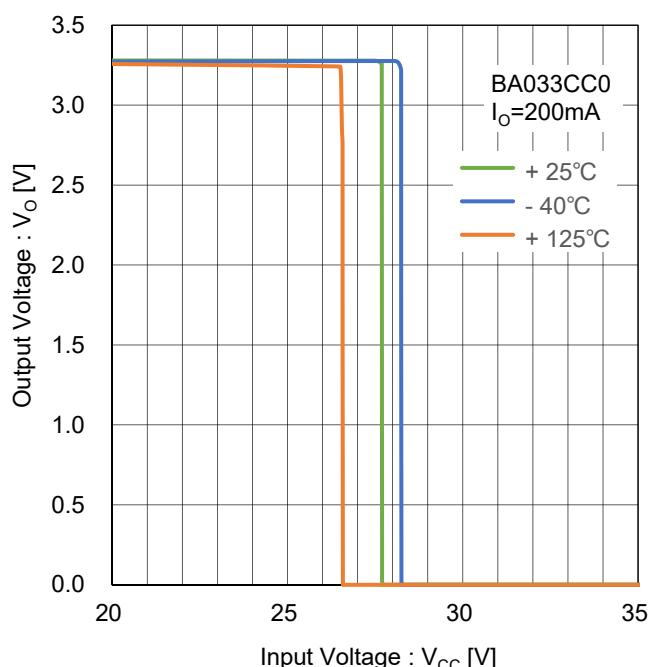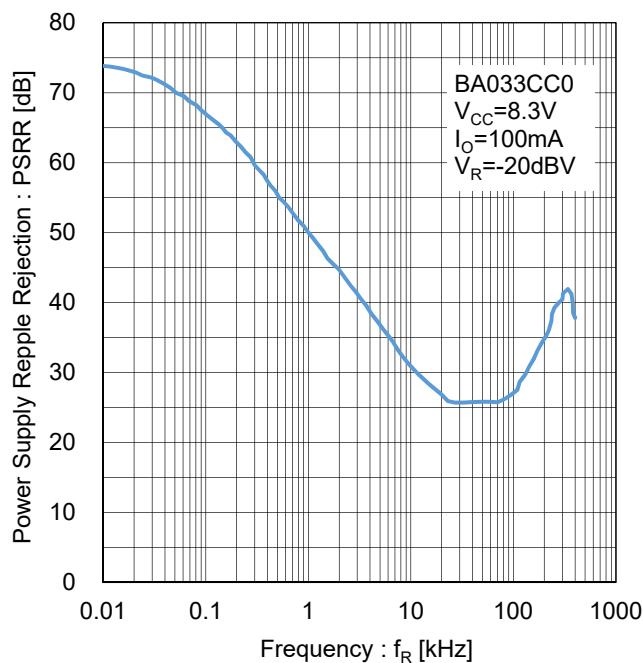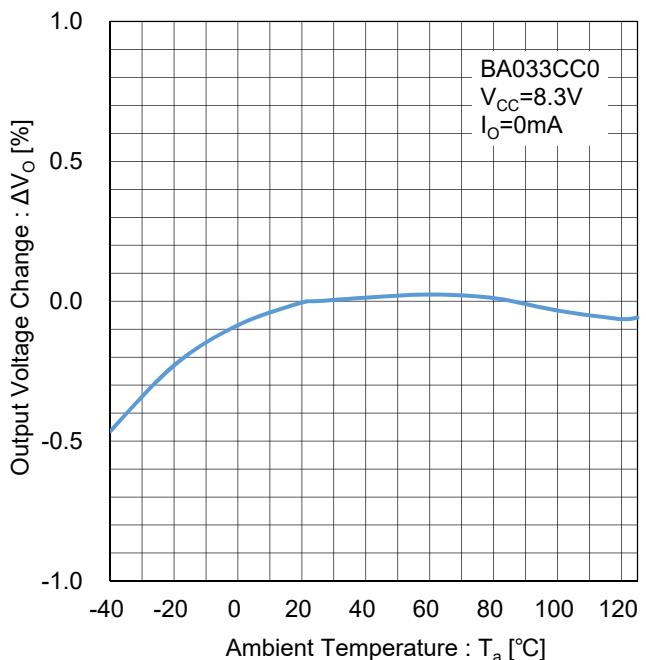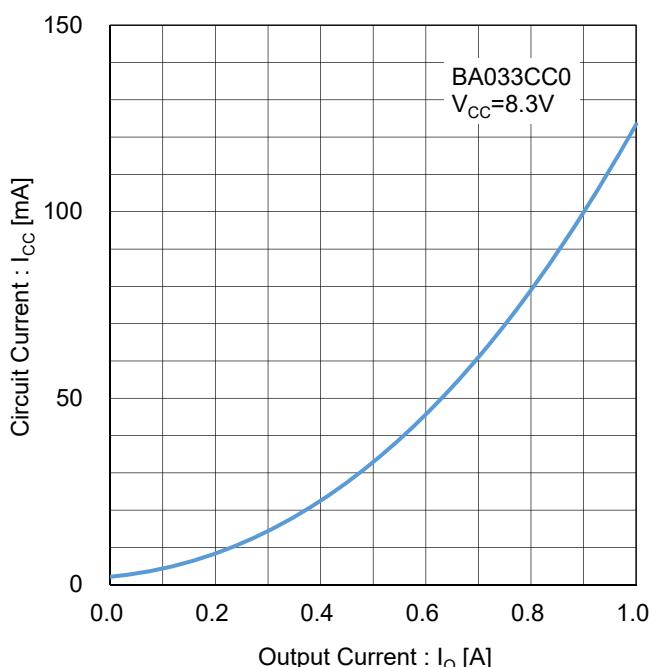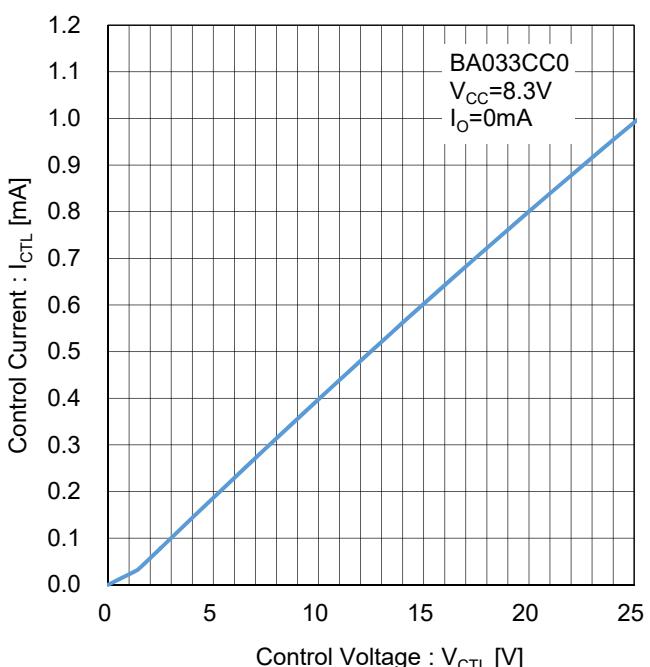
Figure 23. Overvoltage Protection
Test Circuit F

BA033CC0 (V_O=3.3V)


Figure 24. Ripple Rejection
Test Circuit G

Figure 25. Output Voltage Temperature Stability
Test Circuit H

Figure 26. Circuit Current vs Output Current
Test Circuit I


Figure 27. CTL Pin Current
Test Circuit J
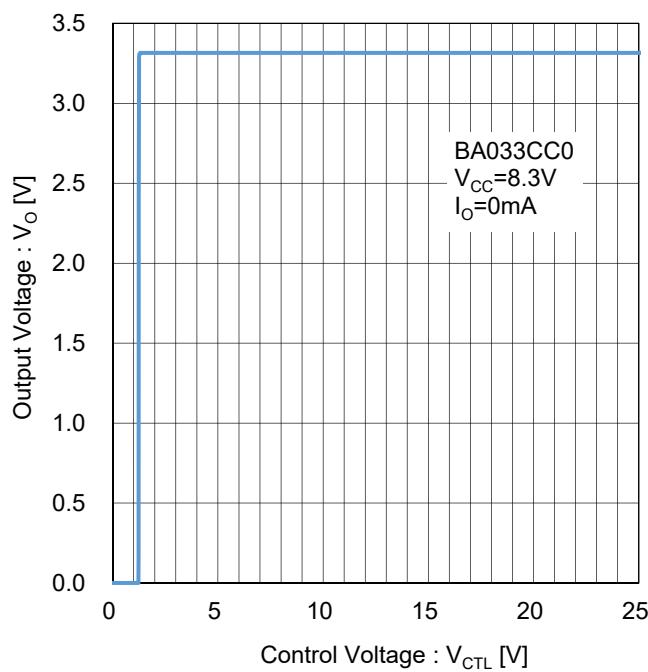
BA033CC0 (V$_O$=3.3V)

Figure 28. Output Voltage vs CTL Pin Voltage
Test Circuit K
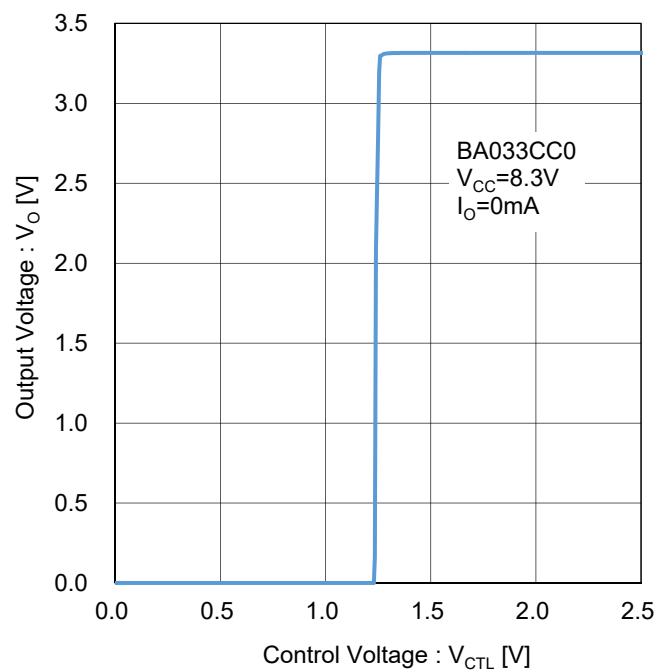
Figure 29. Output Voltage vs CTL Pin Voltage
Test Circuit K
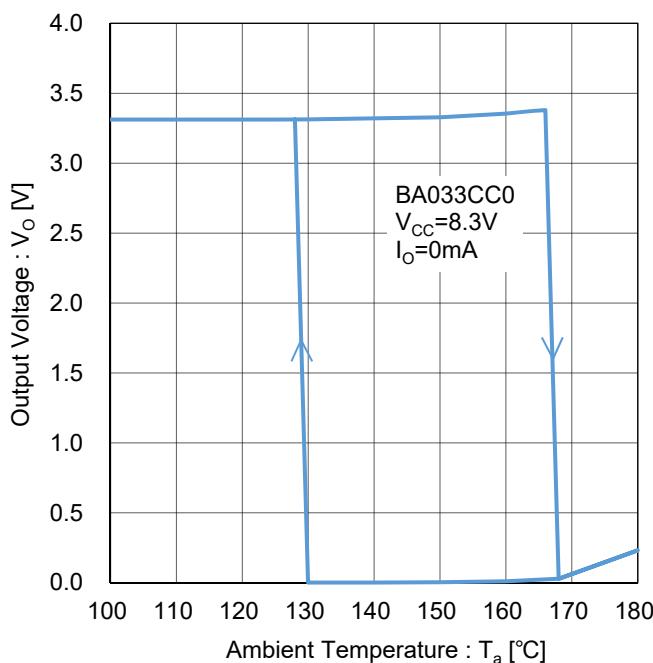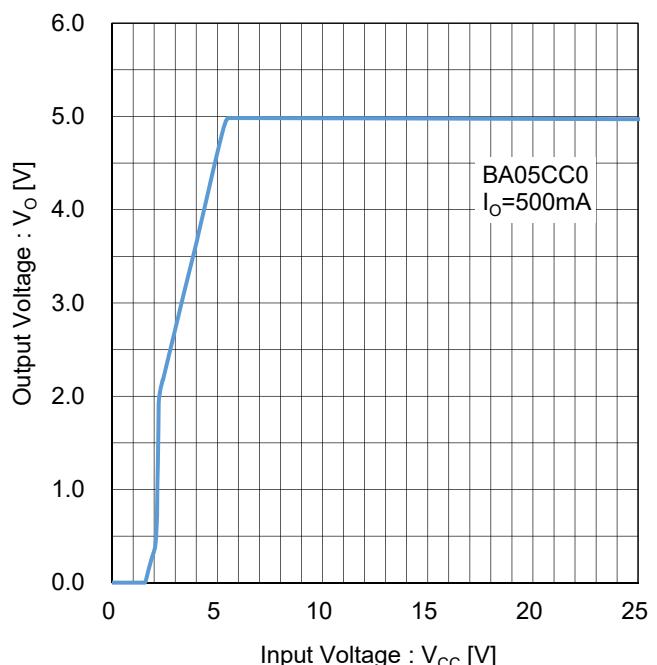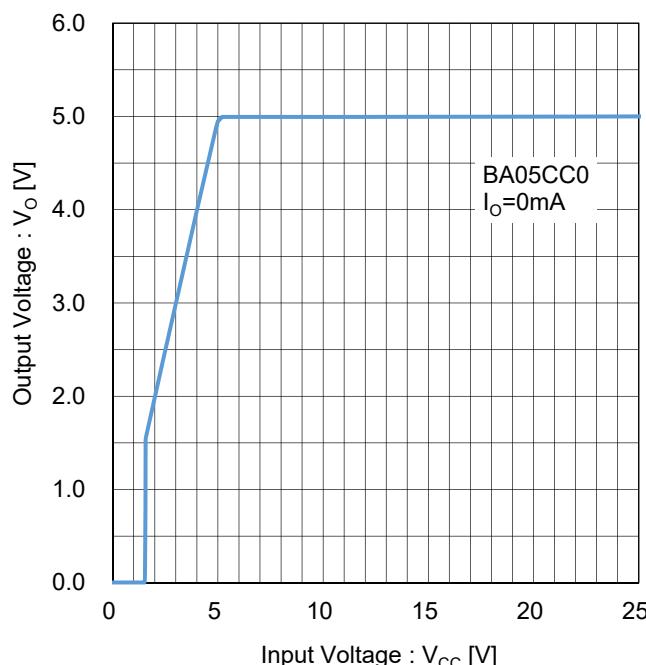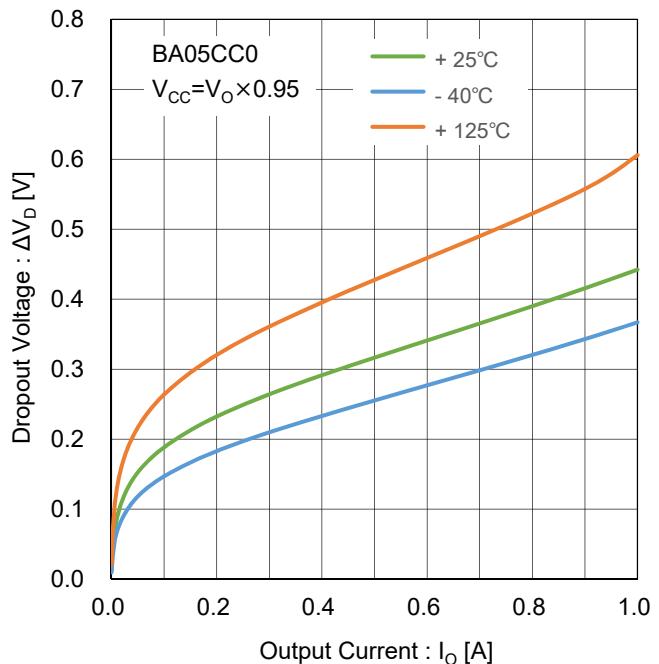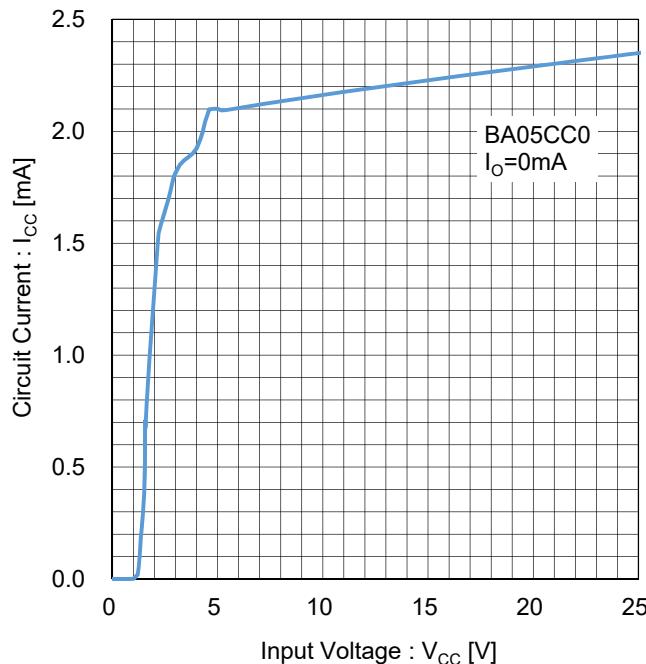
Figure 30. Thermal Shutdown
Test Circuit L

## BA05CC0 (V$_O$=5.0V)

Figure 31. Circuit Current
Test Circuit A

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$_O$=500mA)
Test Circuit C
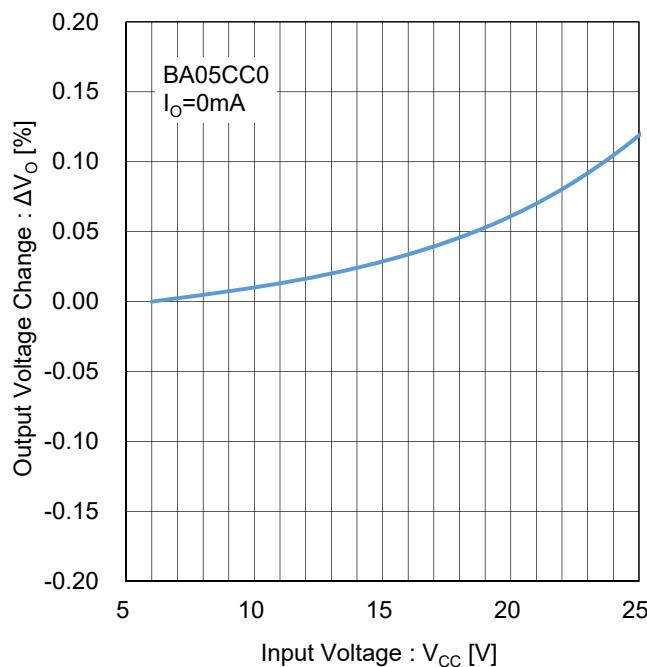
BA05CC0 (V_O=5.0V)

Figure 35. Line Regulation
(I_O=0mA)
Test Circuit D
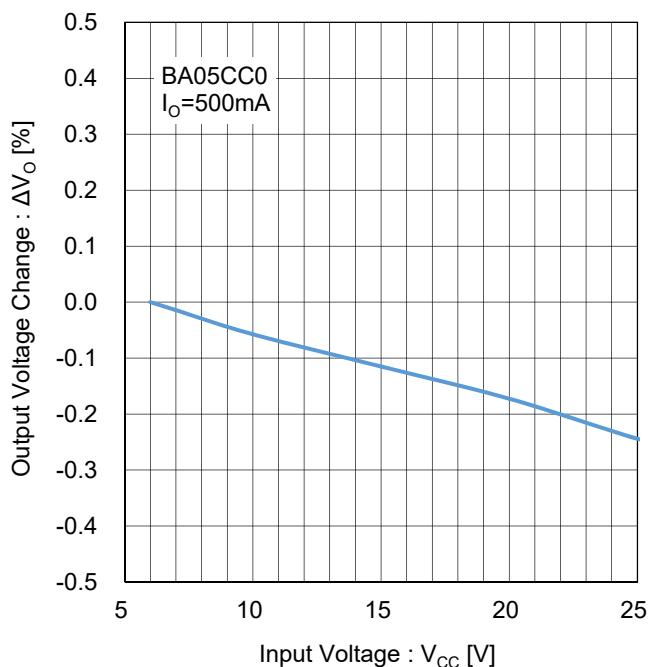
Figure 36. Line Regulation
(I_O=500mA)
Test Circuit D
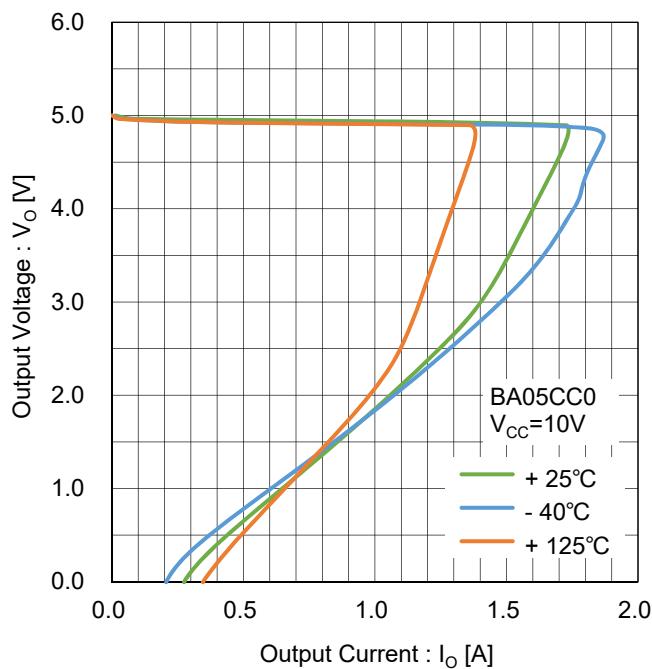
Figure 37. Overcurrent Protection
Test Circuit E
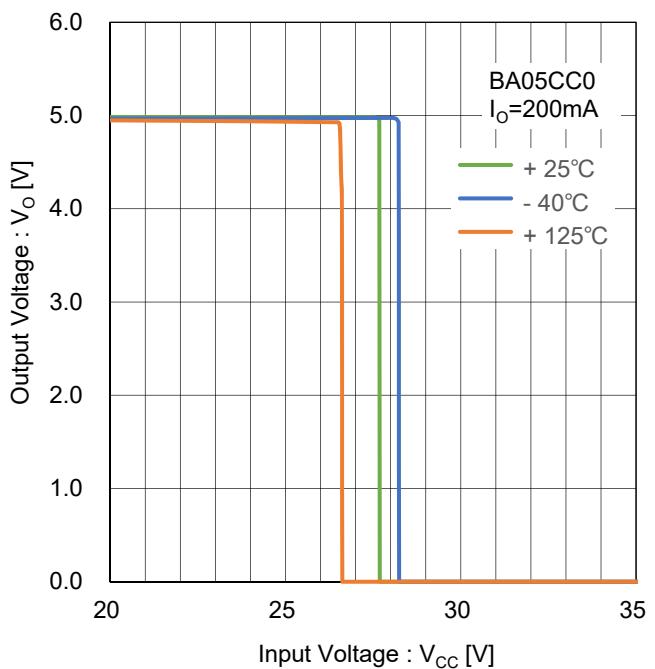
Figure 38. Overvoltage Protection
Test Circuit F

BA05CC0 (V$_O$=5.0V)

Refer to the data of BA033CC0
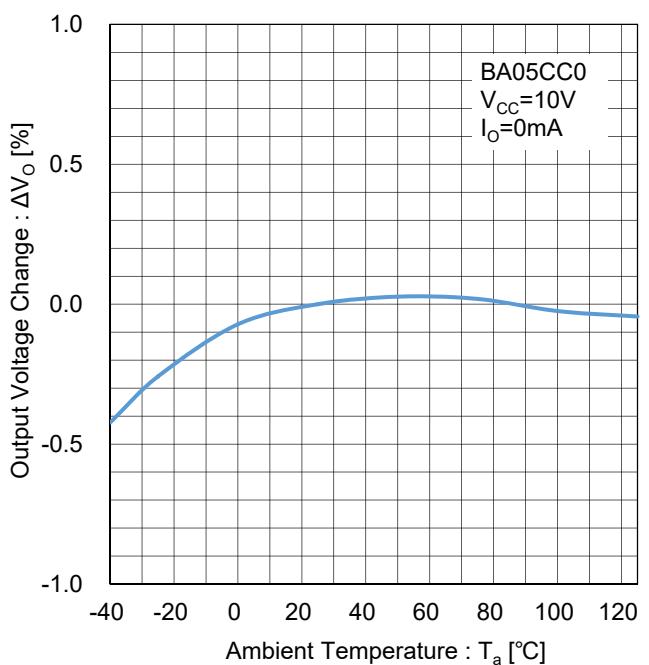
Figure 39. Ripple Rejection
Test Circuit G

Figure 40. Output Voltage Temperature Stability
Test Circuit H
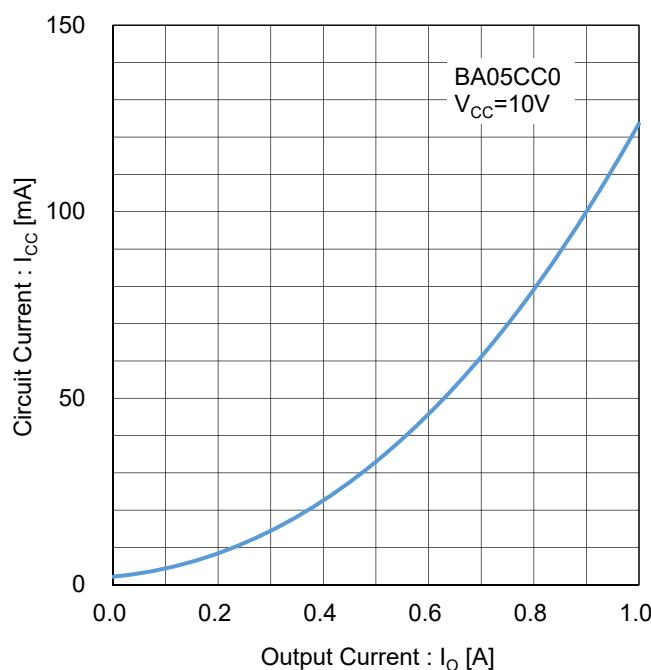
Figure 41. Circuit Current vs Output Current
Test Circuit I
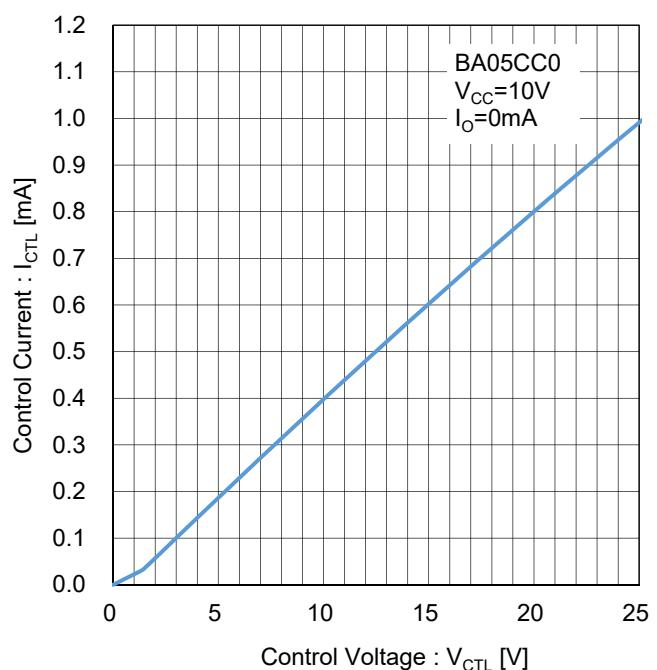
Figure 42. CTL Pin Current
Test Circuit J
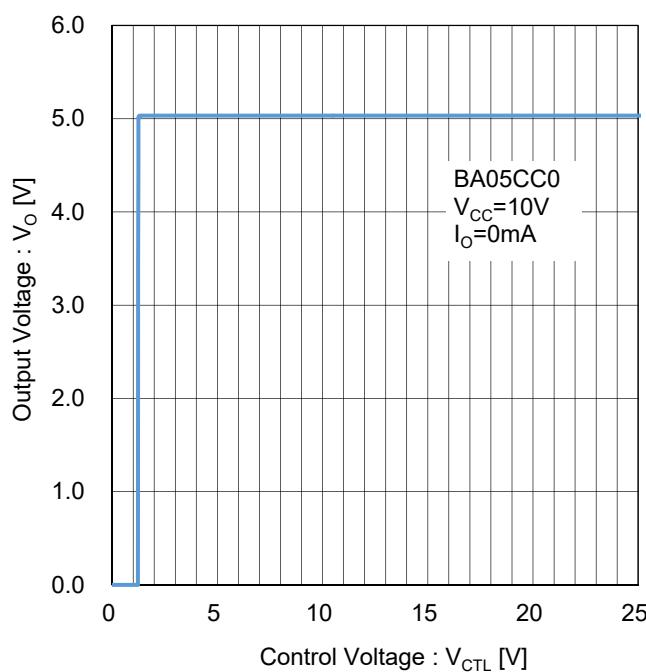
BA05CC0 (V$_O$=5.0V)

Figure 43. Output Voltage vs CTL Pin Voltage
Test Circuit K
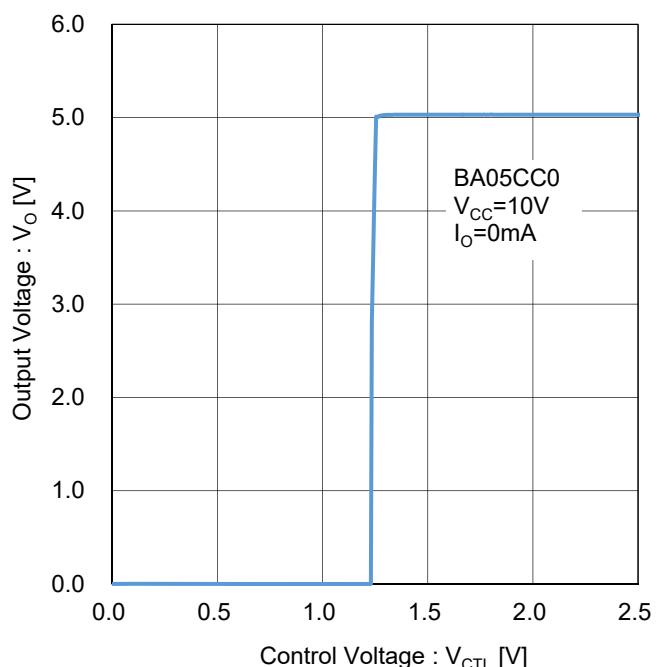
Figure 44. Output Voltage vs CTL Pin Voltage
Test Circuit K
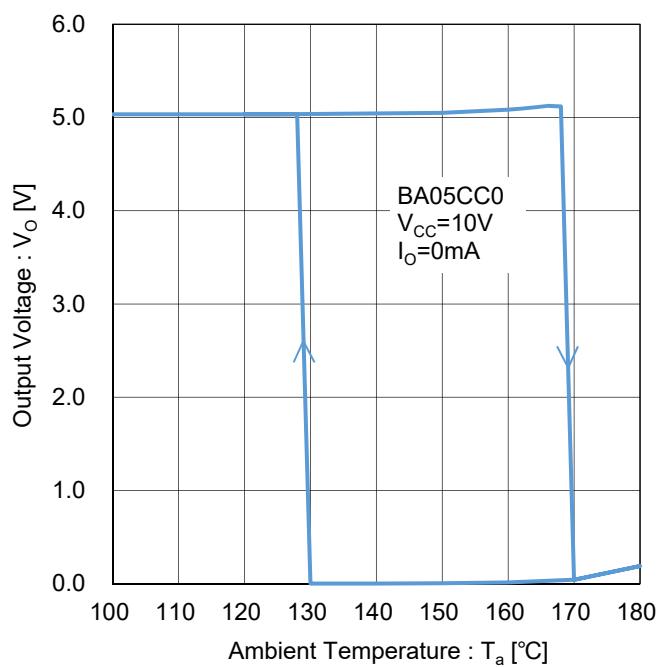
Figure 45. Thermal Shutdown
Test Circuit L
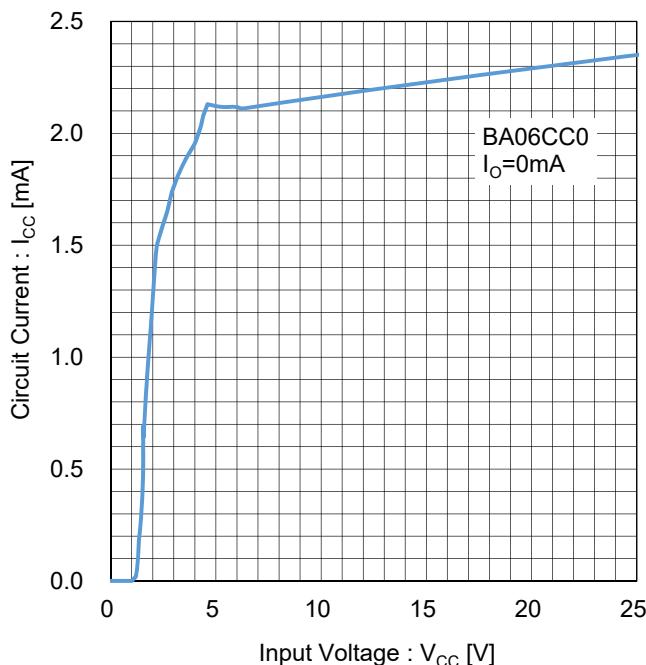
BA06CC0 (V$_O$=6.0V)

Figure 46. Circuit Current
Test Circuit A
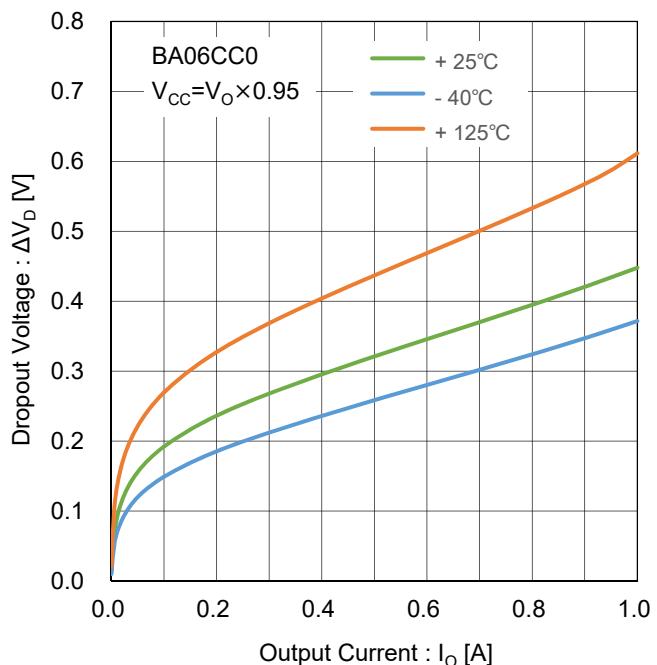
Figure 47. Dropout Voltage vs Output Current
Test Circuit B
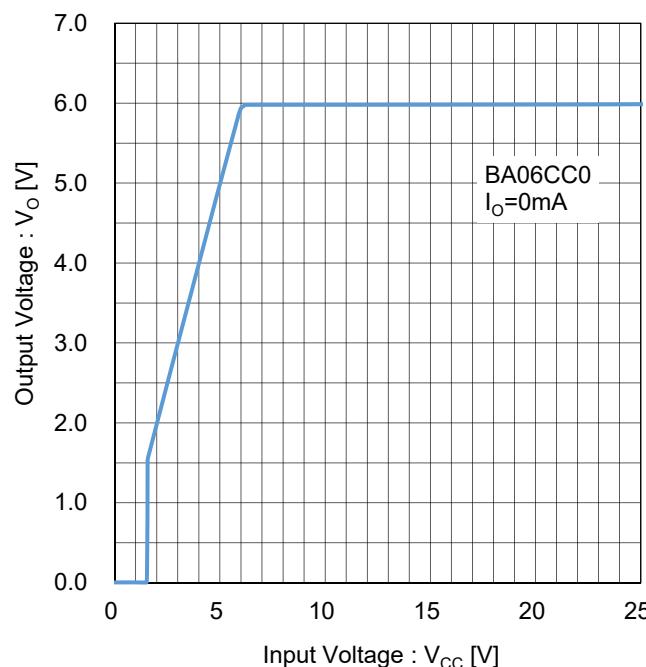
Figure 48. Output Voltage vs Input Voltage
(I$_O$=0mA)
Test Circuit C
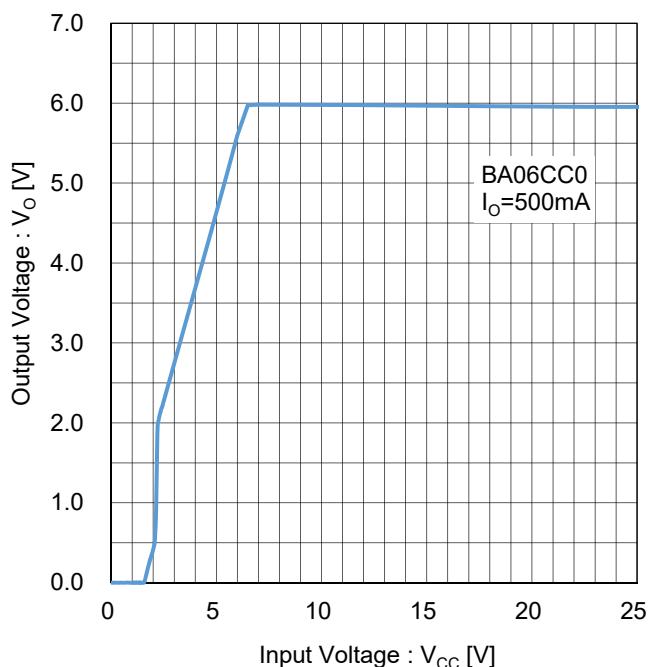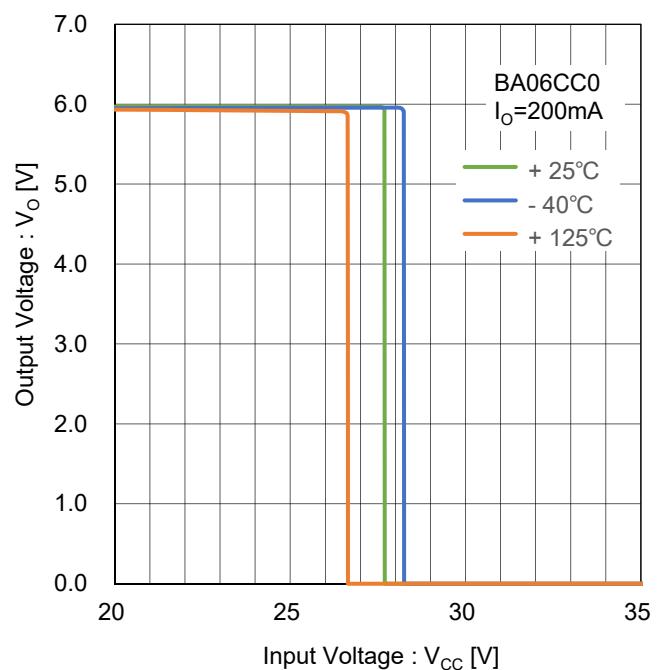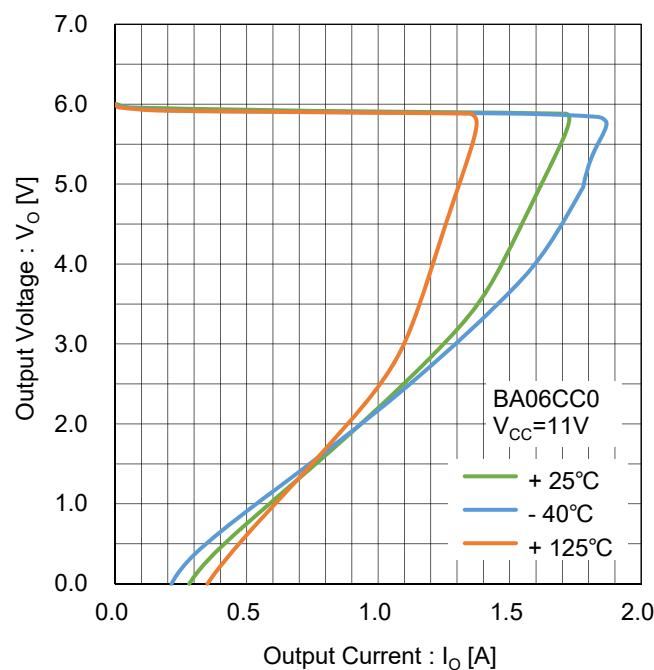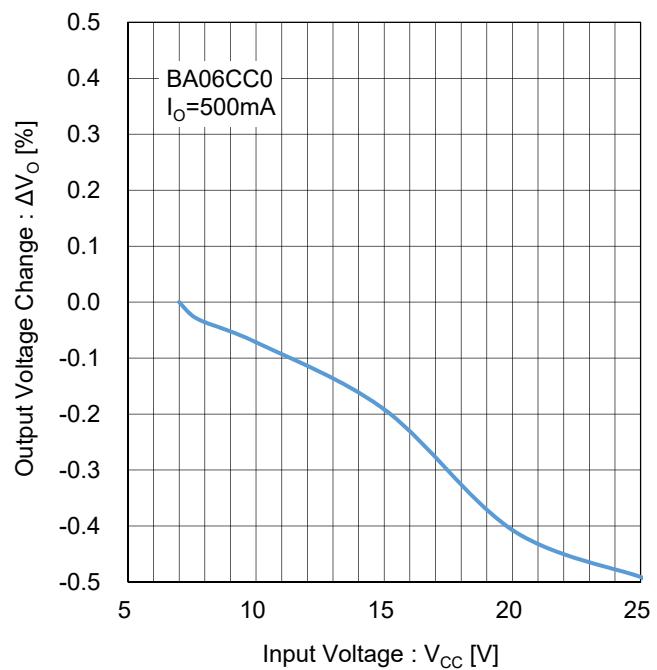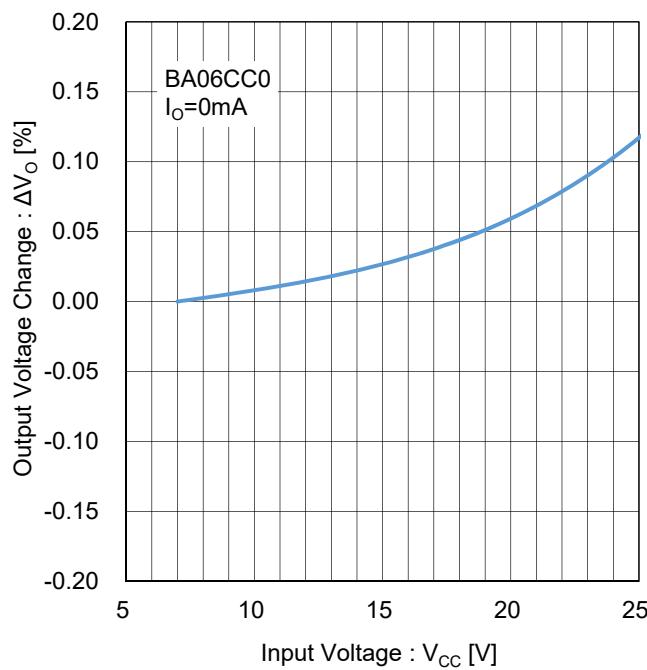
Figure 49. Output Voltage vs Input Voltage
(I$_O$=500mA)
Test Circuit C

BA06CC0 (V$_O$=6.0V)


Figure 50. Line Regulation
(I$_O$=0mA)
Test Circuit D

Figure 51. Line Regulation
(I$_O$=500mA)
Test Circuit D

Figure 52. Overcurrent Protection
Test Circuit E

Figure 53. Overvoltage Protection
Test Circuit F

## BA06CC0 (V$_O$=6.0V)

Refer to the data of BAJ0CC0
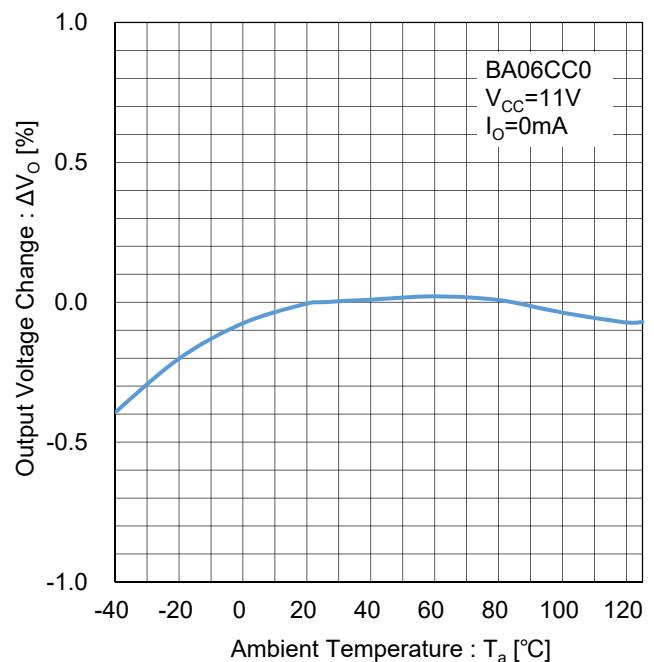
Figure 54. Ripple Rejection
Test Circuit G

Figure 55. Output Voltage Temperature Stability
Test Circuit H
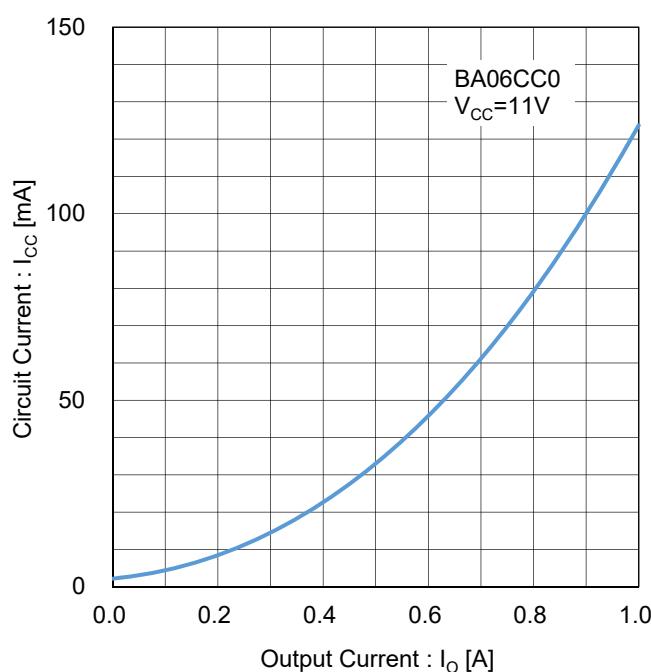
Figure 56. Circuit Current vs Output Current
Test Circuit I
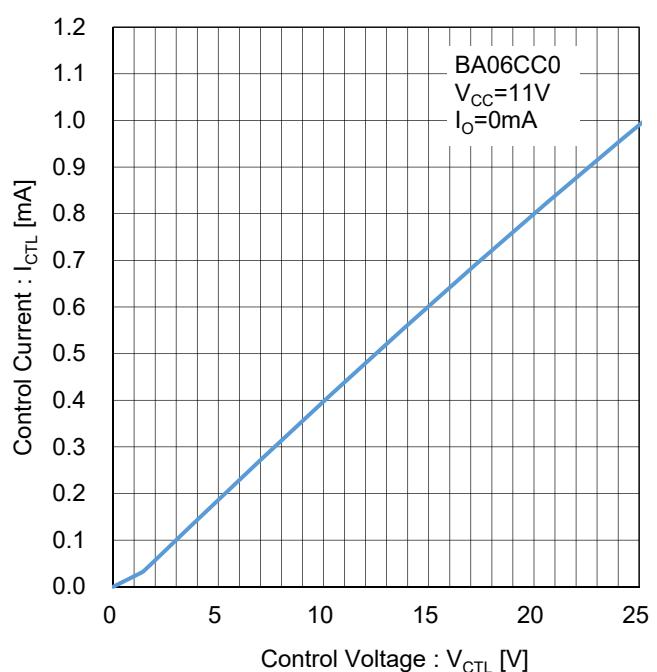
Figure 57. CTL Pin Current
Test Circuit J
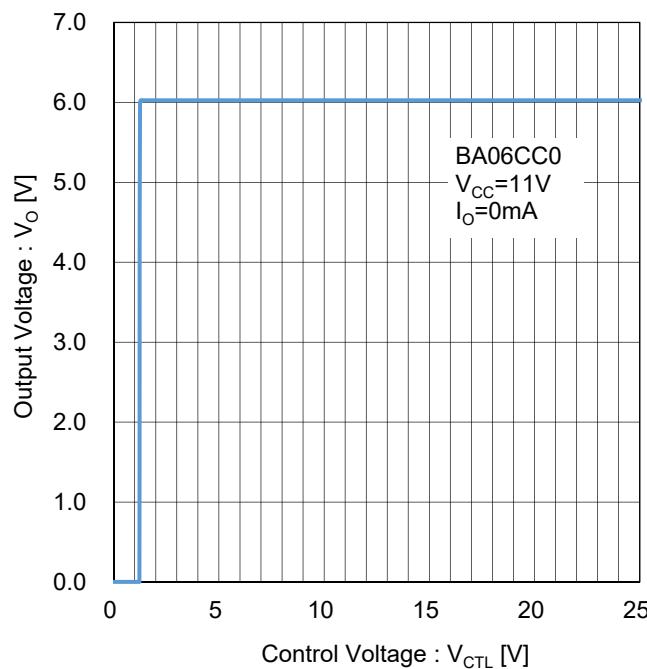
BA06CC0 (V$_O$=6.0V)


Figure 58. Output Voltage vs CTL Pin Voltage
Test Circuit K
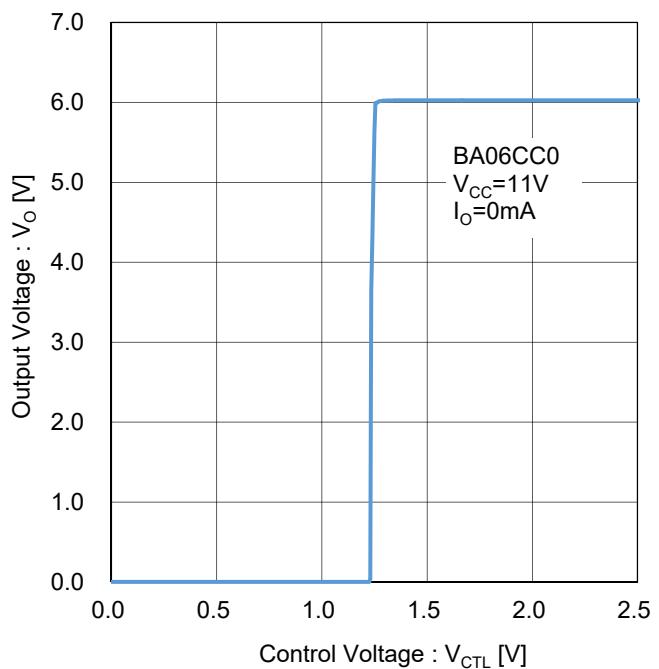
Figure 59. Output Voltage vs CTL Pin Voltage
Test Circuit K
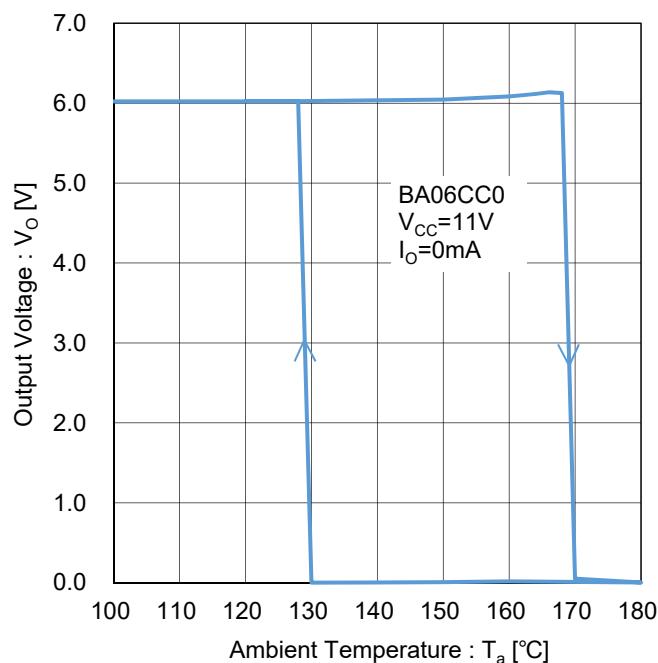
Figure 60. Thermal Shutdown
Test Circuit L
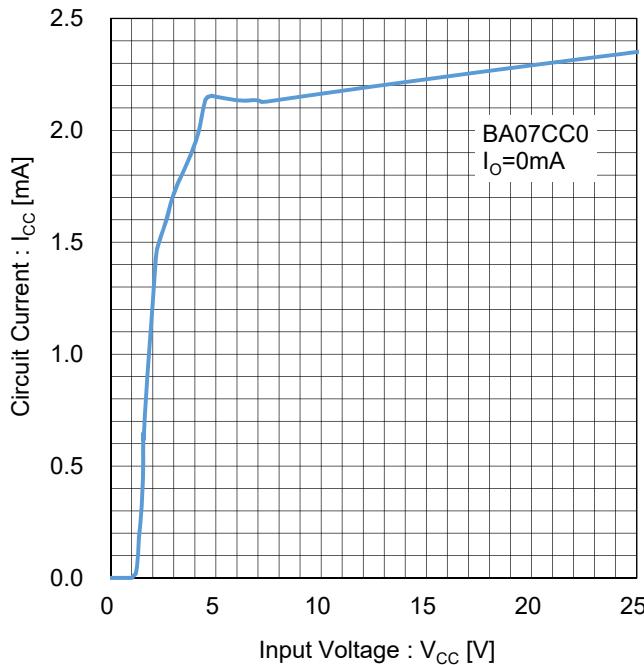
BA07CC0 (V$_O$=7.0V)

Figure 61. Circuit Current
Test Circuit A
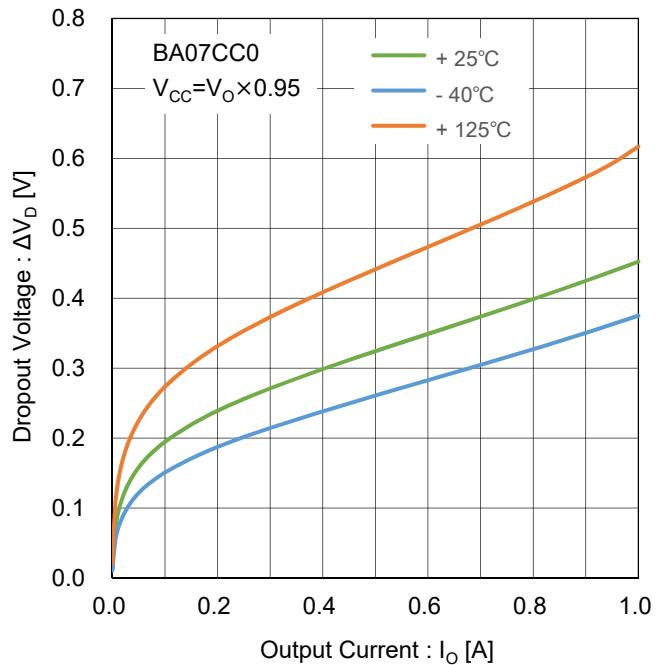
Figure 62. Dropout Voltage vs Output Current
Test Circuit B
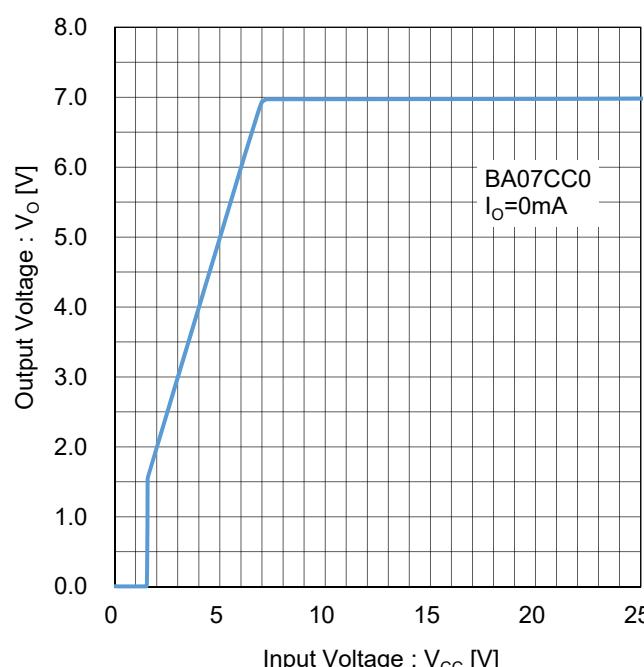
Figure 63. Output Voltage vs Input Voltage
(I$_O$=0mA)
Test Circuit C
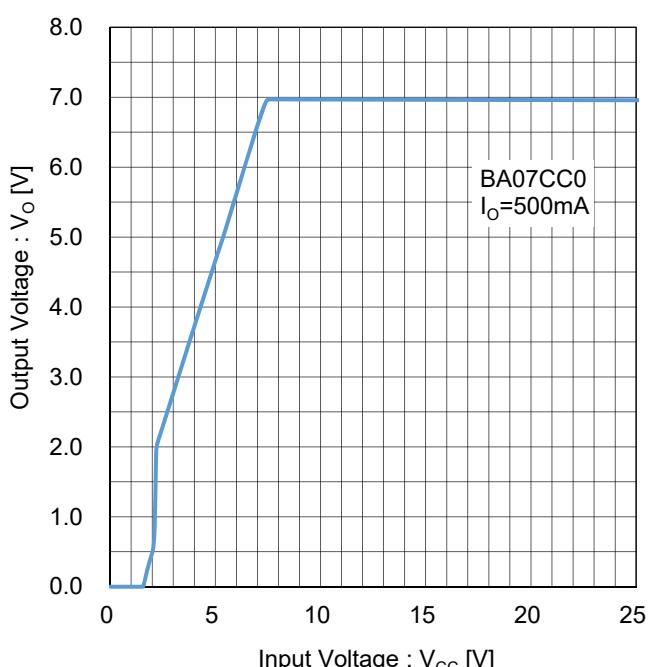
Figure 64. Output Voltage vs Input Voltage
(I$_O$=500mA)
Test Circuit C
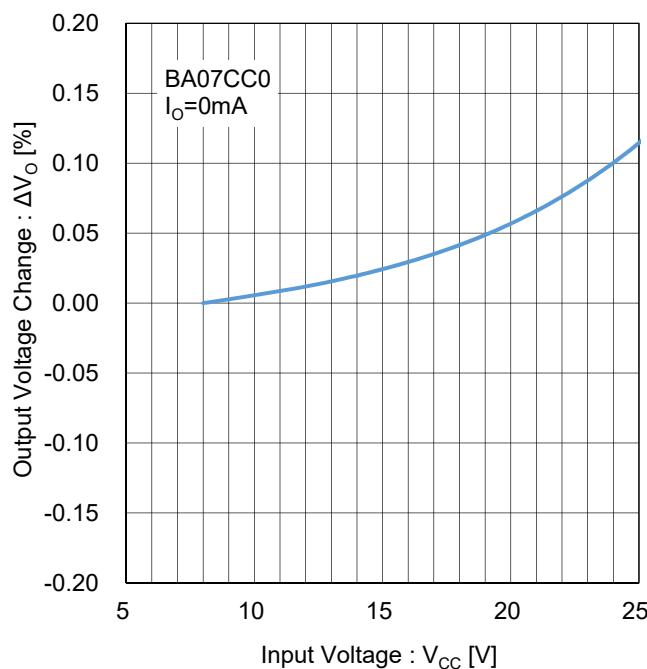
BA07CC0 (V$_O$=7.0V)

Figure 65. Line Regulation
(I$_O$=0mA)
Test Circuit D
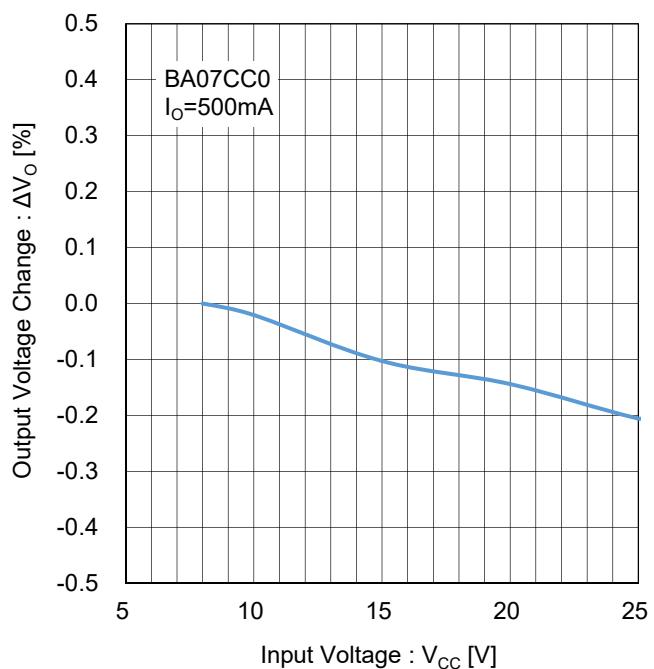
Figure 66. Line Regulation
(I$_O$=500mA)
Test Circuit D
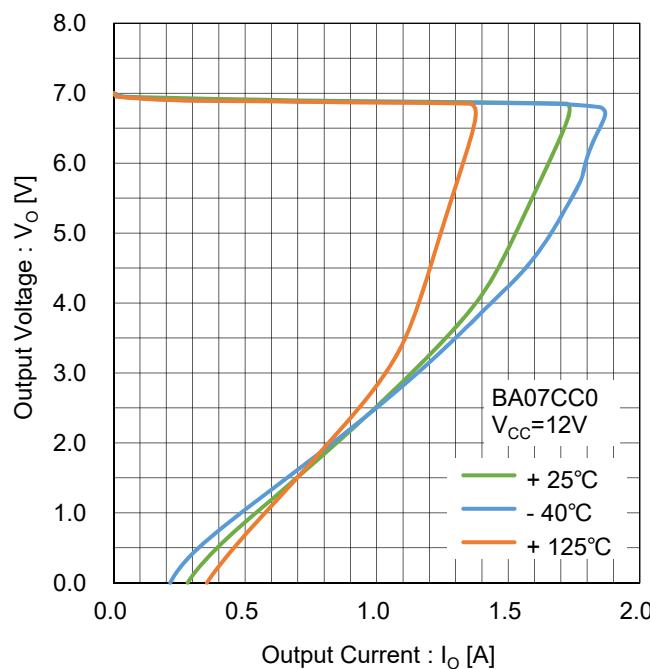


Figure 67. Overcurrent Protection
Test Circuit E
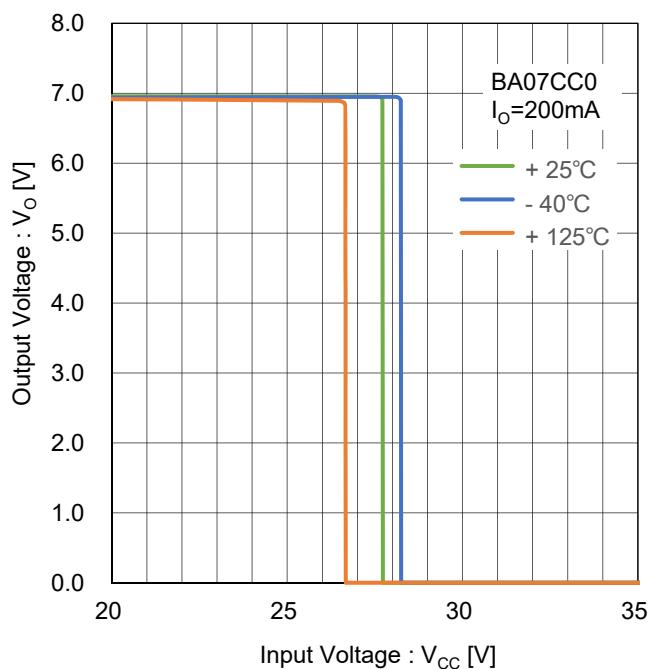
Figure 68. Overvoltage Protection
Test Circuit F

BA07CC0 (V$_O$=7.0V)

Refer to the data of BAJ0CC0
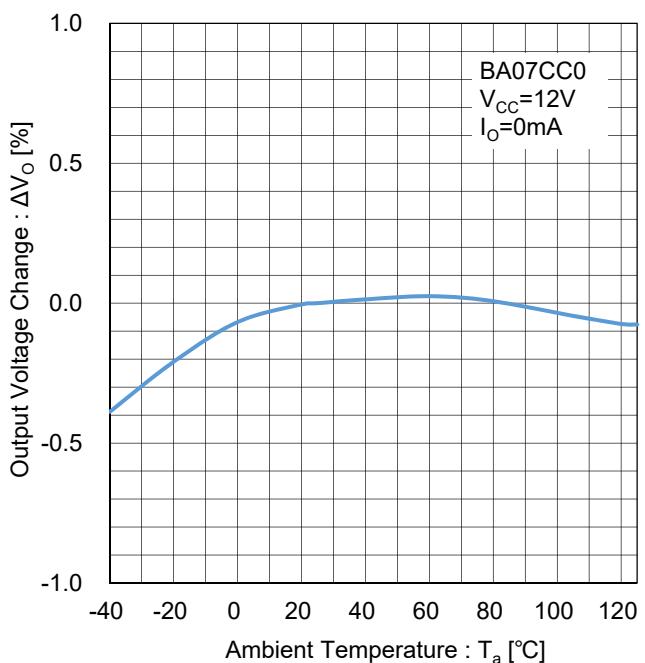
Figure 69. Ripple Rejection
Test Circuit G

BA07CC0
V$_{CC}$=12V
I$_O$=0mA

Figure 70. Output Voltage Temperature Stability
Test Circuit H
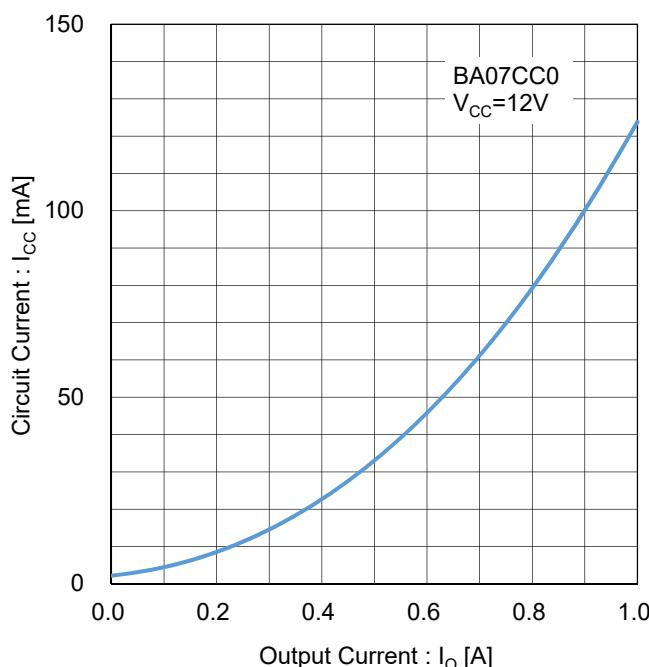
BA07CC0
V$_{CC}$=12V

Figure 71. Circuit Current vs Output Current
Test Circuit I

BA07CC0
V$_{CC}$=12V
I$_O$=0mA
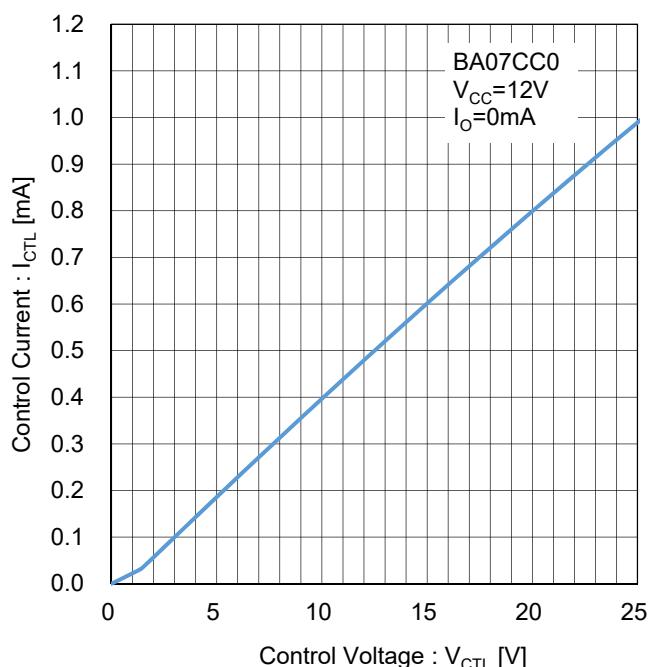
Figure 72. CTL Pin Current
Test Circuit J
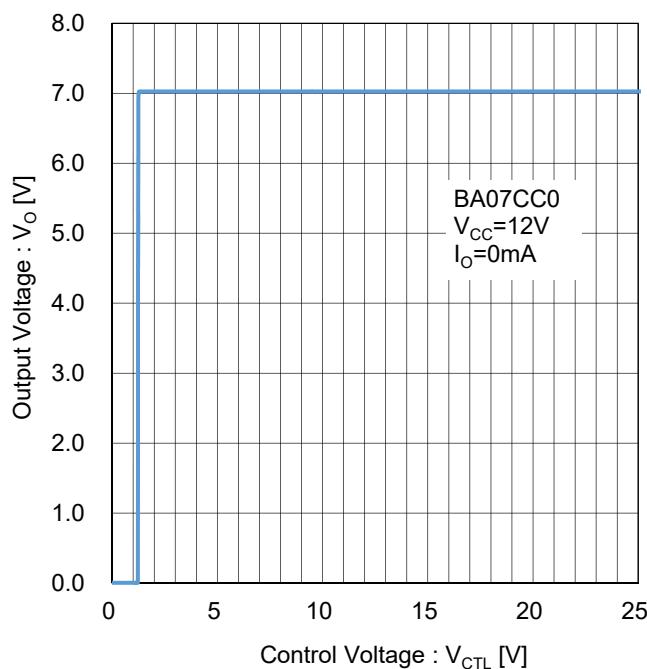
BA07CC0 (V$_O$=7.0V)

Figure 73. Output Voltage vs CTL Pin Voltage
Test Circuit K
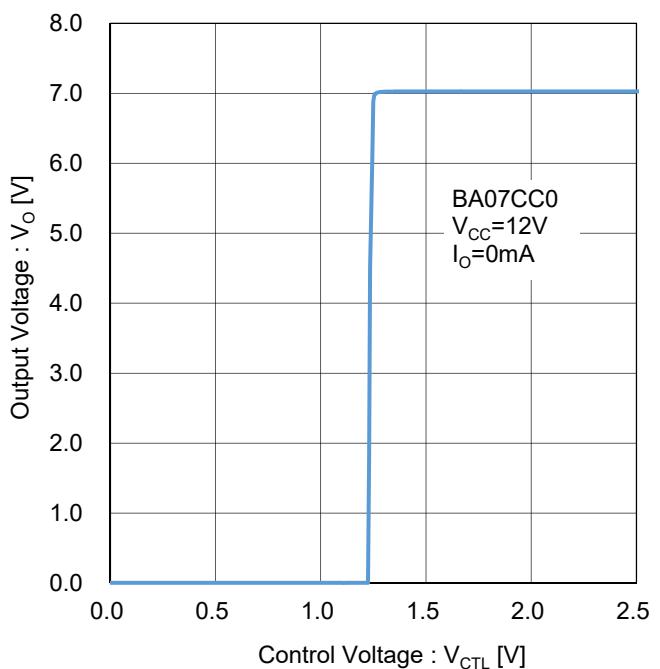
Figure 74. Output Voltage vs CTL Pin Voltage
Test Circuit K
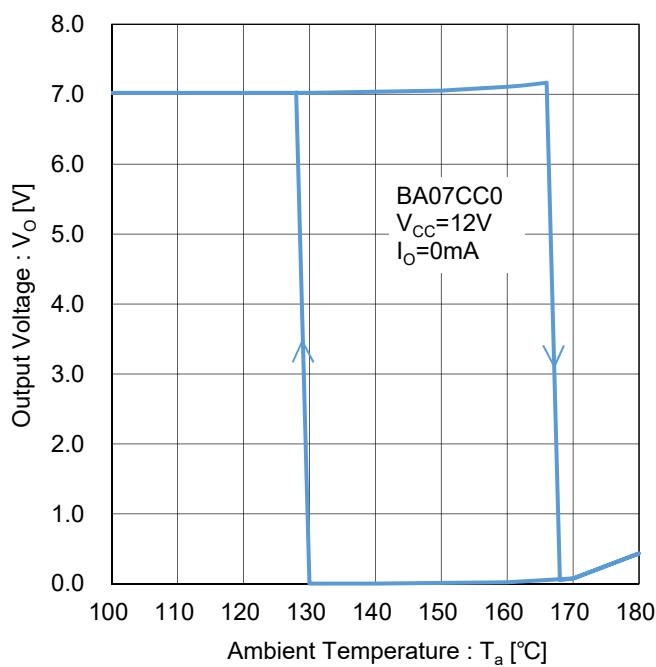
Figure 75. Thermal Shutdown
Test Circuit L
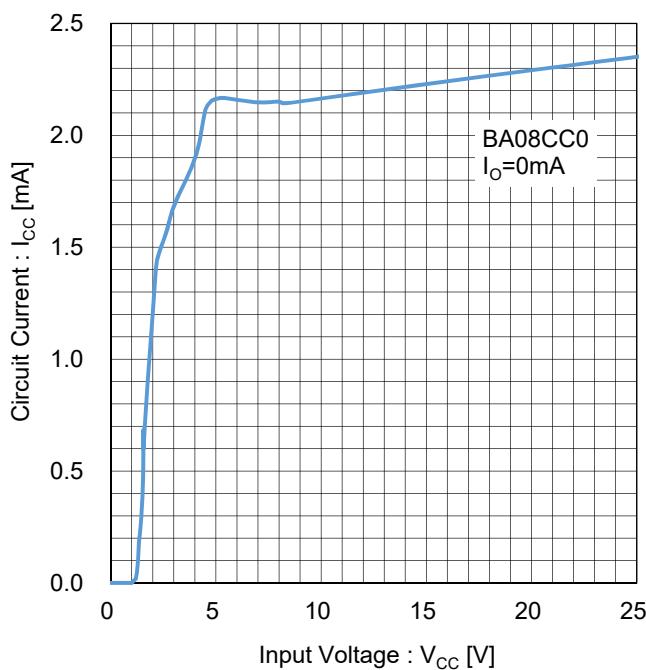
BA08CC0 (V$_O$=8.0V)

Figure 76. Circuit Current
Test Circuit A
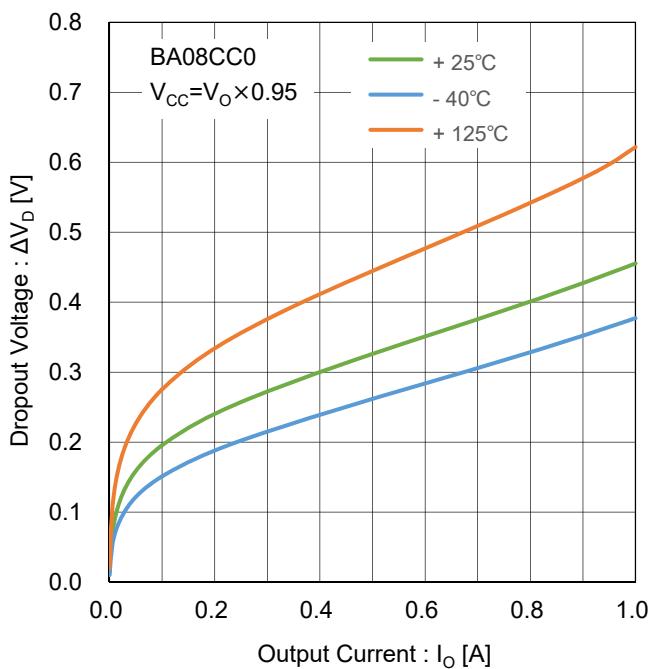
Figure 77. Dropout Voltage vs Output Current
Test Circuit B
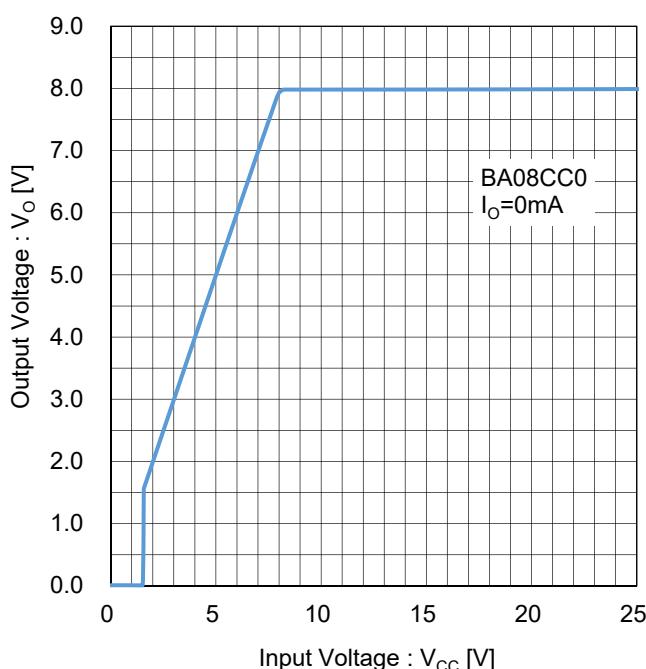
Figure 78. Output Voltage vs Input Voltage
(I$_O$=0mA)
Test Circuit C
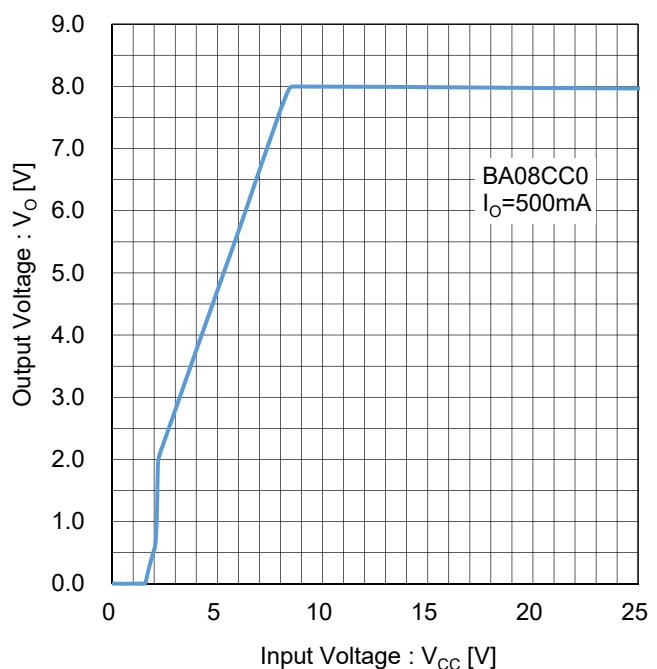
Figure 79. Output Voltage vs Input Voltage
(I$_O$=500mA)
Test Circuit C
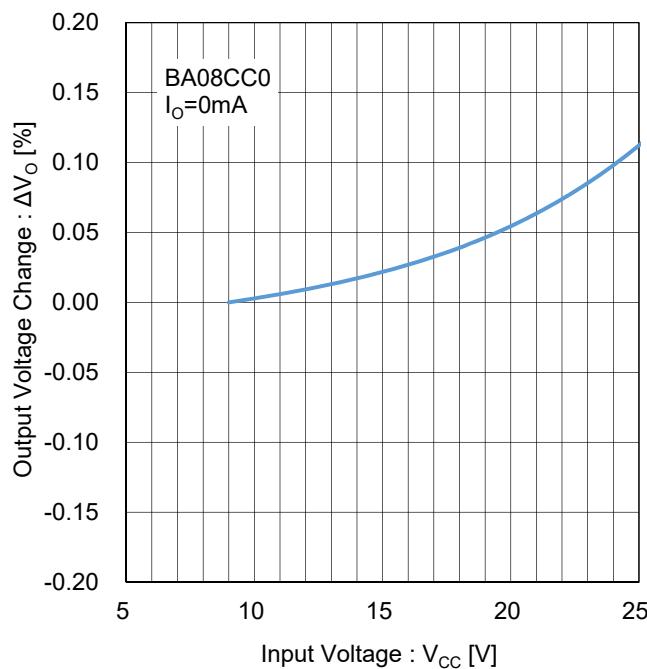
BA08CC0 (V$_O$=8.0V)

Figure 80. Line Regulation
(I$_O$=0mA)
Test Circuit D
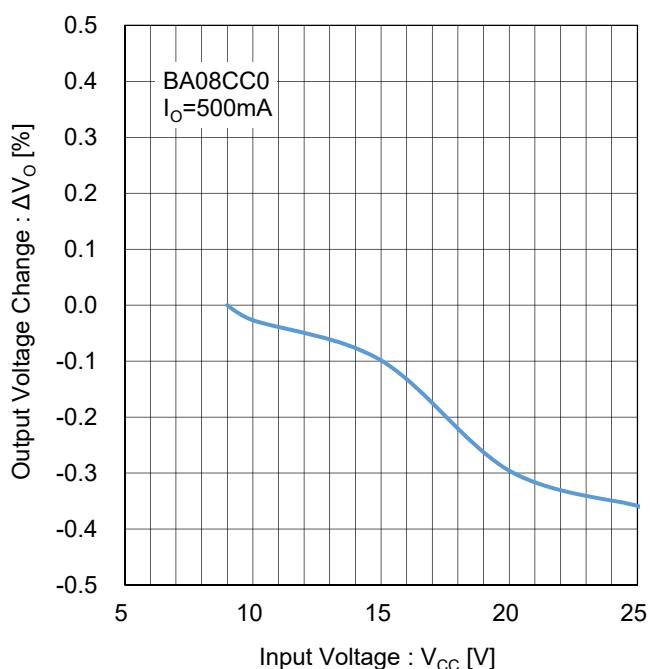
Figure 81. Line Regulation
(I$_O$=500mA)
Test Circuit D
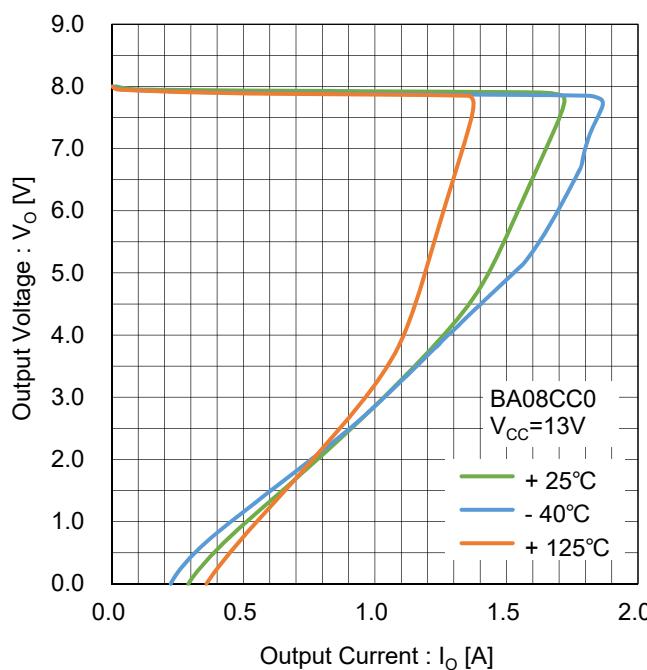
Figure 82. Overcurrent Protection
Test Circuit E
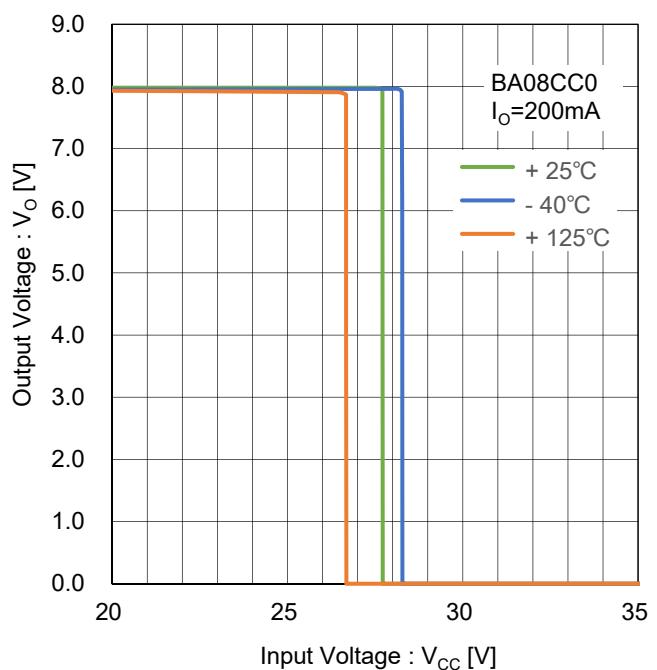
Figure 83. Overvoltage Protection
Test Circuit F

BA08CC0 (V$_O$=8.0V)

Refer to the data of BAJ0CC0
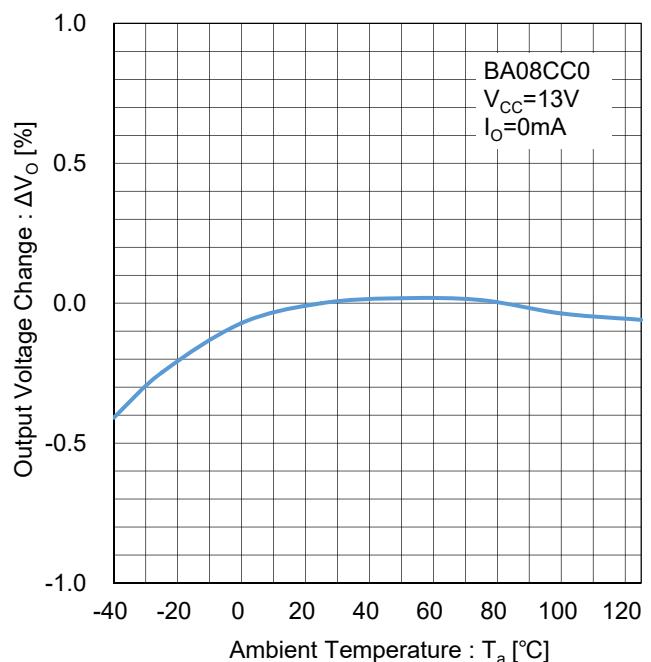
Figure 84. Ripple Rejection
Test Circuit G

Figure 85. Output Voltage Temperature Stability
Test Circuit H
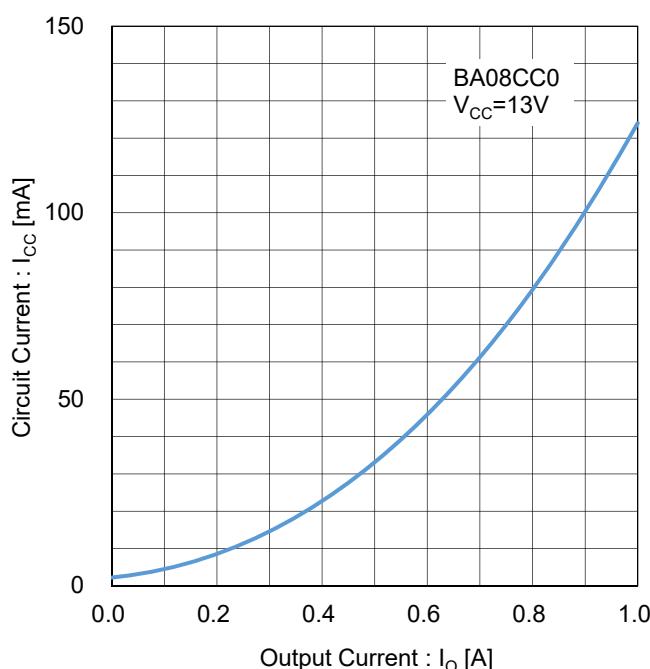
Figure 86. Circuit Current vs Output Current
Test Circuit I
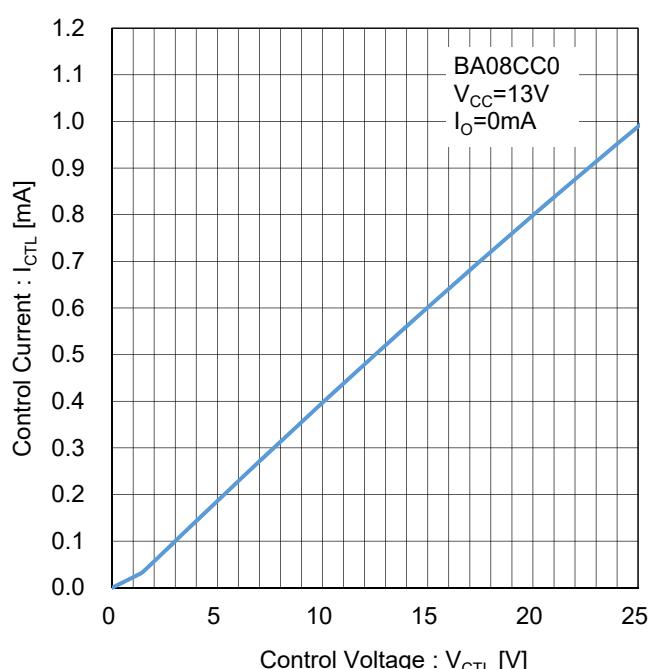
Figure 87. CTL Pin Current
Test Circuit J
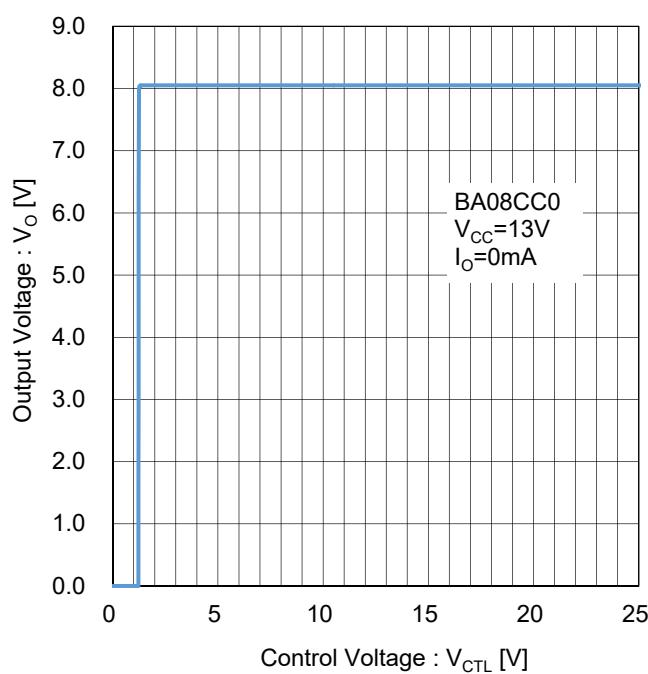
BA08CC0 (V$_O$=8.0V)

Figure 88. Output Voltage vs CTL Pin Voltage
Test Circuit K
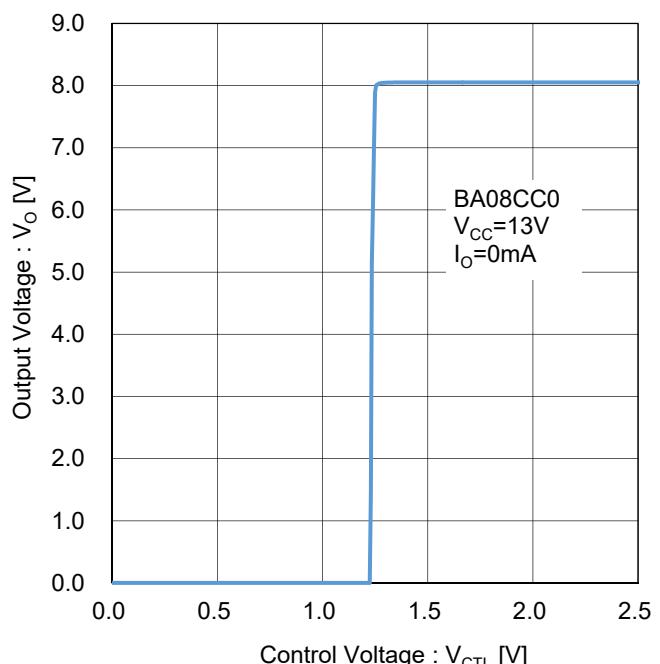
Figure 89. Output Voltage vs CTL Pin Voltage
Test Circuit K
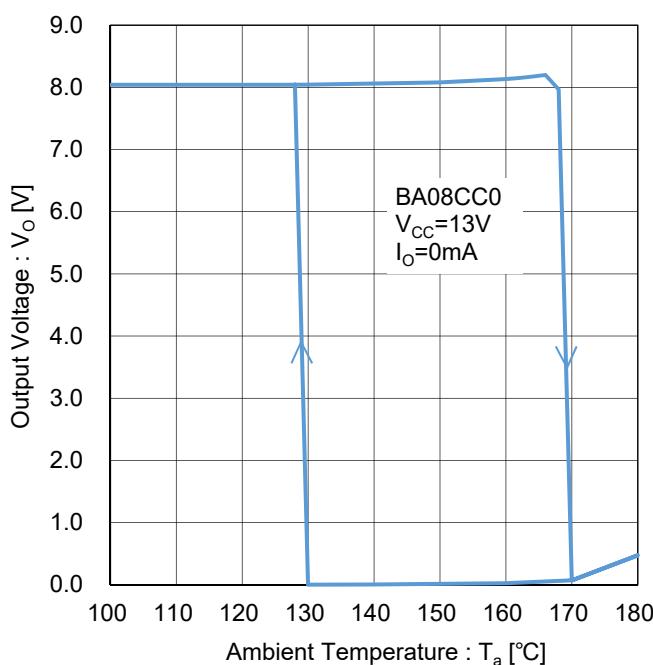
Figure 90. Thermal Shutdown
Test Circuit L
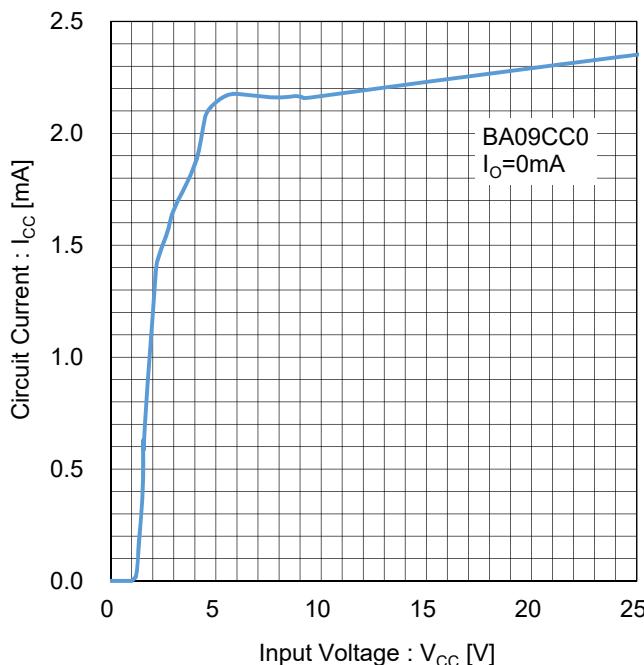
BA09CC0 (V~O~=9.0V)

BA09CC0 (V$_O$=9.0V)


Figure 91. Circuit Current
Test Circuit A
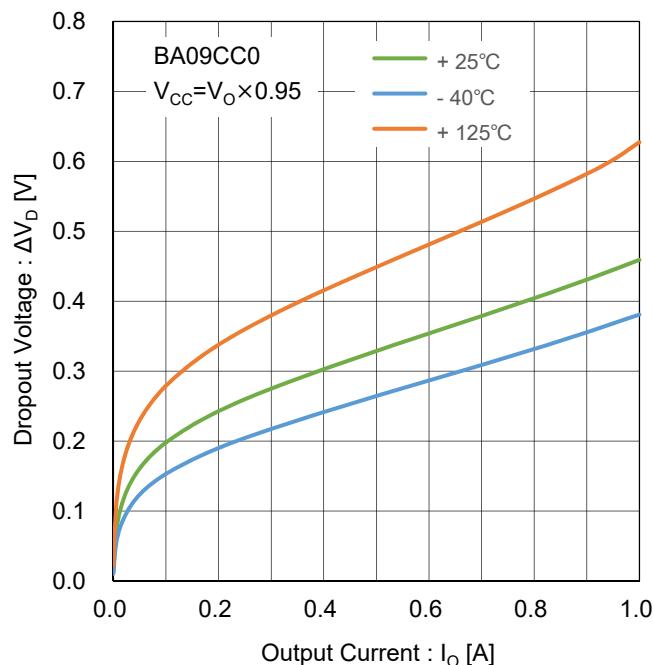
Figure 92. Dropout Voltage vs Output Current
Test Circuit B
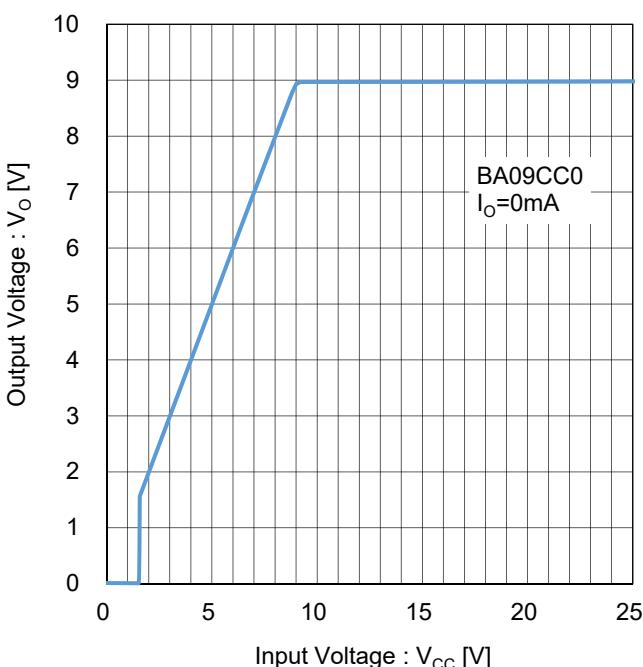
Figure 93. Output Voltage vs Input Voltage
(I$_O$=0mA)
Test Circuit C
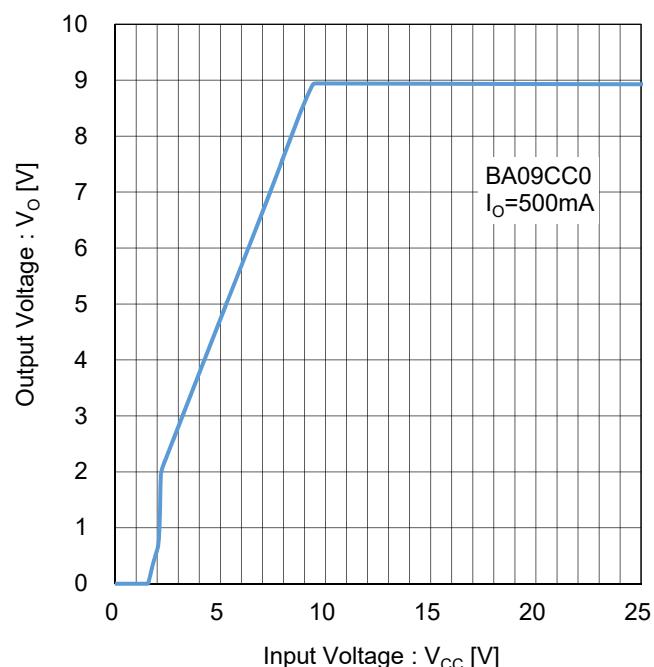
Figure 94. Output Voltage vs Input Voltage
(I$_O$=500mA)
Test Circuit C
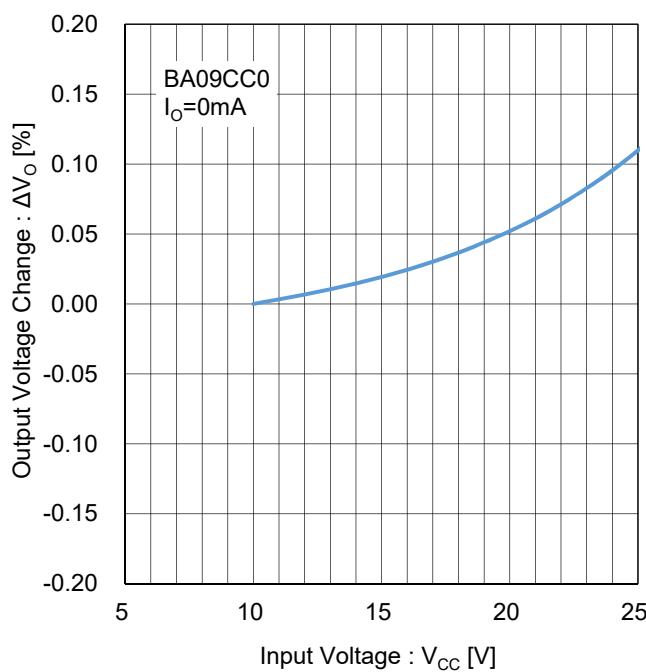
BA09CC0 (V$_O$=9.0V)

Figure 95. Line Regulation
(I$_O$=0mA)
Test Circuit D
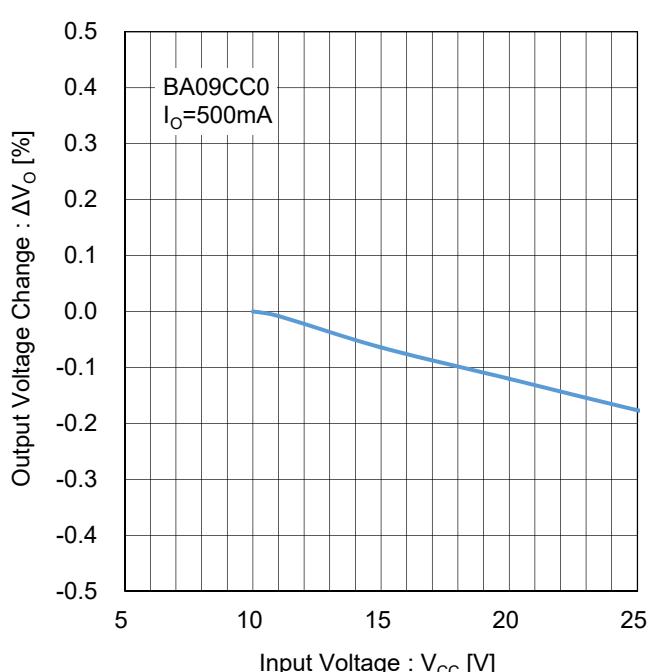
Figure 96. Line Regulation
(I$_O$=500mA)
Test Circuit D
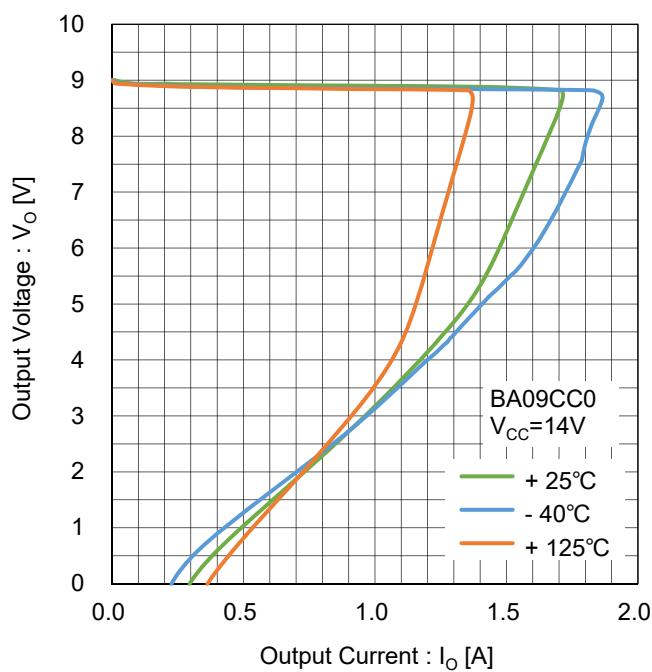
Figure 97. Overcurrent Protection
Test Circuit E
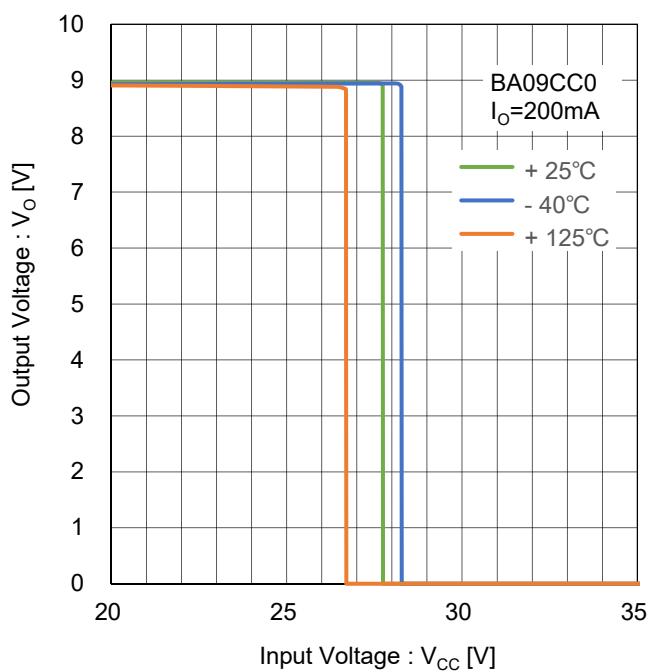
Figure 98. Overvoltage Protection
Test Circuit F

BA09CC0 (V$_O$=9.0V)

Refer to the data of BAJ0CC0
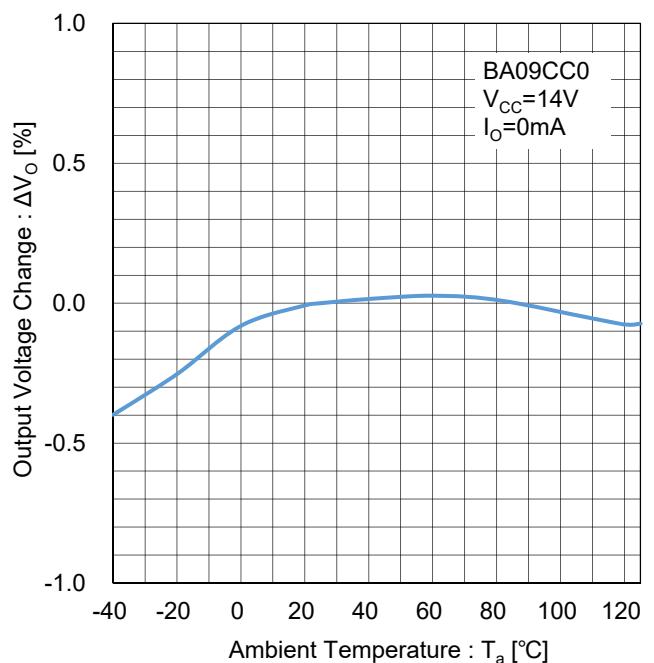
Figure 99. Ripple Rejection
Test Circuit G

Figure 100. Output Voltage Temperature Stability
Test Circuit H
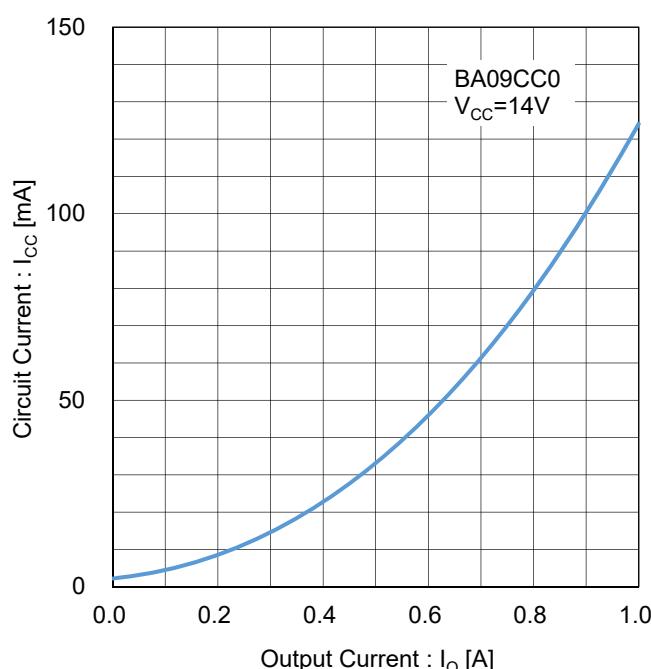
Figure 101. Circuit Current vs Output Current
Test Circuit I
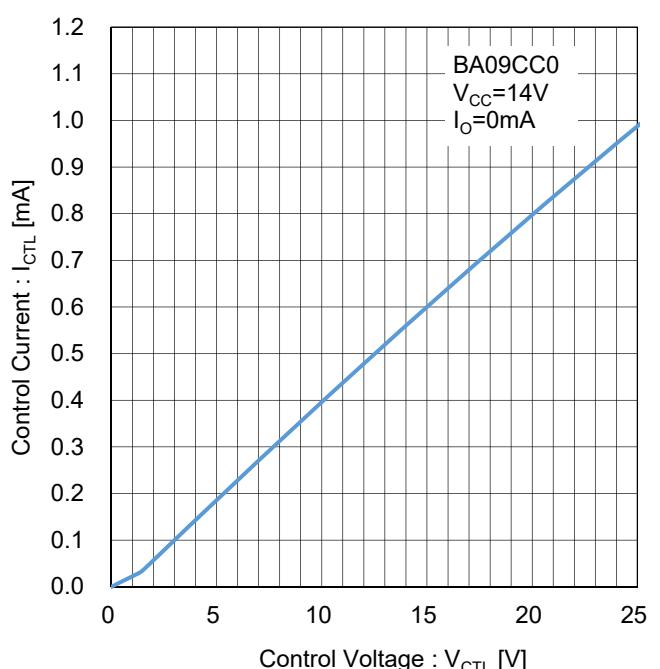
Figure 102. CTL Pin Current
Test Circuit J
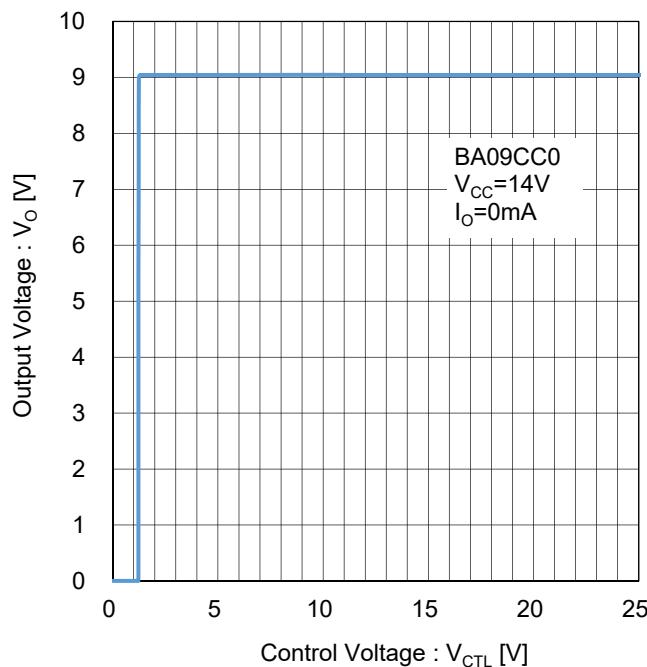
BA09CC0 (V$_O$=9.0V)

Figure 103. Output Voltage vs CTL Pin Voltage
Test Circuit K
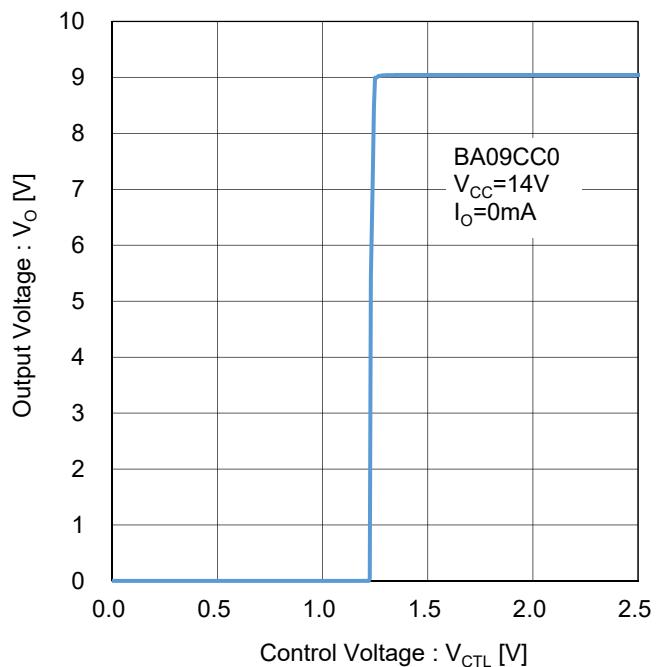
Figure 104. Output Voltage vs CTL Pin Voltage
Test Circuit K
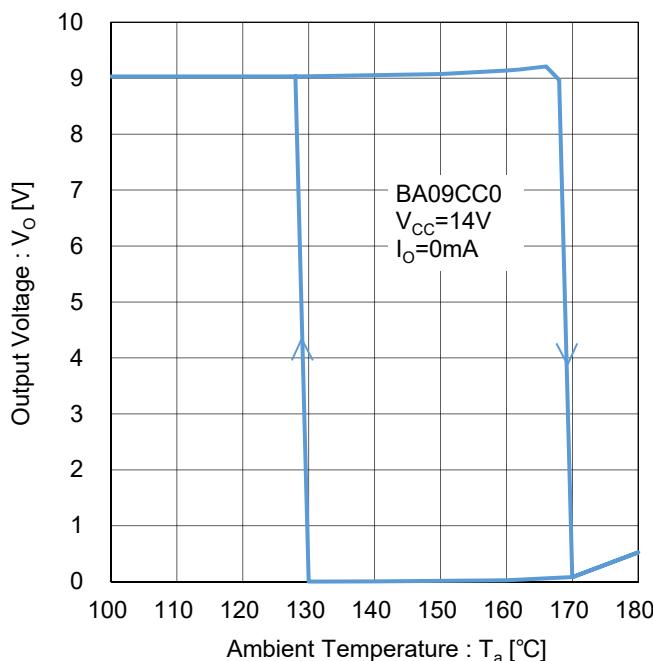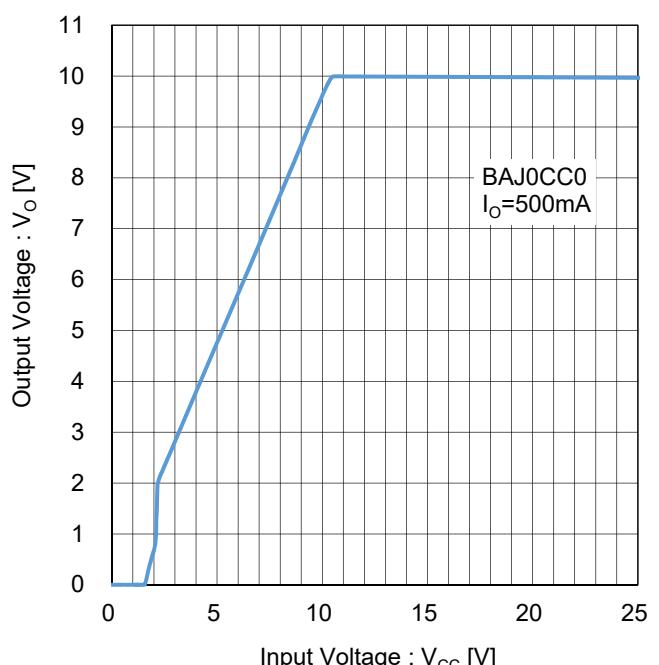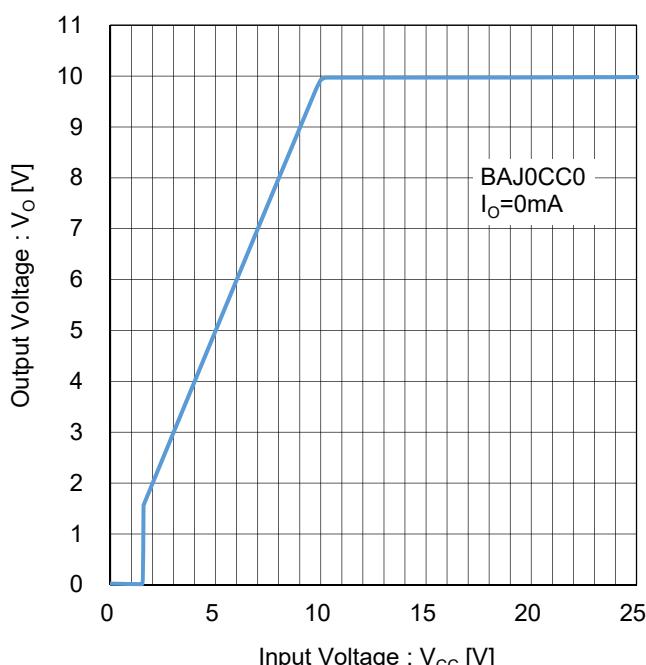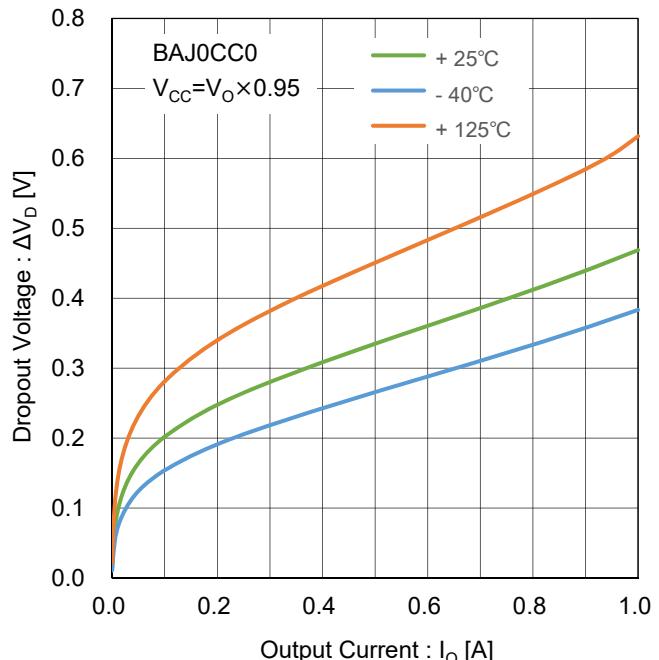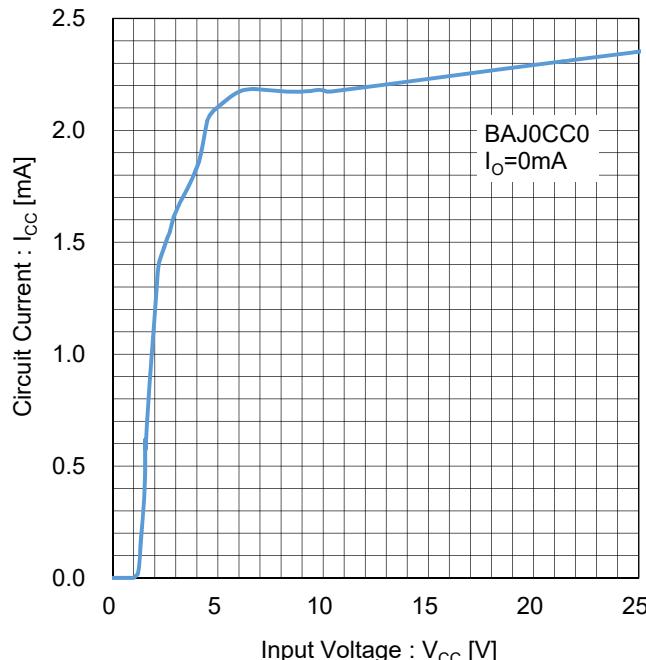
Figure 105. Thermal Shutdown
Test Circuit L

BAJ0CC0 (V$_O$=10V)

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$_O$=500mA)
Test Circuit C
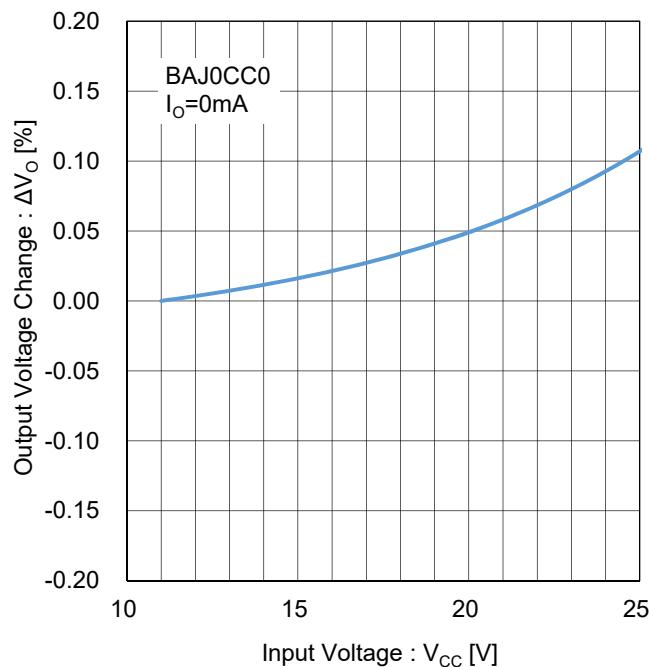
BAJ0CC0 (V$_O$=10V)

Figure 110. Line Regulation
(I$_O$=0mA)
Test Circuit D
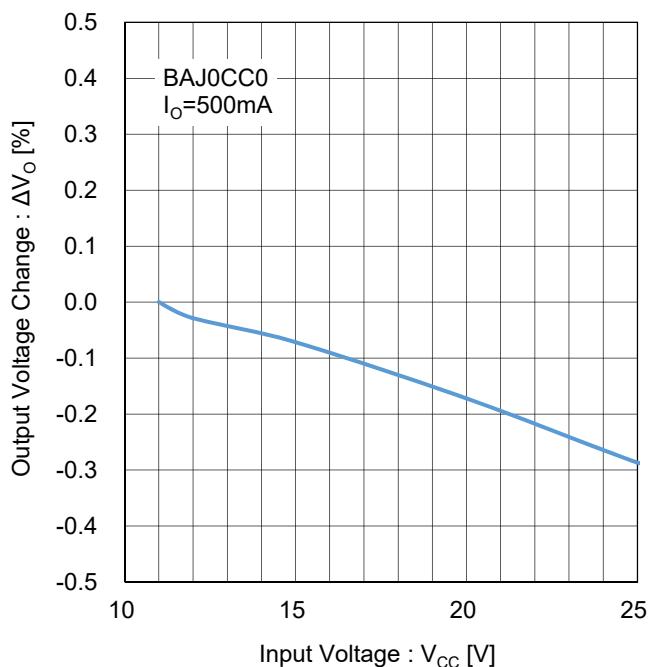
Figure 111. Line Regulation
(I$_O$=500mA)
Test Circuit D
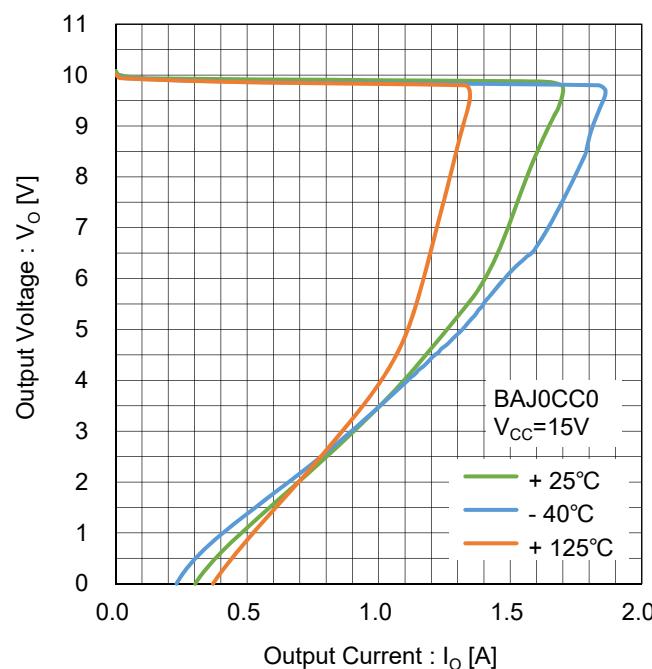
Figure 112. Overcurrent Protection
Test Circuit E
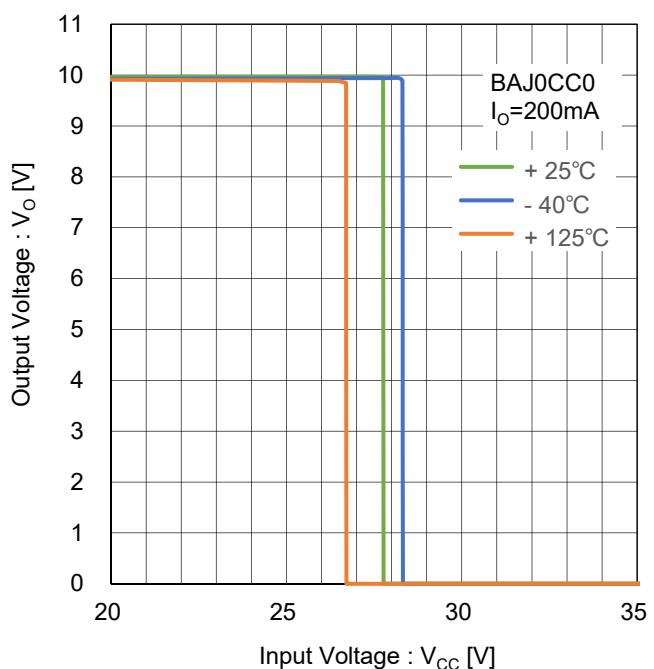
Figure 113. Overvoltage Protection
Test Circuit F

BAJ0CC0 (V$_O$=10V)
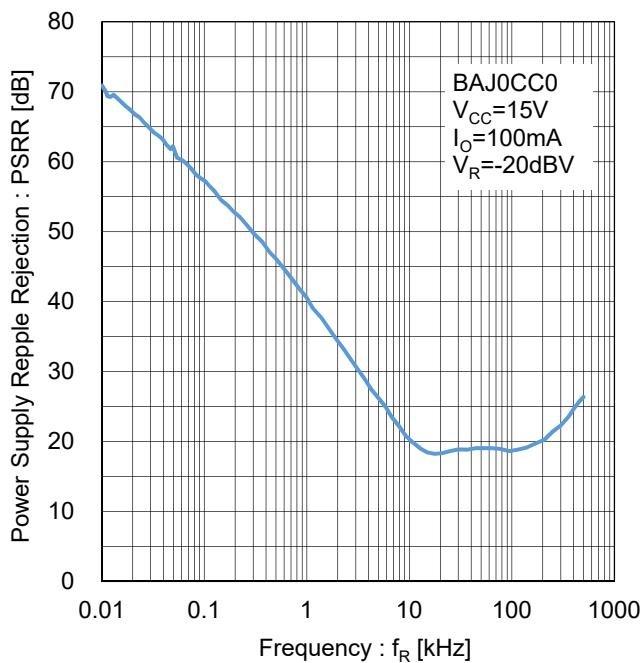
BAJ0CC0
V$_{CC}$=15V
I$_O$=100mA
V$_R$=-20dBV

Figure 114. Ripple Rejection
Test Circuit G

BAJ0CC0
V$_{CC}$=15V
I$_O$=0mA
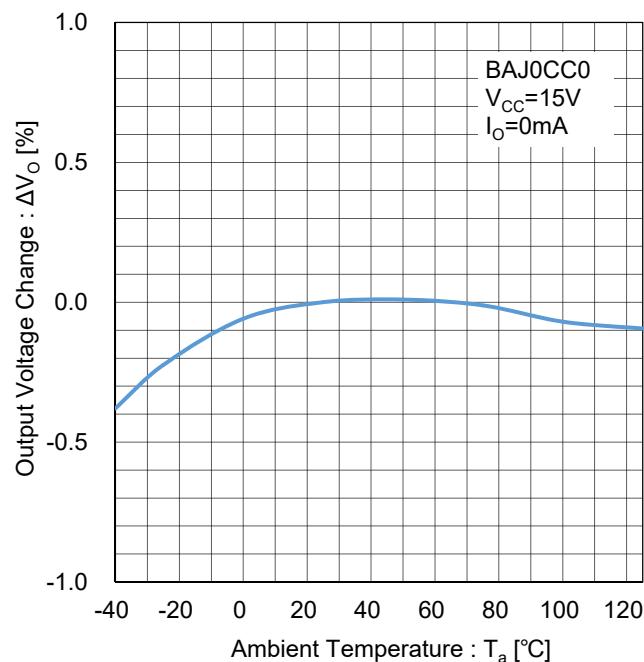
Figure 115. Output Voltage Temperature Stability
Test Circuit H
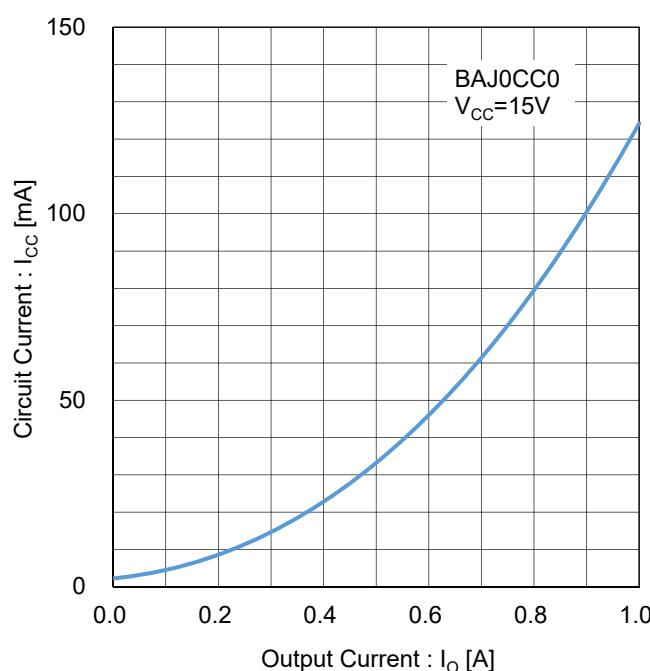
BAJ0CC0
V$_{CC}$=15V

Figure 116. Circuit Current vs Output Current
Test Circuit I

BAJ0CC0
V$_{CC}$=15V
I$_O$=0mA
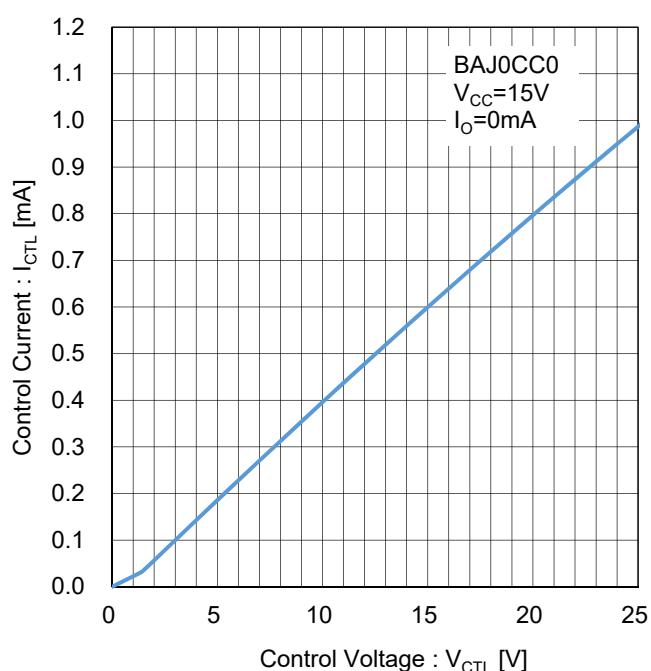
Figure 117. CTL Pin Current
Test Circuit J
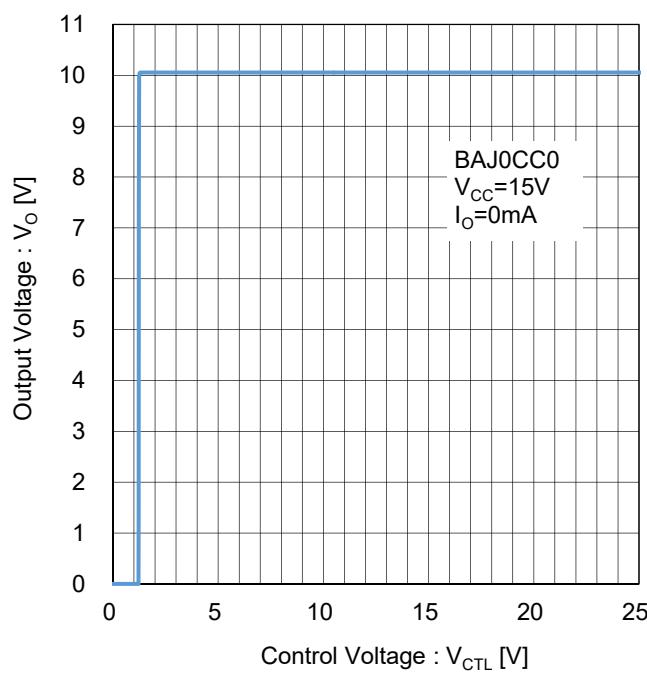
BAJ0CC0 (V$_O$=10V)

Figure 118. Output Voltage vs CTL Pin Voltage
Test Circuit K
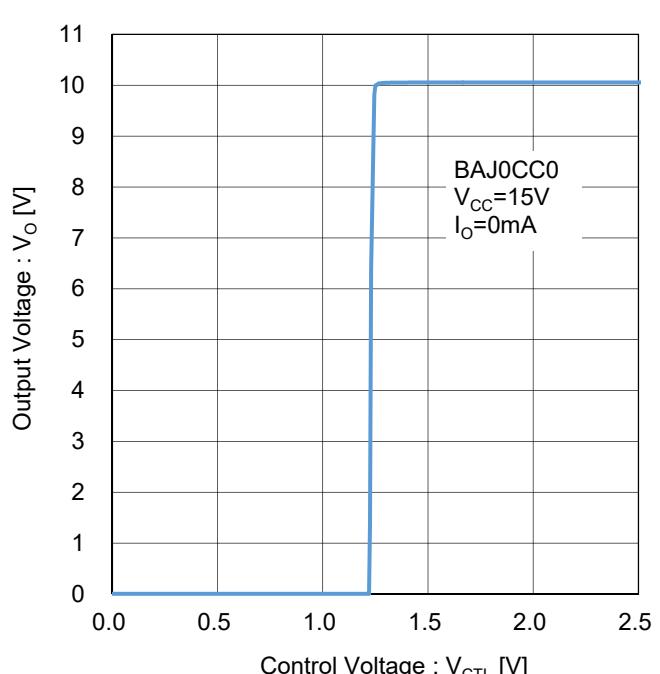
Figure 119. Output Voltage vs CTL Pin Voltage
Test Circuit K
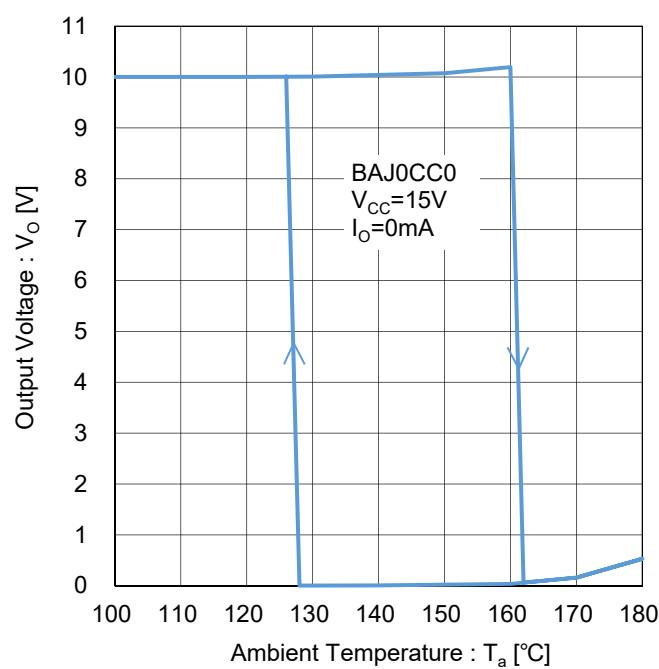
Figure 120. Thermal Shutdown
Test Circuit L
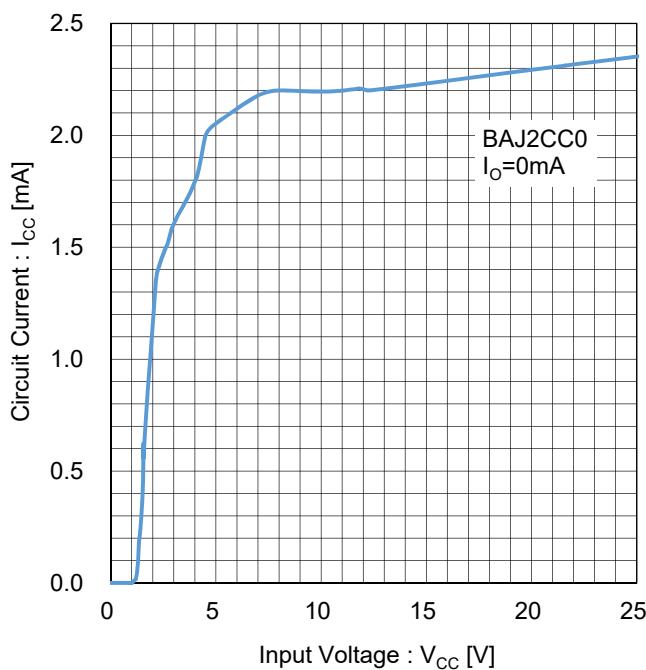
BAJ2CC0 (V$_O$=12V)

Figure 121. Circuit Current
Test Circuit A
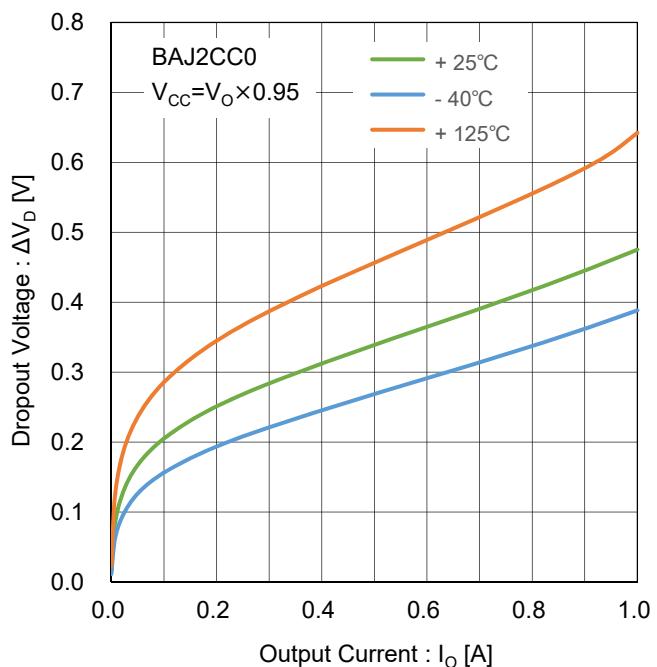
Figure 122. Dropout Voltage vs Output Current
Test Circuit B
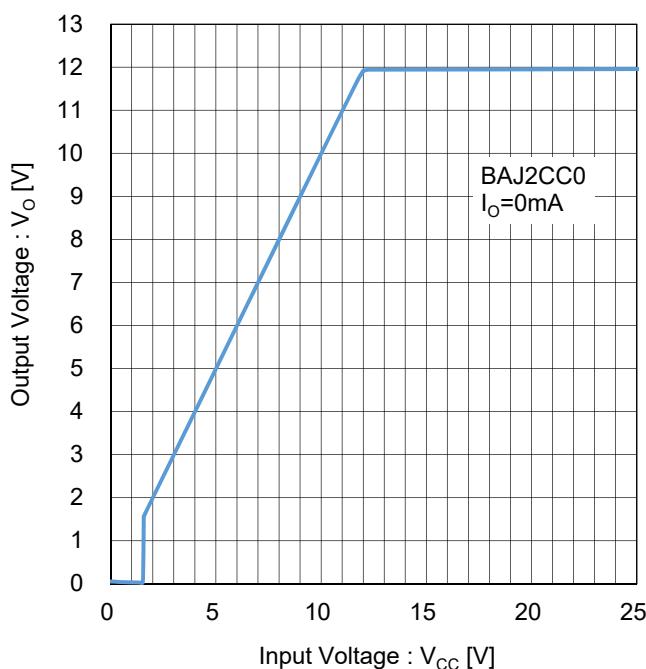
Figure 123. Output Voltage vs Input Voltage
(I$_O$=0mA)
Test Circuit C
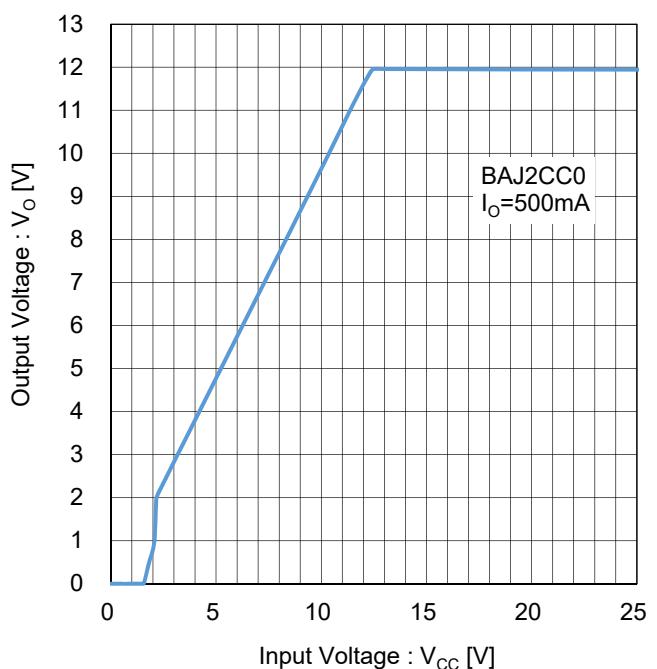
Figure 124. Output Voltage vs Input Voltage
(I$_O$=500mA)
Test Circuit C
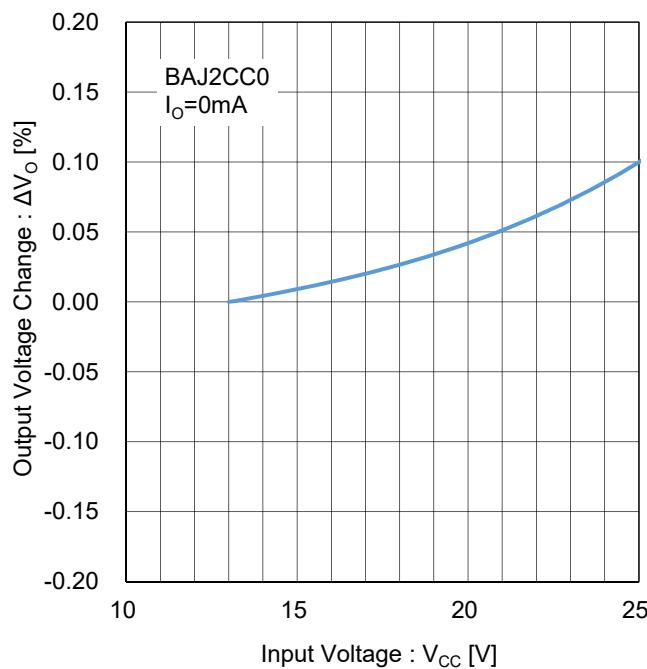
BAJ2CC0 (V$_O$=12V)

Figure 125. Line Regulation
(I$_O$=0mA)
Test Circuit D
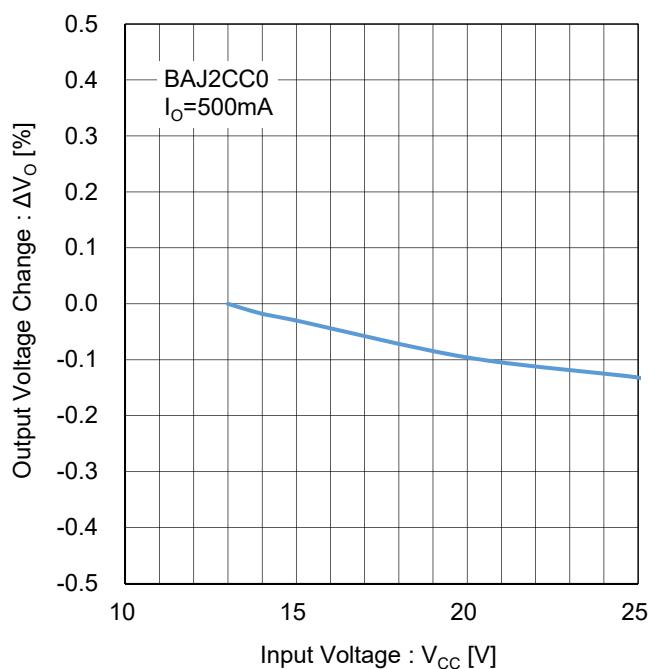
Figure 126. Line Regulation
(I$_O$=500mA)
Test Circuit D
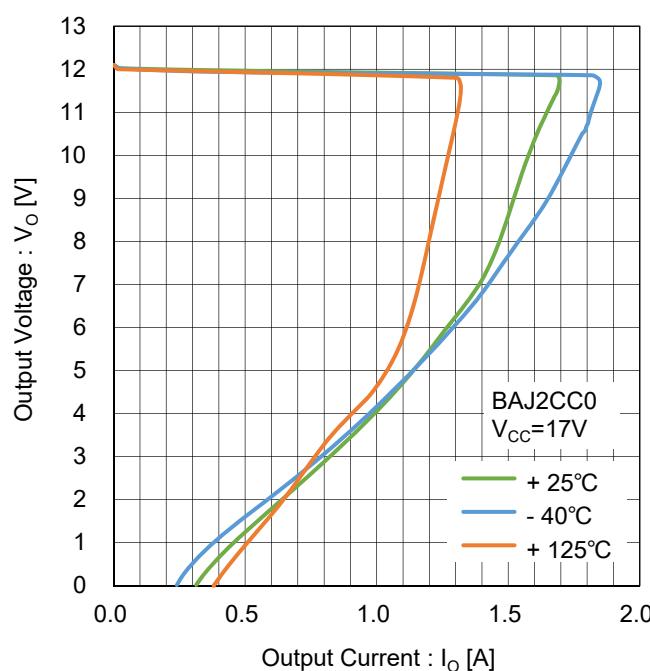
Figure 127. Overcurrent Protection
Test Circuit E
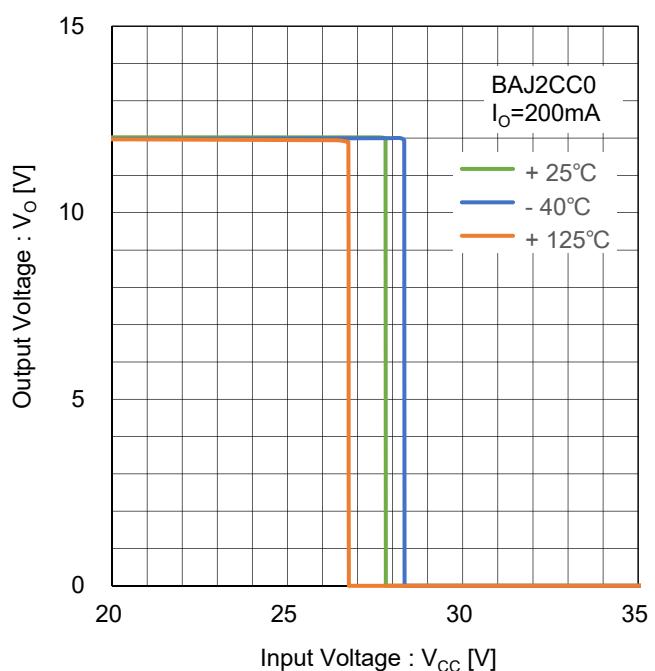
Figure 128. Overvoltage Protection
Test Circuit F

BAJ2CC0 (V$_O$=12V)

Refer to the data of BAJ0CC0
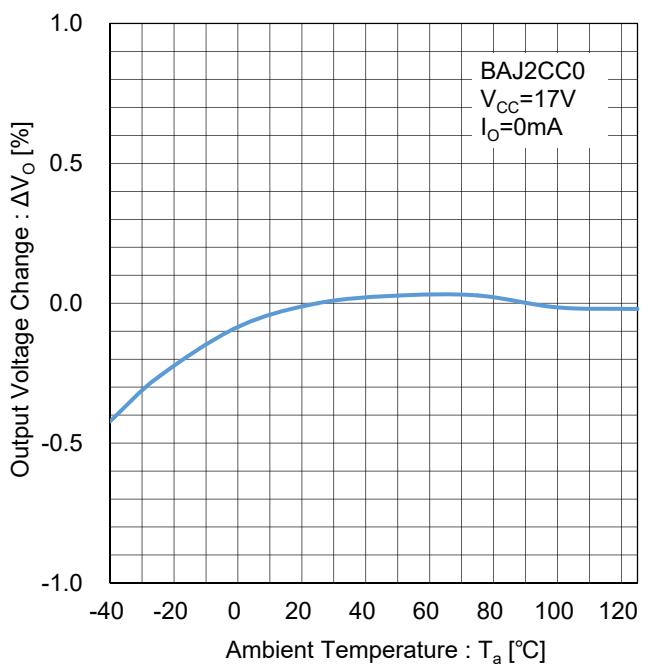
Figure 129. Ripple Rejection
Test Circuit G

BAJ2CC0
V$_{CC}$=17V
I$_O$=0mA

Output Voltage Change : ΔV_O [%]

Ambient Temperature : T$_a$ [℃]

Figure 130. Output Voltage Temperature Stability
Test Circuit H

BAJ2CC0
V$_{CC}$=17V

Circuit Current : I$_{CC}$ [mA]
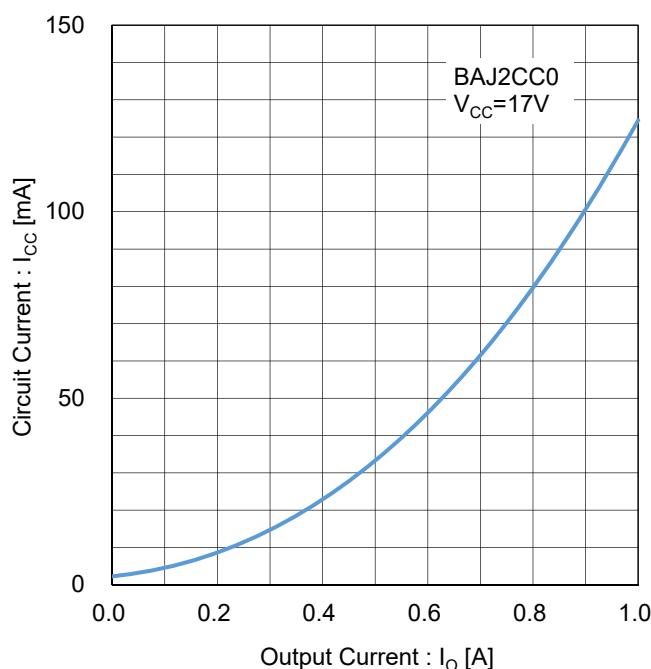
Output Current : I$_O$ [A]

Figure 131. Circuit Current vs Output Current
Test Circuit I

BAJ2CC0
V$_{CC}$=17V
I$_O$=0mA

Control Current : I$_{CTL}$ [mA]

Control Voltage : V$_{CTL}$ [V]
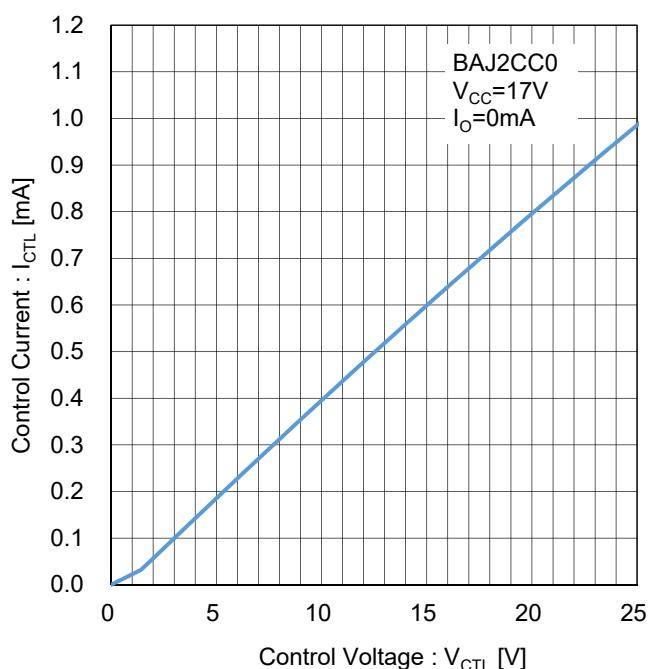
Figure 132. CTL Pin Current
Test Circuit J
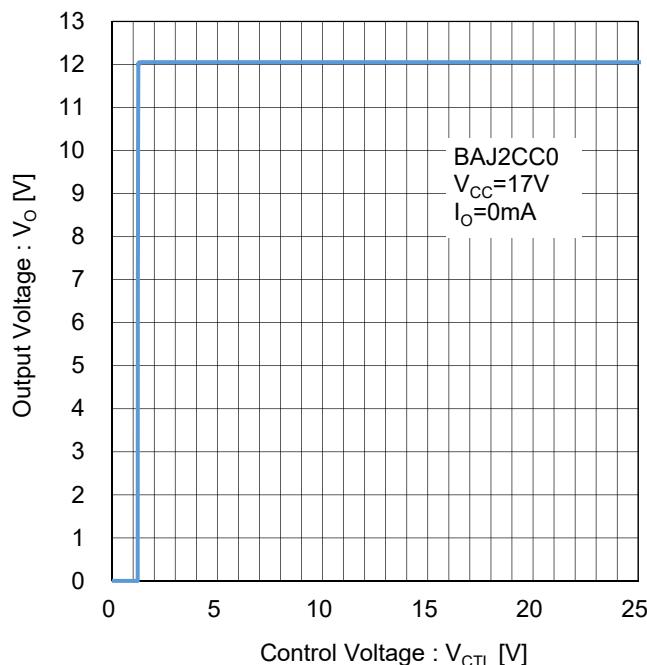
BAJ2CC0 (V_O=12V)

Figure 133. Output Voltage vs CTL Pin Voltage
Test Circuit K
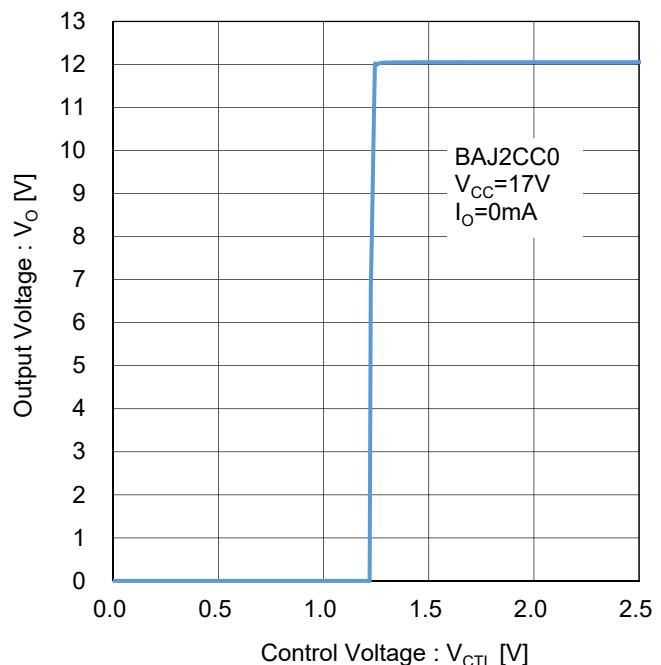
Figure 134. Output Voltage vs CTL Pin Voltage
Test Circuit K
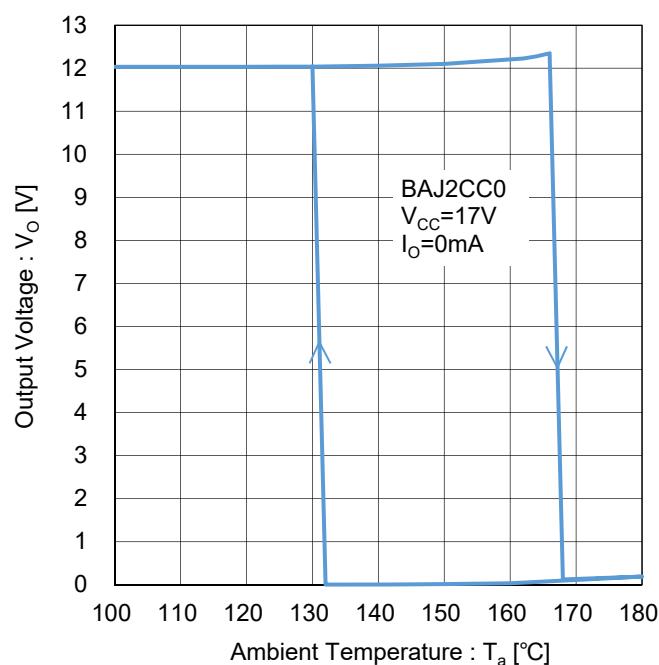
Figure 135. Thermal Shutdown
Test Circuit L
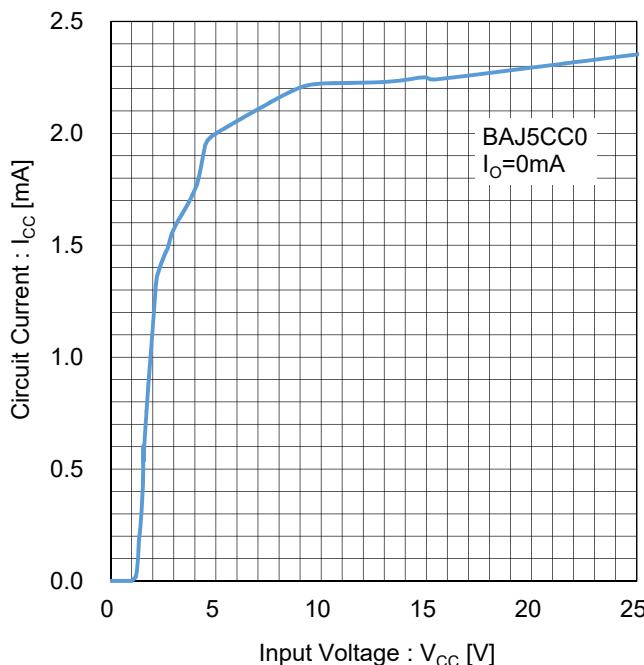
BAJ5CC0 (V$_O$=15V)

Figure 136. Circuit Current
Test Circuit A
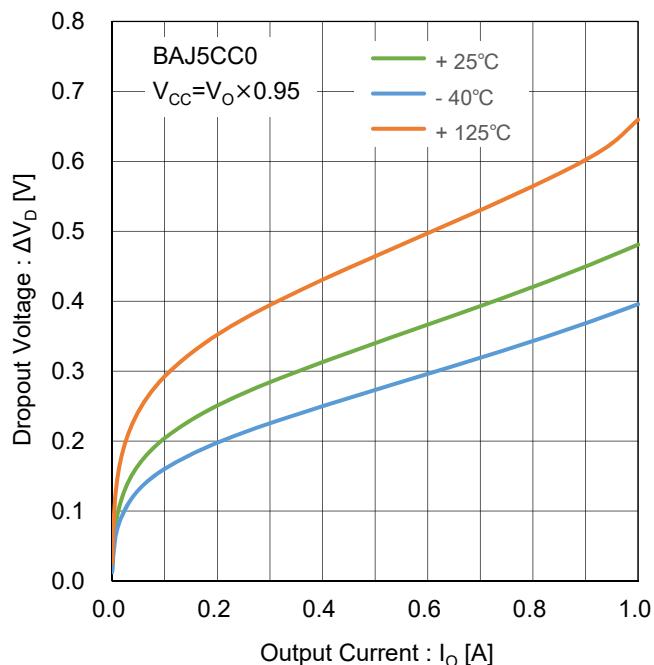
Figure 137. Dropout Voltage vs Output Current
Test Circuit B
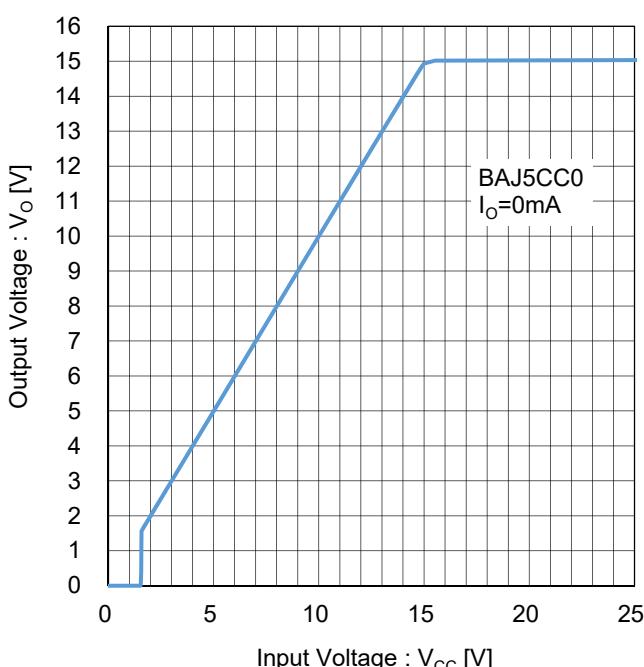
Figure 138. Output Voltage vs Input Voltage
(I$_O$=0mA)
Test Circuit C
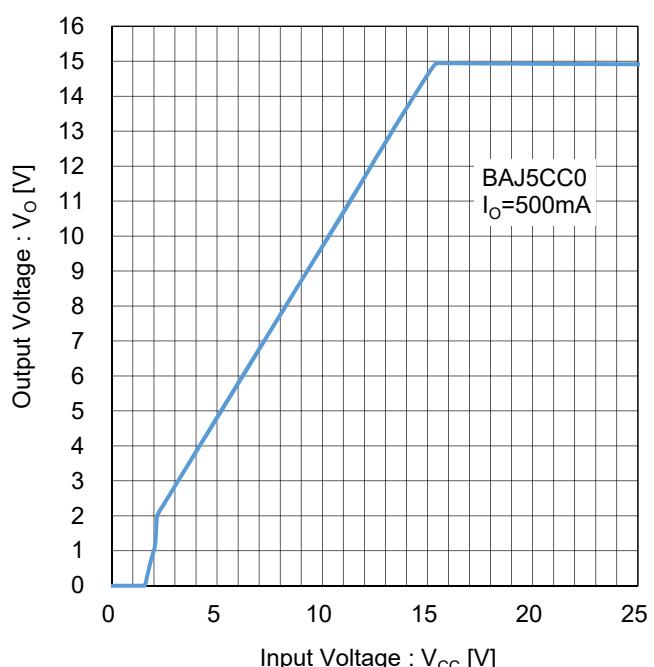
Figure 139. Output Voltage vs Input Voltage
(I$_O$=500mA)
Test Circuit C
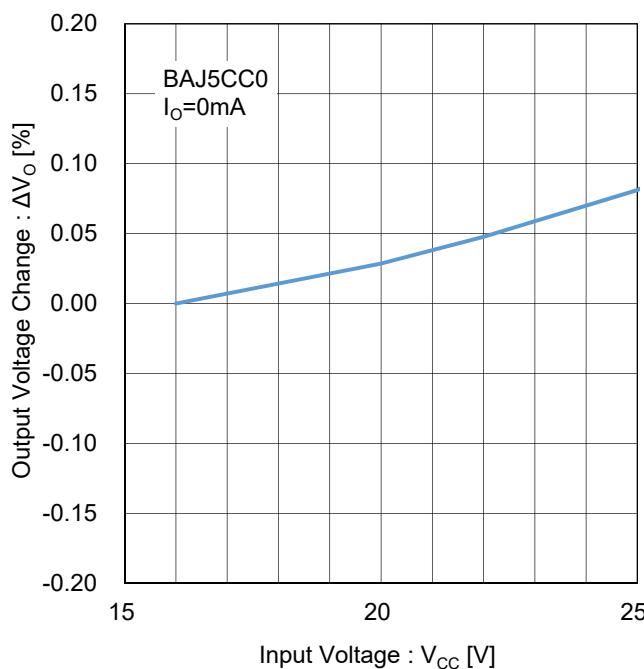
BAJ5CC0 (V$_O$=15V)

Figure 140. Line Regulation
(I$_O$=0mA)
Test Circuit D
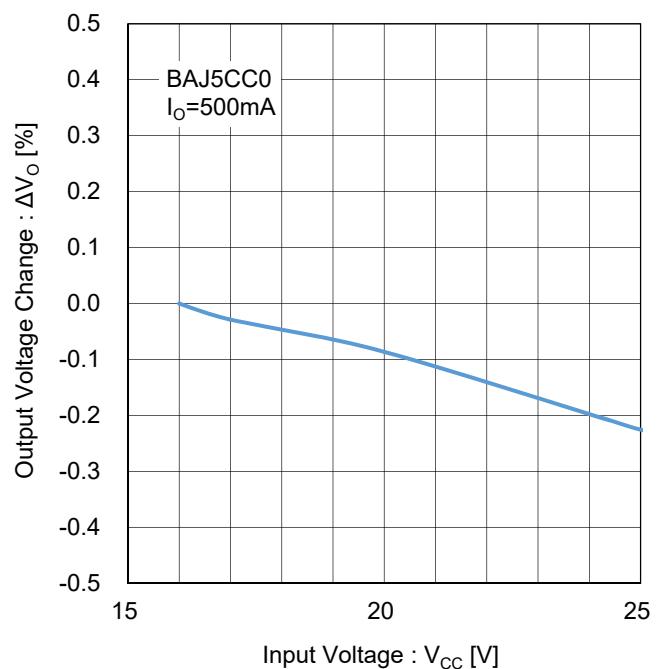
Figure 141. Line Regulation
(I$_O$=500mA)
Test Circuit D
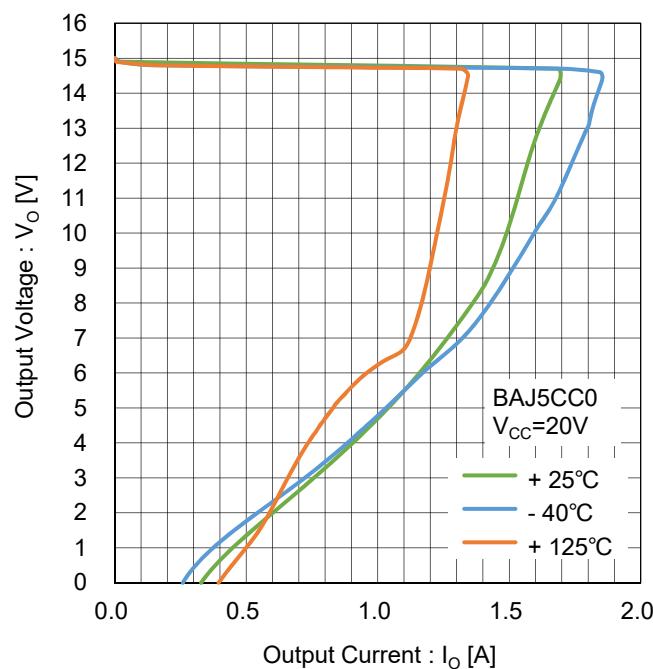

Figure 142. Overcurrent Protection
Test Circuit E
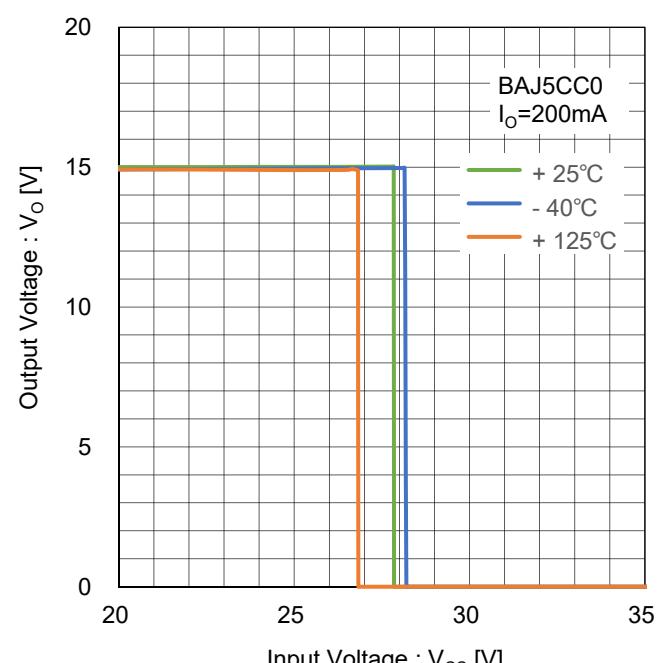
Figure 143. Overvoltage Protection
Test Circuit F

BAJ5CC0 (V_O=15V)

Refer to the data of BAJ0CC0
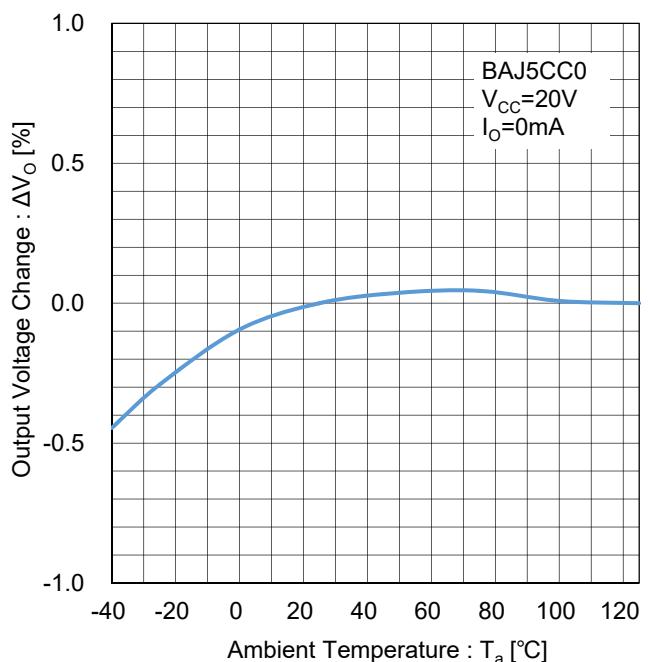
Figure 144. Ripple Rejection
Test Circuit G

Figure 145. Output Voltage Temperature Stability
Test Circuit H
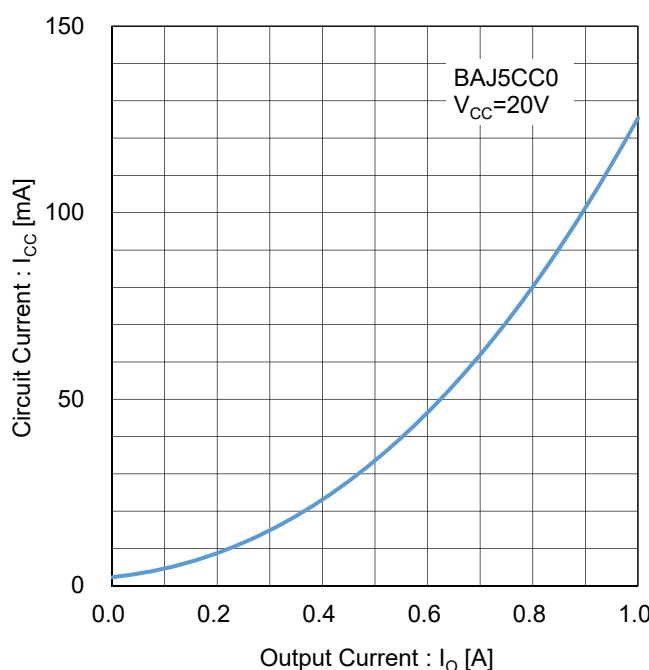
Figure 146. Circuit Current vs Output Current
Test Circuit I
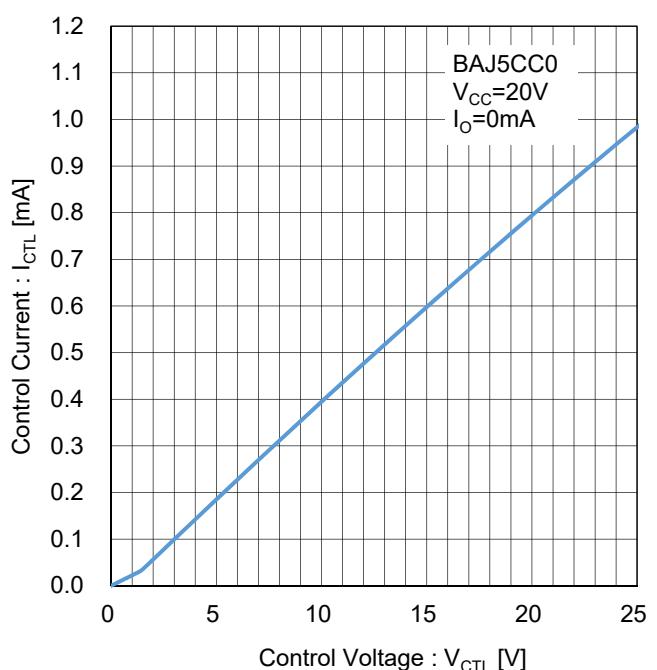
Figure 147. CTL Pin Current
Test Circuit J
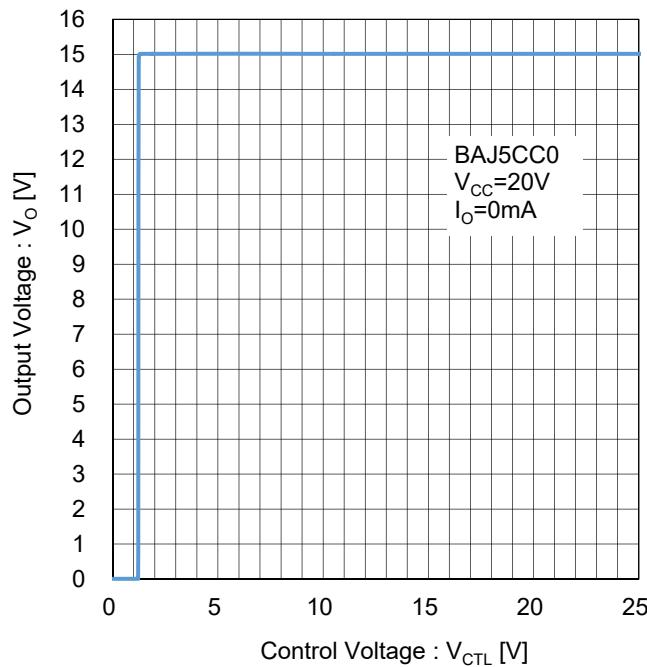
BAJ5CC0 (V$_O$=15V)

Figure 148. Output Voltage vs CTL Pin Voltage
Test Circuit K
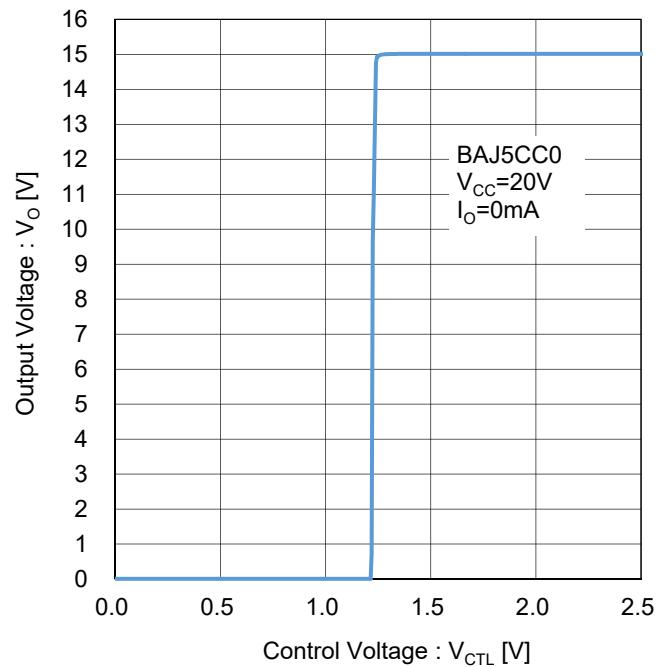
Figure 149. Output Voltage vs CTL Pin Voltage
Test Circuit K
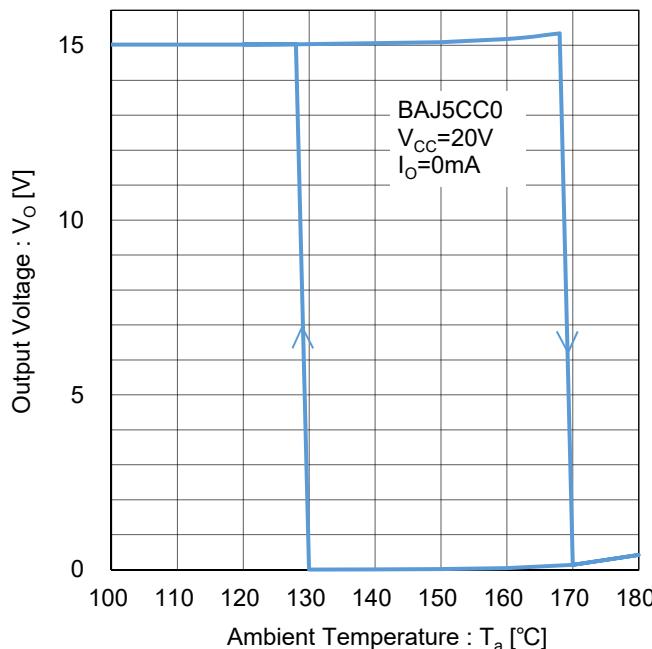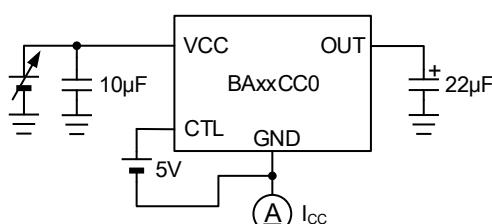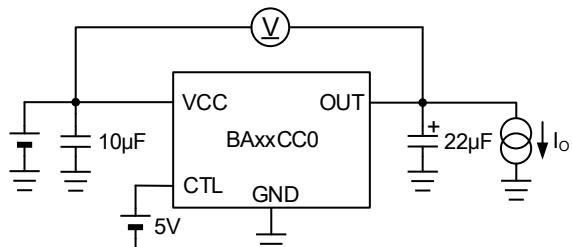
Figure 150. Thermal Shutdown
Test Circuit L
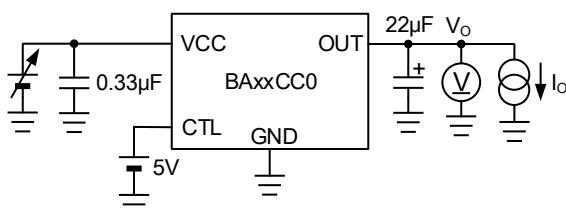
Test Circuits
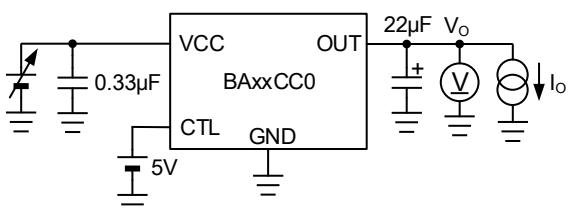
Test Circuit A. Circuit Current
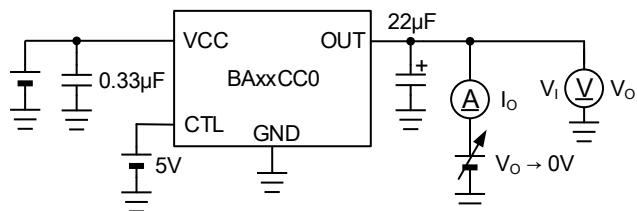
Test Circuit B. Dropout Voltage vs Output Current
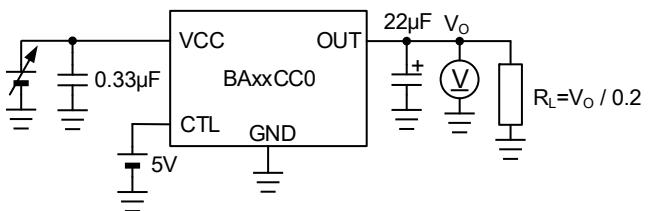
Test Circuit C. Output Voltage vs Input Voltage
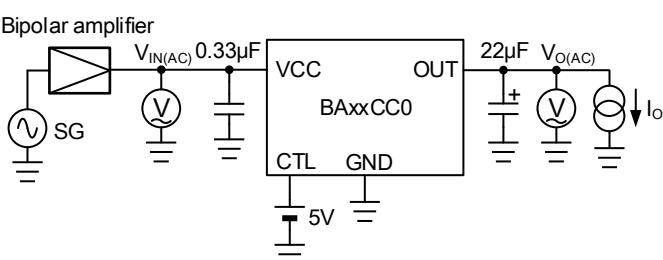
Test Circuit D. Line Regulation
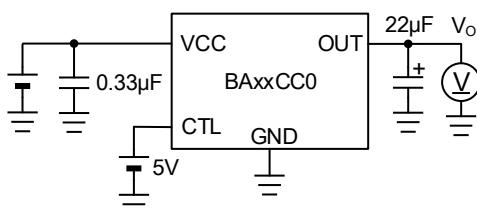
Test Circuit E. Overcurrent Protection
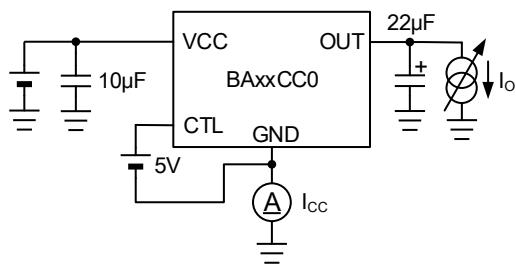
Test Circuit F. Overvoltage Protection
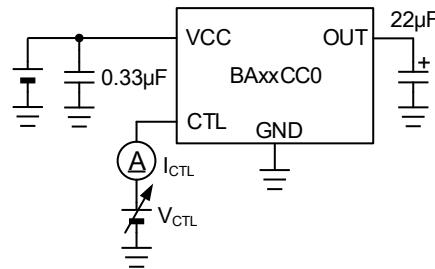
Test Circuit G. Ripple Rejection
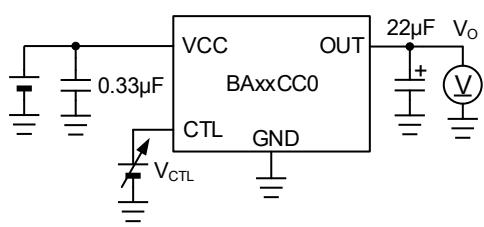
Test Circuit H. Output Voltage Temperature Stability
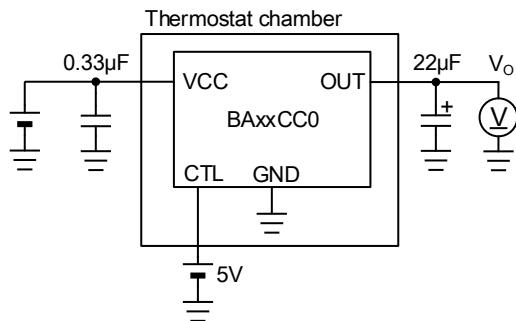
Test Circuit I. Circuit Current vs Output Current

Test Circuit J. CTL Pin Current

Test Circuit K. Output Voltage vs CTL Pin Voltage

Test Circuit L. Thermal Shutdown

N o t e s

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