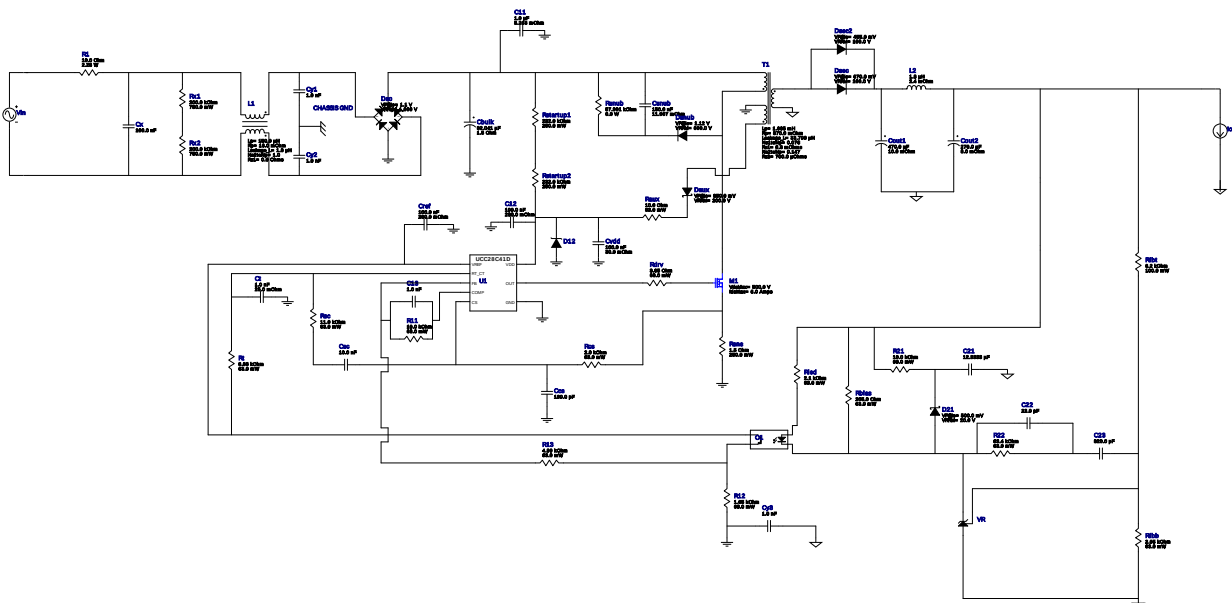


## WEBENCH® Design Report

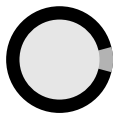
Design : 4761085/5 UCC28C41DR  
UCC28C41DR 110.0V-250.0V to 5.00V @ 3.0A

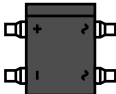
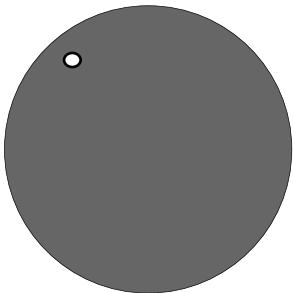


1. The EMI filter selected here contains the estimated values. The real numbers will depend on the attenuation needed at a particular frequency.

### Electrical BOM

| #  | Name  | Manufacturer              | Part Number                         | Properties                                                            | Qty | Price  | Footprint                                                                                                        |
|----|-------|---------------------------|-------------------------------------|-----------------------------------------------------------------------|-----|--------|------------------------------------------------------------------------------------------------------------------|
| 1. | C11   | TDK                       | C5750X6S2W105K<br>Series= X6S       | Cap= 1.0 uF<br>ESR= 5.263 mOhm<br>VDC= 400.0 V<br>IRMS= 0.0 A         | 1   | \$1.19 | <br>2220 54 mm <sup>2</sup> |
| 2. | C12   | AVX                       | 08053C104KAT2A<br>Series= X7R       | Cap= 100.0 nF<br>ESR= 280.0 mOhm<br>VDC= 25.0 V<br>IRMS= 0.0 A        | 1   | \$0.01 | <br>0805 7 mm <sup>2</sup>  |
| 3. | C13   | Samsung Electro-Mechanics | CL21C102JBCNFNC<br>Series= C0G/NP0  | Cap= 1.0 nF<br>VDC= 50.0 V<br>IRMS= 0.0 A                             | 1   | \$0.01 | <br>0805 7 mm <sup>2</sup>  |
| 4. | C21   | CUSTOM                    | CUSTOM<br>Series= ?                 | Cap= 12.3333 uF<br>VDC= 10.0 V<br>IRMS= 0.0 A                         | 1   | NA     | CUSTOM 0 mm <sup>2</sup>                                                                                         |
| 5. | C22   | Kemet                     | C0805C220K3GACTU<br>Series= C0G/NP0 | Cap= 22.0 pF<br>VDC= 25.0 V<br>IRMS= 0.0 A                            | 1   | \$0.01 | <br>0805 7 mm <sup>2</sup>  |
| 6. | C23   | Yageo America             | CC0805KRX7R9BB821<br>Series= X7R    | Cap= 820.0 pF<br>VDC= 50.0 V<br>IRMS= 0.0 A                           | 1   | \$0.01 | <br>0805 7 mm <sup>2</sup>  |
| 7. | Cbulk | CUSTOM                    | CUSTOM<br>Series= ?                 | Cap= 32.041 uF<br>ESR= 1.5005 Ohm<br>VDC= 424.26 V<br>IRMS= 330.89 mA | 1   | NA     | CUSTOM 0 mm <sup>2</sup>                                                                                         |
| 8. | Ccs   | Kemet                     | C0805C181K5GACTU<br>Series= C0G/NP0 | Cap= 180.0 pF<br>VDC= 50.0 V<br>IRMS= 0.0 A                           | 1   | \$0.01 | <br>0805 7 mm <sup>2</sup>  |

| #   | Name  | Manufacturer | Part Number                         | Properties                                                       | Qty | Price  | Footprint                                                                                                                                |
|-----|-------|--------------|-------------------------------------|------------------------------------------------------------------|-----|--------|------------------------------------------------------------------------------------------------------------------------------------------|
| 9.  | Cout1 | Nichicon     | RNU1C471MDN1PH<br>Series= ?         | Cap= 470.0 uF<br>ESR= 10.0 mOhm<br>VDC= 16.0 V<br>IRMS= 6.1 A    | 1   | \$0.52 | <br>NU_1000x1250 144 mm <sup>2</sup>                  |
| 10. | Cout2 | Panasonic    | 16SVPG270M<br>Series= ?             | Cap= 270.0 uF<br>ESR= 8.0 mOhm<br>VDC= 16.0 V<br>IRMS= 5.8 A     | 1   | \$0.70 | <br>CAPSMT_62_C10 74 mm <sup>2</sup>                  |
| 11. | Cref  | AVX          | 08053C104KAT2A<br>Series= X7R       | Cap= 100.0 nF<br>ESR= 280.0 mOhm<br>VDC= 25.0 V<br>IRMS= 0.0 A   | 1   | \$0.01 | <br>0805 7 mm <sup>2</sup>                            |
| 12. | Csc   | MuRata       | GRM216R71H103KA01D<br>Series= X7R   | Cap= 10.0 nF<br>VDC= 50.0 V<br>IRMS= 0.0 A                       | 1   | \$0.01 | <br>0805 7 mm <sup>2</sup>                            |
| 13. | Csnub | TDK          | C3225X7T2J154K<br>Series= X7T       | Cap= 150.0 nF<br>ESR= 11.907 mOhm<br>VDC= 630.0 V<br>IRMS= 0.0 A | 1   | \$0.19 | <br>1210 15 mm <sup>2</sup>                           |
| 14. | Ct    | Kemet        | C0805C102J5GACTU<br>Series= C0G/NP0 | Cap= 1.0 nF<br>ESR= 25.0 mOhm<br>VDC= 50.0 V<br>IRMS= 1.71 A     | 1   | \$0.01 | <br>0805 7 mm <sup>2</sup>                            |
| 15. | Cvdd  | MuRata       | GRM188R71C104KA01D<br>Series= X7R   | Cap= 100.0 nF<br>ESR= 30.0 mOhm<br>VDC= 16.0 V<br>IRMS= 1.7 A    | 1   | \$0.01 | <br>0603 5 mm <sup>2</sup>                            |
| 16. | Cx    | TDK          | B32913A5104M000<br>Series= 2231     | Cap= 100.0 nF<br>VDC= 1000.0 V<br>IRMS= 0.0 A                    | 1   | \$0.46 | <br>B32913_2650x600x1500<br>228 mm <sup>2</sup>     |
| 17. | Cy1   | TDK          | B81123C1102M<br>Series= B81123      | Cap= 1.0 nF<br>VDC= 3.0 kV<br>IRMS= 0.0 A                        | 1   | \$0.22 | <br><br>B81123_1800x500x1050<br>140 mm <sup>2</sup> |
| 18. | Cy2   | TDK          | B81123C1102M<br>Series= B81123      | Cap= 1.0 nF<br>VDC= 3.0 kV<br>IRMS= 0.0 A                        | 1   | \$0.22 | <br><br>B81123_1800x500x1050<br>140 mm <sup>2</sup> |

| #   | Name  | Manufacturer            | Part Number                    | Properties                                                                          | Qty | Price  | Footprint                                                                                                                              |
|-----|-------|-------------------------|--------------------------------|-------------------------------------------------------------------------------------|-----|--------|----------------------------------------------------------------------------------------------------------------------------------------|
| 19. | Cy3   | TDK                     | B81123C1102M<br>Series= B81123 | Cap= 1.0 nF<br>VDC= 3.0 kV<br>IRMS= 0.0 A                                           | 1   | \$0.22 | <br><br>B81123_1800x500x1050<br>140 mm <sup>2</sup> |
| 20. | D12   | Diodes Inc.             | MMSZ5248B-7-F                  | Zener                                                                               | 1   | \$0.04 | <br>SOD-123 13 mm <sup>2</sup>                      |
| 21. | D21   | Diodes Inc.             | B220-13-F                      | VF@Io= 500.0 mV<br>VRRM= 20.0 V                                                     | 1   | \$0.08 | <br>SMB 44 mm <sup>2</sup>                          |
| 22. | Dac   | Vishay-Semiconductor    | DF10SA                         | VF@Io= 1.1 V<br>VRRM= 1,000.0 V                                                     | 1   | \$0.24 | <br>DF-S 99 mm <sup>2</sup>                         |
| 23. | Daux  | Diodes Inc.             | DFLS1200-7                     | VF@Io= 850.0 mV<br>VRRM= 200.0 V                                                    | 1   | \$0.21 | <br>PowerDI123 13 mm <sup>2</sup>                   |
| 24. | Dsec  | Fairchild Semiconductor | FSV8100V                       | VF@Io= 670.0 mV<br>VRRM= 100.0 V                                                    | 1   | \$0.21 | <br>TO-277A 56 mm <sup>2</sup>                      |
| 25. | Dsec2 | STMicroelectronics      | STPS20M100SG-TR                | VF@Io= 455.0 mV<br>VRRM= 100.0 V                                                    | 1   | \$1.33 | <br>DDPAK 210 mm <sup>2</sup>                     |
| 26. | Dsnub | Bourns                  | CD214C-F3600                   | VF@Io= 1.12 V<br>VRRM= 600.0 V                                                      | 1   | \$0.18 | <br>SMC 83 mm <sup>2</sup>                        |
| 27. | L1    | API Delevan             | CM6296R-154                    | Lp= 150.0 µH<br>Rp= 16.0 mOhm<br>Leakage_L= 1.8 µH<br>Ns1toNp= 1.0<br>Rs1= 0.0 Ohms | 1   | \$5.95 | <br><br>CM6296 833 mm <sup>2</sup>                |
| 28. | L2    | Coilcraft               | SER1360-182KLB                 | L= 1.8 µH<br>DCR= 2.4 mOhm                                                          | 1   | \$0.72 | <br><br>SER1360 225 mm <sup>2</sup>               |
| 29. | M1    | Fairchild Semiconductor | FDD6N50TM                      | VdsMax= 500.0 V<br>IdsMax= 6.0 Amps                                                 | 1   | \$0.47 | <br>DPAK 102 mm <sup>2</sup>                      |
| 30. | O1    | Vishay-Semiconductor    | TCMT1109                       | Optocoupler                                                                         | 1   | \$0.21 | <br>SOP-4 44 mm <sup>2</sup>                      |

| #   | Name      | Manufacturer         | Part Number                          | Properties                                            | Qty | Price  | Footprint                                                                                         |
|-----|-----------|----------------------|--------------------------------------|-------------------------------------------------------|-----|--------|---------------------------------------------------------------------------------------------------|
| 31. | R1        | Vishay-Dale          | AC03000001009JACCS<br>Series= F_RES  | Res= 10.0 Ohm<br>Power= 2.25 W<br>Tolerance= 5.0%     | 1   | \$0.30 |  AC03 158 mm²  |
| 32. | R11       | Vishay-Dale          | CRCW040210K0FKED<br>Series= CRCW..e3 | Res= 10.0 kOhm<br>Power= 63.0 mW<br>Tolerance= 1.0%   | 1   | \$0.01 |  0402 3 mm²    |
| 33. | R12       | Vishay-Dale          | CRCW04021K65FKED<br>Series= CRCW..e3 | Res= 1.65 kOhm<br>Power= 63.0 mW<br>Tolerance= 1.0%   | 1   | \$0.01 |  0402 3 mm²    |
| 34. | R13       | Vishay-Dale          | CRCW04024K99FKED<br>Series= CRCW..e3 | Res= 4.99 kOhm<br>Power= 63.0 mW<br>Tolerance= 1.0%   | 1   | \$0.01 |  0402 3 mm²    |
| 35. | R21       | Vishay-Dale          | CRCW040210K0FKED<br>Series= CRCW..e3 | Res= 10.0 kOhm<br>Power= 63.0 mW<br>Tolerance= 1.0%   | 1   | \$0.01 |  0402 3 mm²    |
| 36. | R22       | Vishay-Dale          | CRCW040263K4FKED<br>Series= CRCW..e3 | Res= 63.4 kOhm<br>Power= 63.0 mW<br>Tolerance= 1.0%   | 1   | \$0.01 |  0402 3 mm²    |
| 37. | Raux      | Vishay-Dale          | CRCW040210R0FKED<br>Series= CRCW..e3 | Res= 10.0 Ohm<br>Power= 63.0 mW<br>Tolerance= 1.0%    | 1   | \$0.01 |  0402 3 mm²    |
| 38. | Rbias     | Vishay-Dale          | CRCW0402205RFKED<br>Series= CRCW..e3 | Res= 205.0 Ohm<br>Power= 63.0 mW<br>Tolerance= 1.0%   | 1   | \$0.01 |  0402 3 mm²    |
| 39. | Rcs       | Vishay-Dale          | CRCW04022K00FKED<br>Series= CRCW..e3 | Res= 2.0 kOhm<br>Power= 63.0 mW<br>Tolerance= 1.0%    | 1   | \$0.01 |  0402 3 mm²    |
| 40. | Rdrv      | Vishay-Dale          | CRCW04023R65FKED<br>Series= CRCW..e3 | Res= 3.65 Ohm<br>Power= 63.0 mW<br>Tolerance= 1.0%    | 1   | \$0.01 |  0402 3 mm²   |
| 41. | Rfbb      | Vishay-Dale          | CRCW04022K05FKED<br>Series= CRCW..e3 | Res= 2.05 kOhm<br>Power= 63.0 mW<br>Tolerance= 1.0%   | 1   | \$0.01 |  0402 3 mm²  |
| 42. | Rfbt      | Yageo America        | RC0603FR-076K2L<br>Series= ?         | Res= 6.2 kOhm<br>Power= 100.0 mW<br>Tolerance= 1.0%   | 1   | \$0.01 |  0603 5 mm²  |
| 43. | Rled      | Vishay-Dale          | CRCW04022K10FKED<br>Series= CRCW..e3 | Res= 2.1 kOhm<br>Power= 63.0 mW<br>Tolerance= 1.0%    | 1   | \$0.01 |  0402 3 mm²  |
| 44. | Rsc       | Vishay-Dale          | CRCW040211K0FKED<br>Series= CRCW..e3 | Res= 11.0 kOhm<br>Power= 63.0 mW<br>Tolerance= 1.0%   | 1   | \$0.01 |  0402 3 mm²  |
| 45. | Rsns      | Vishay-Dale          | CRCW12061R50FKEA<br>Series= CRCW..e3 | Res= 1.5 Ohm<br>Power= 250.0 mW<br>Tolerance= 1.0%    | 1   | \$0.01 |  1206 11 mm² |
| 46. | Rsub      | CUSTOM               | CUSTOM<br>Series= ?                  | Res= 57.991 kOhm<br>Power= 0.0 W<br>Tolerance= 0.0%   | 1   | NA     | CUSTOM 0 mm²                                                                                      |
| 47. | Rstartup1 | Panasonic            | ERJ-8ENF2323V<br>Series= ERJ-8E      | Res= 232.0 kOhm<br>Power= 250.0 mW<br>Tolerance= 1.0% | 1   | \$0.01 |  1206 11 mm² |
| 48. | Rstartup2 | Panasonic            | ERJ-8ENF2323V<br>Series= ERJ-8E      | Res= 232.0 kOhm<br>Power= 250.0 mW<br>Tolerance= 1.0% | 1   | \$0.01 |  1206 11 mm² |
| 49. | Rt        | Vishay-Dale          | CRCW04028K66FKED<br>Series= CRCW..e3 | Res= 8.66 kOhm<br>Power= 63.0 mW<br>Tolerance= 1.0%   | 1   | \$0.01 |  0402 3 mm²  |
| 50. | Rx1       | Vishay-Semiconductor | CRCW2010200KFKEF<br>Series= ?        | Res= 200.0 kOhm<br>Power= 750.0 mW<br>Tolerance= 1.0% | 1   | \$0.03 |  2010 32 mm² |
| 51. | Rx2       | Vishay-Semiconductor | CRCW2010200KFKEF<br>Series= ?        | Res= 200.0 kOhm<br>Power= 750.0 mW<br>Tolerance= 1.0% | 1   | \$0.03 |  2010 32 mm² |

| #   | Name | Manufacturer | Part Number | Properties                                                                                                                                 | Qty | Price | Footprint                |
|-----|------|--------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|--------------------------|
| 52. | T1   | CUSTOM       | CUSTOM      | Lp= 1.685 mH<br>Rp= 870.0 mOhm<br>Leakage_L= 33.708 $\mu$ H<br>Ns1toNp= 0.076<br>Rs1= 8.6 mOhms<br>Ns2toNp= 0.147<br>Rs2= 700.0 $\mu$ Ohms | 1   | NA    | CUSTOM 0 mm <sup>2</sup> |

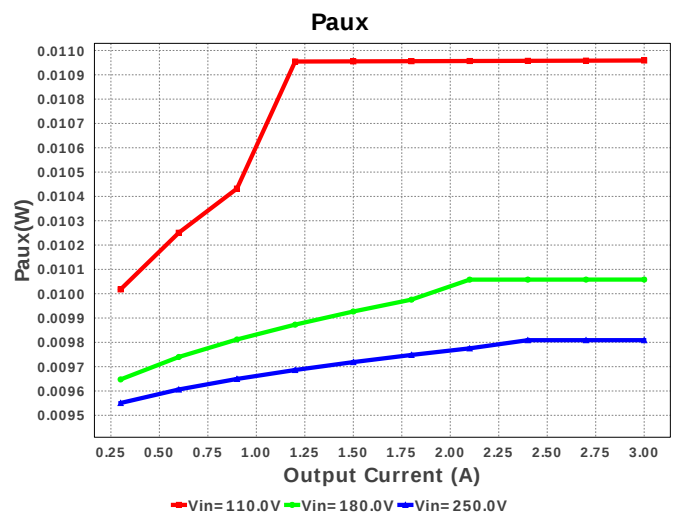
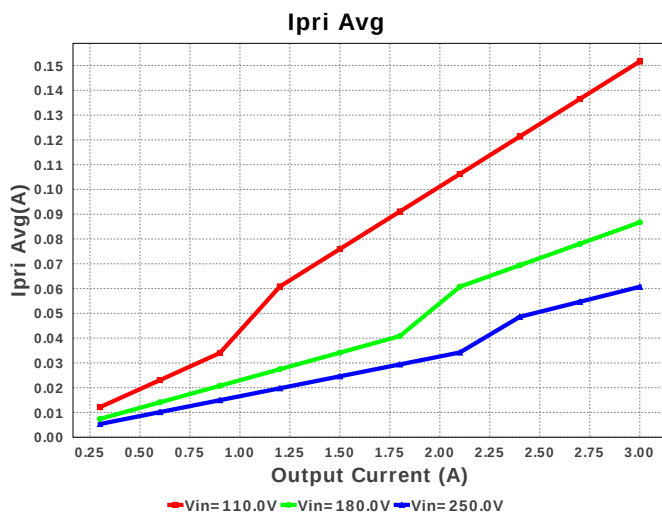
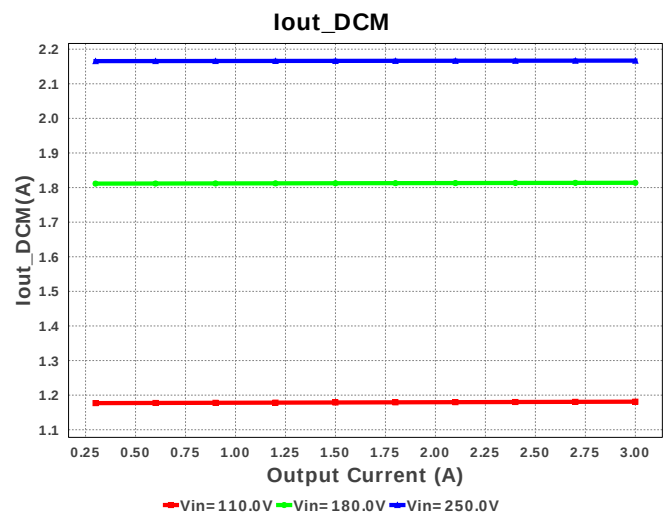
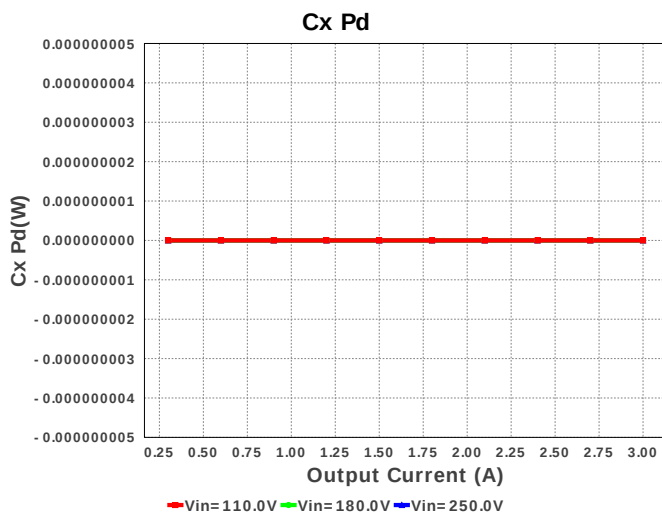
|     |    |                   |            |
|-----|----|-------------------|------------|
| 53. | U1 | Texas Instruments | UCC28C41DR |
|-----|----|-------------------|------------|

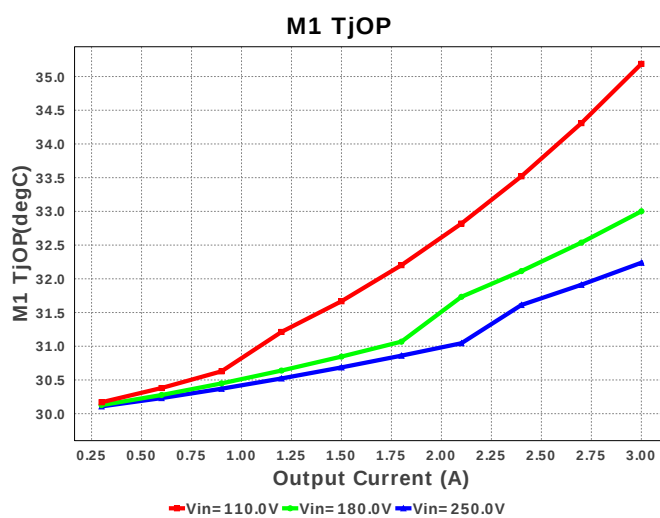
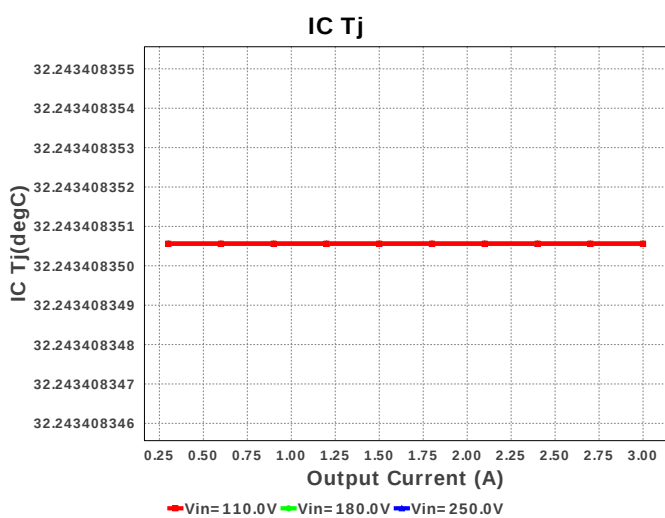
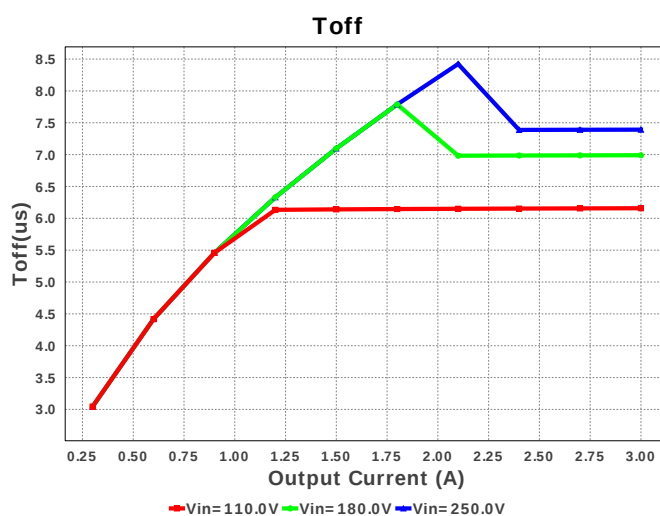
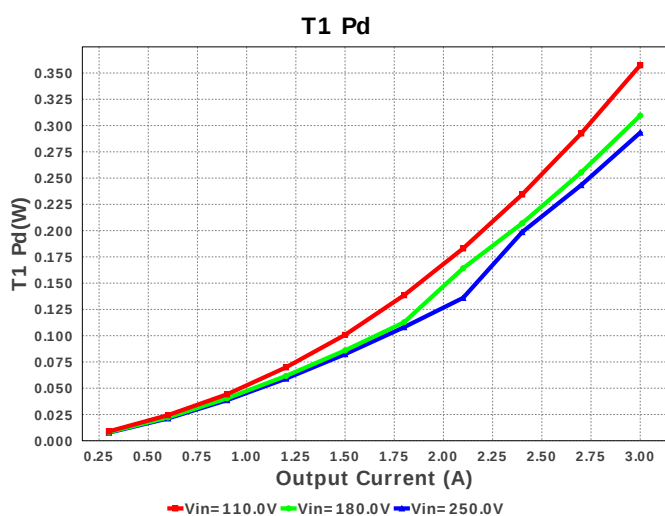
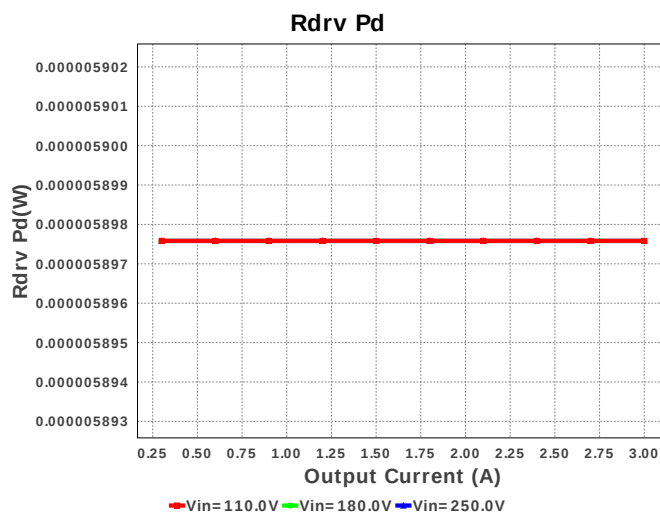
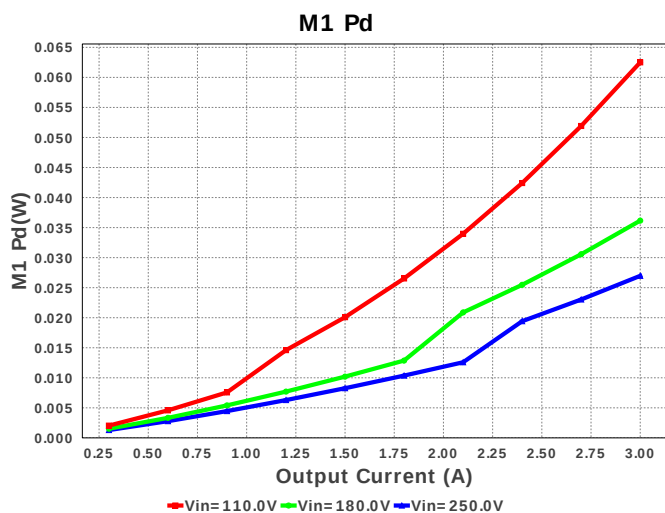
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|----------|---|--------|
| Switcher | 1 | \$0.75 |
|----------|---|--------|

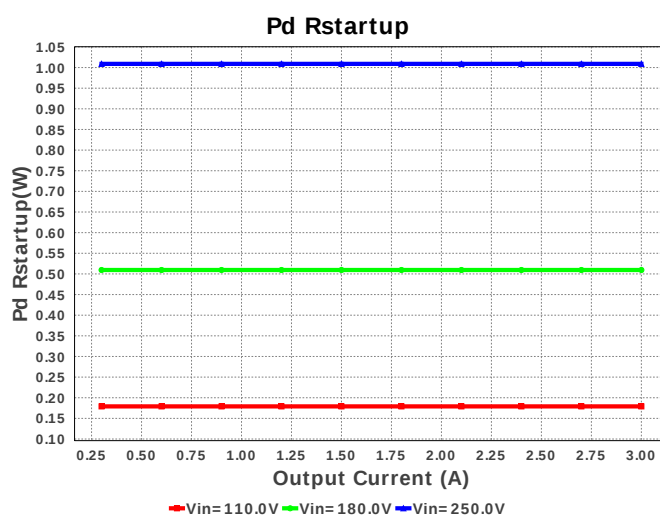
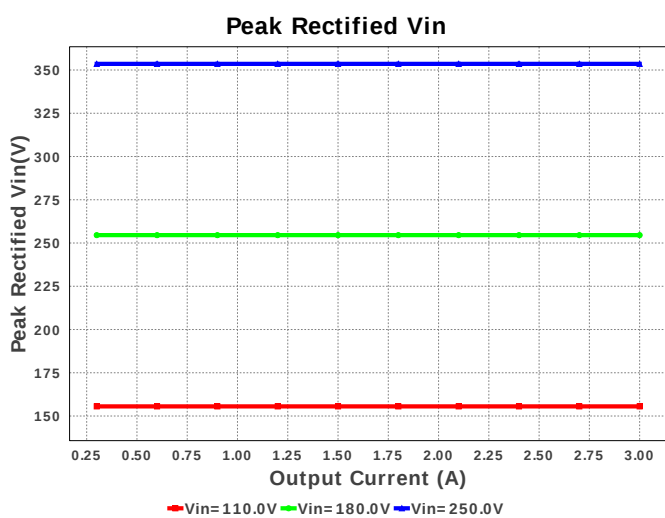
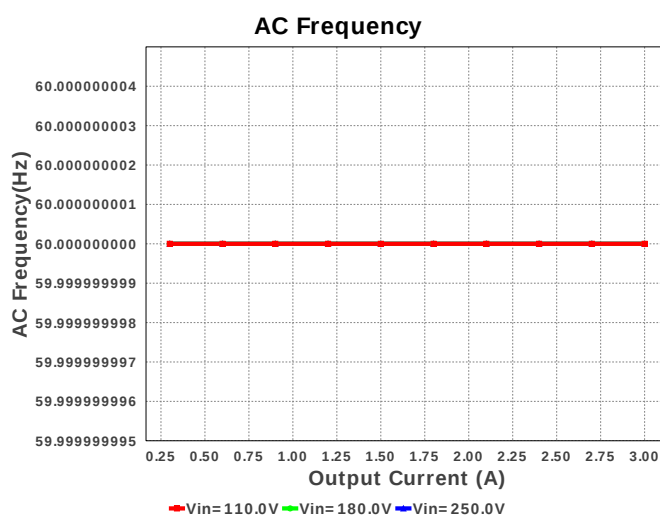
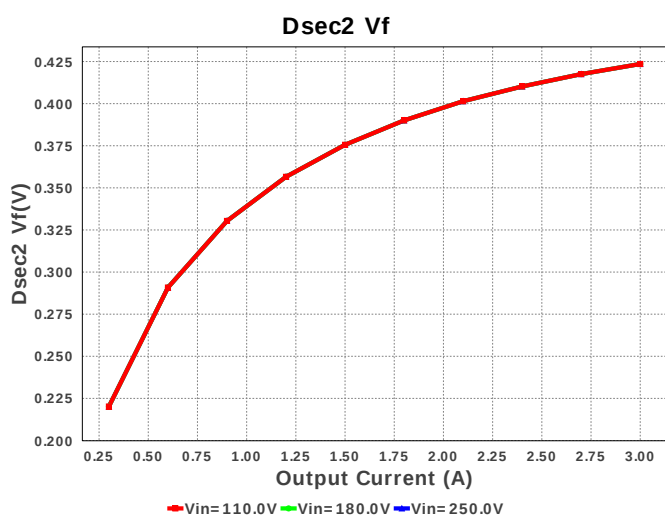
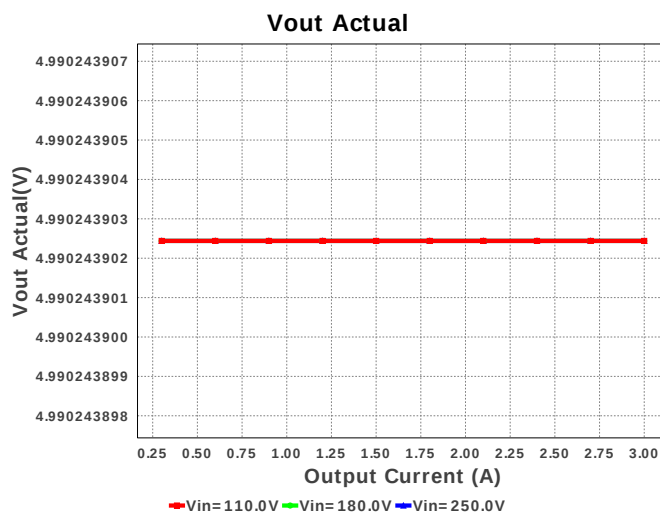
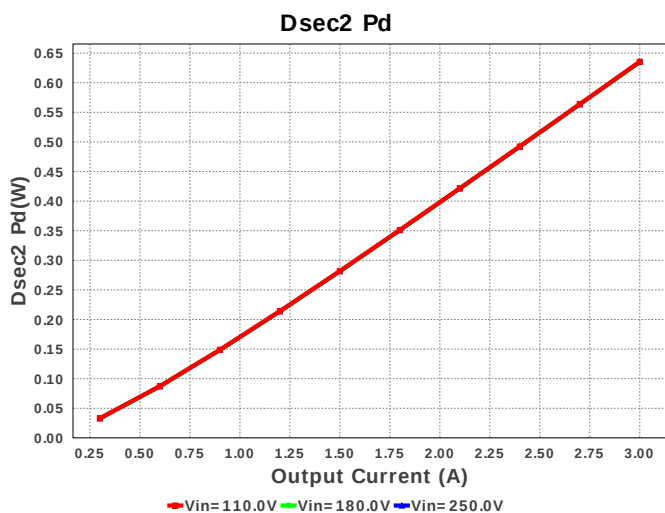
D0008A 57 mm<sup>2</sup>

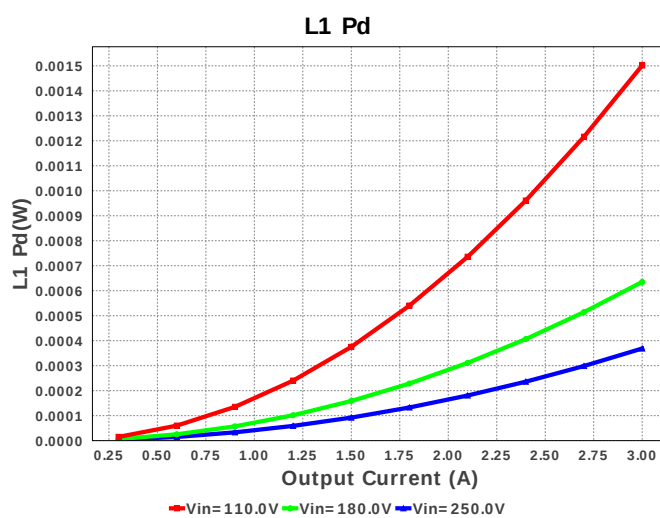
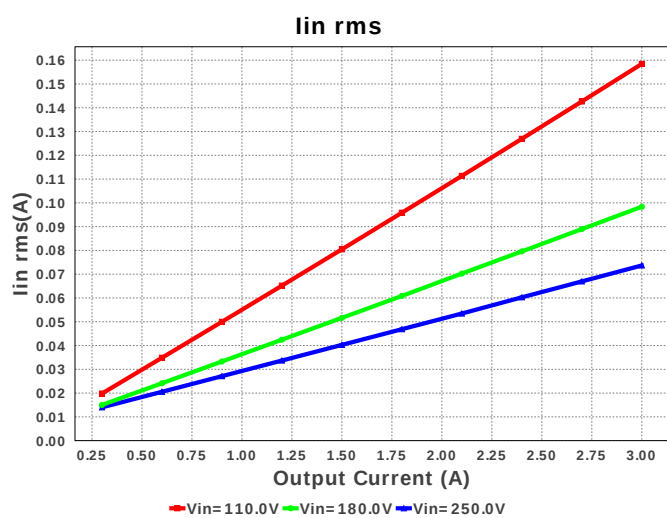
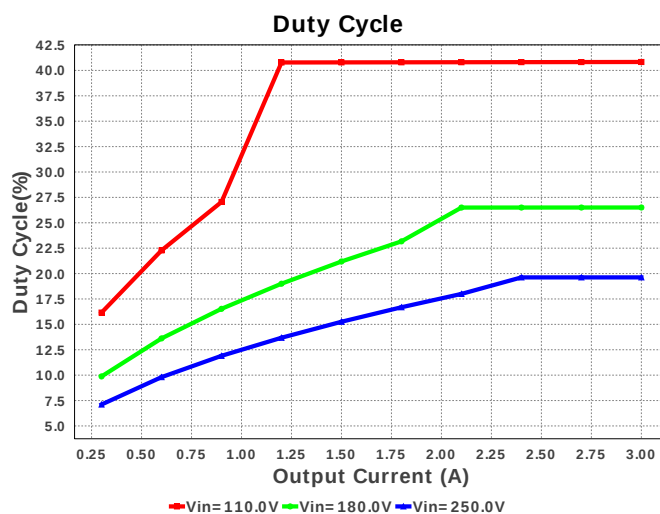
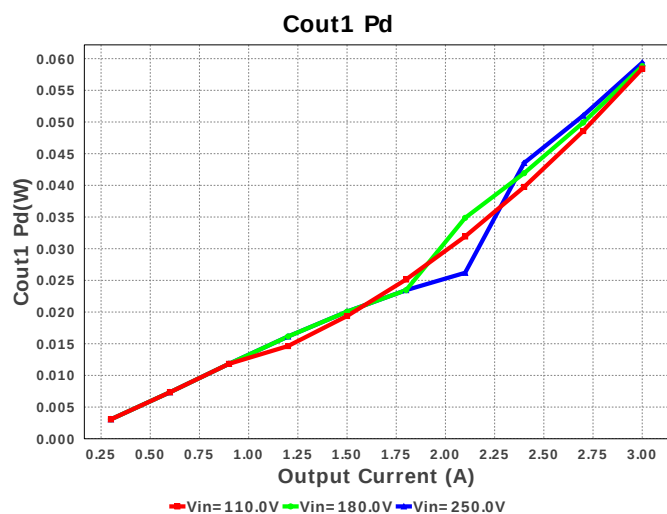
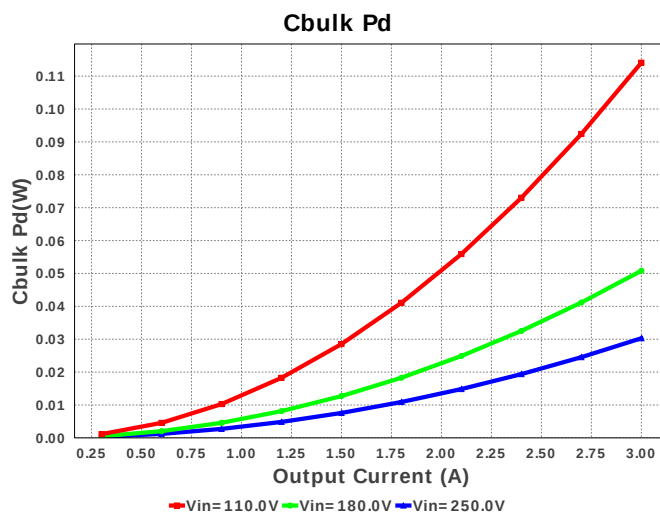
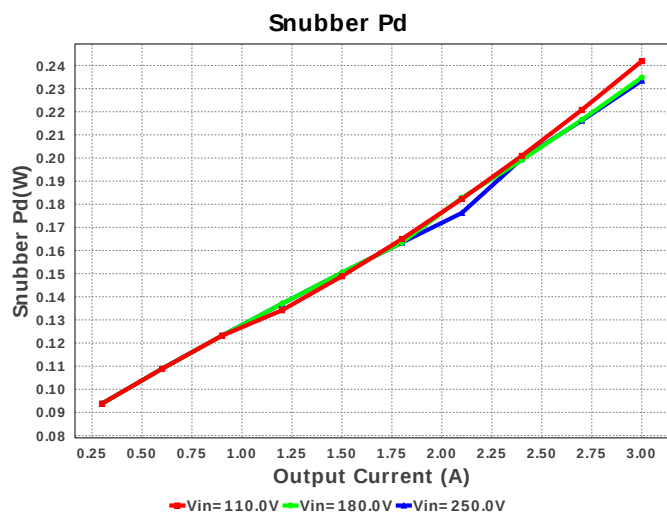
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|-----|----|-------------------|----------------|
| 54. | VR | Texas Instruments | LMV431CM5/NOPB |
|-----|----|-------------------|----------------|

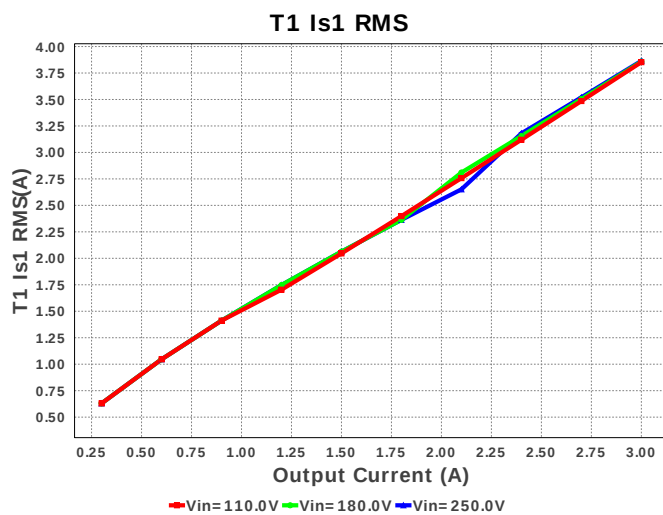
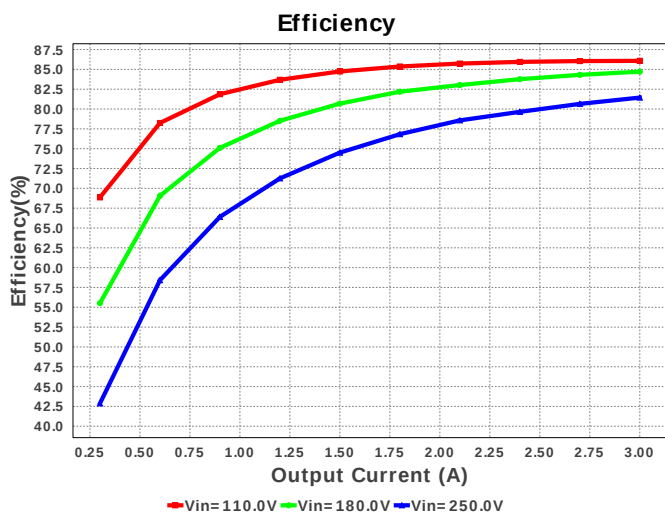
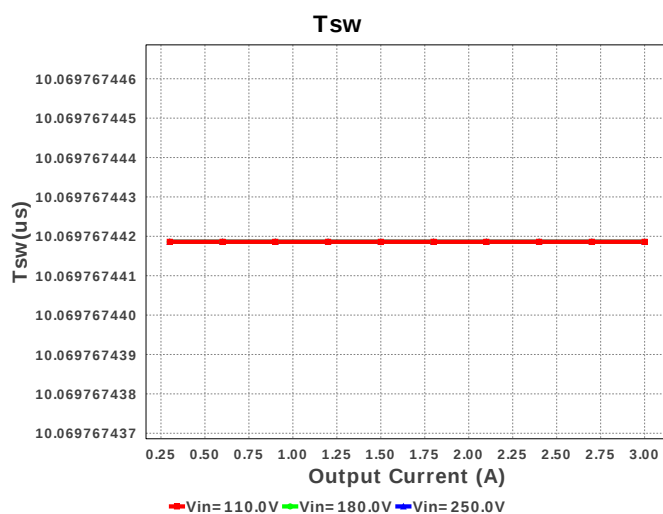
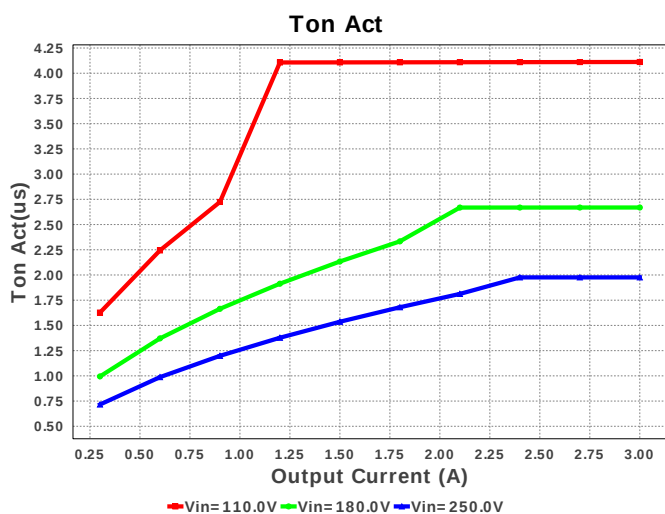
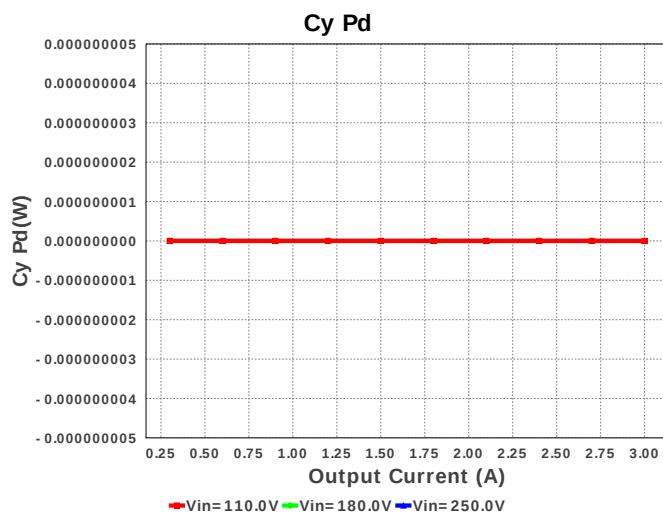
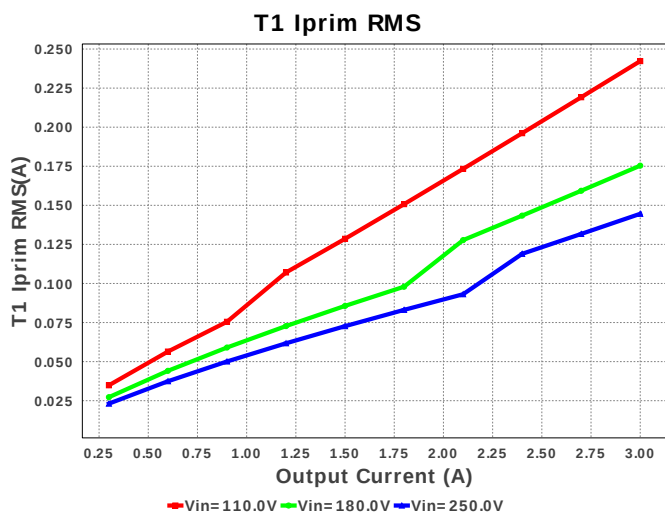
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| Voltage References | 1 | \$0.16 |
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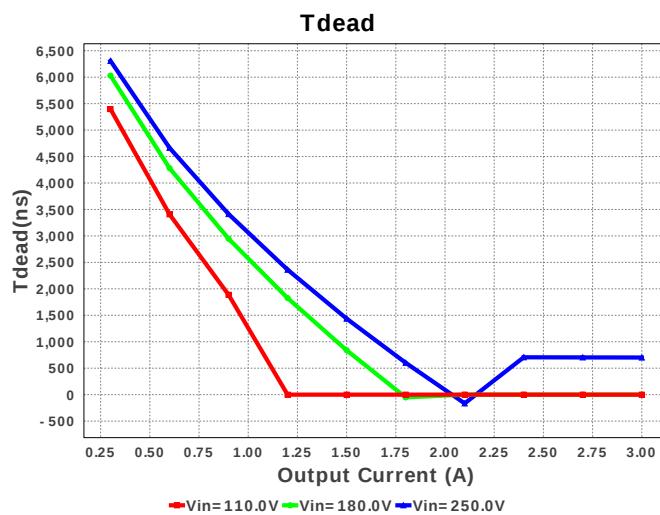
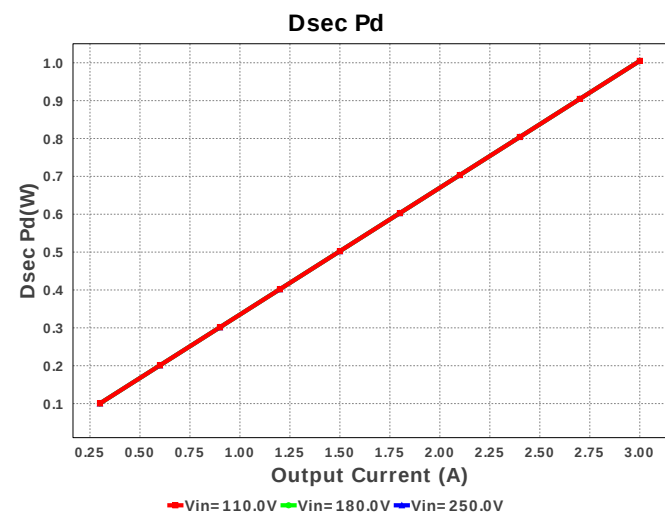
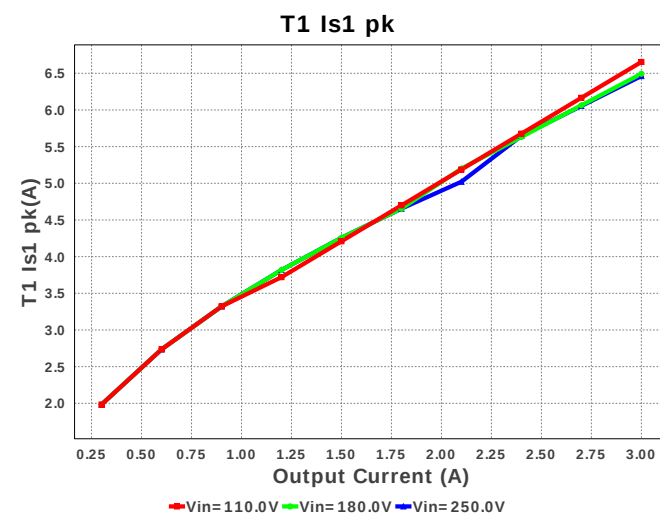
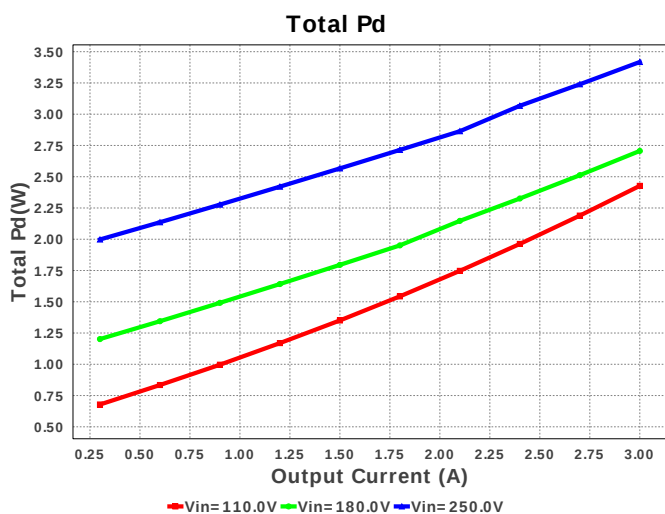
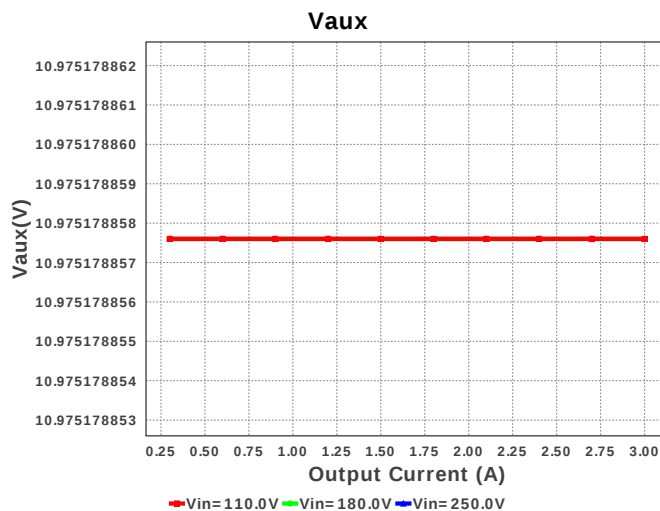
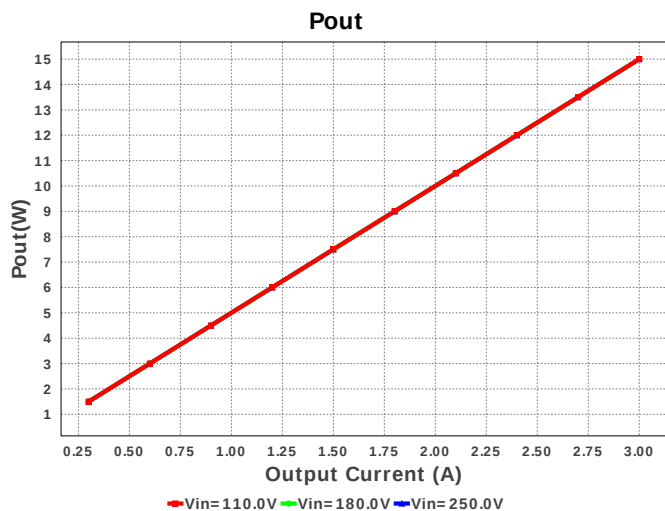
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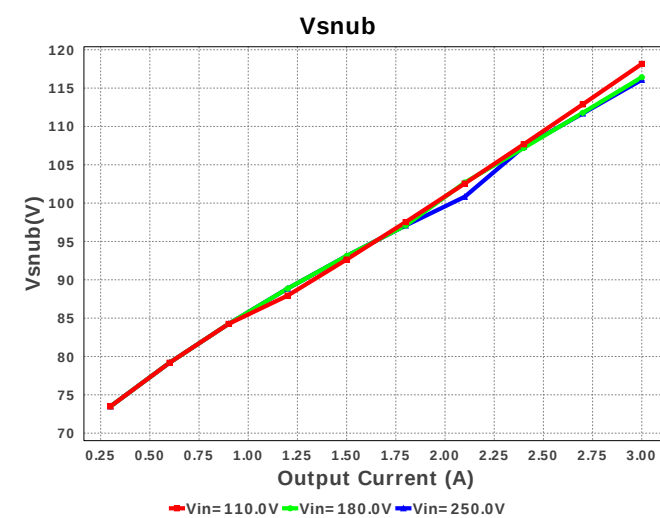
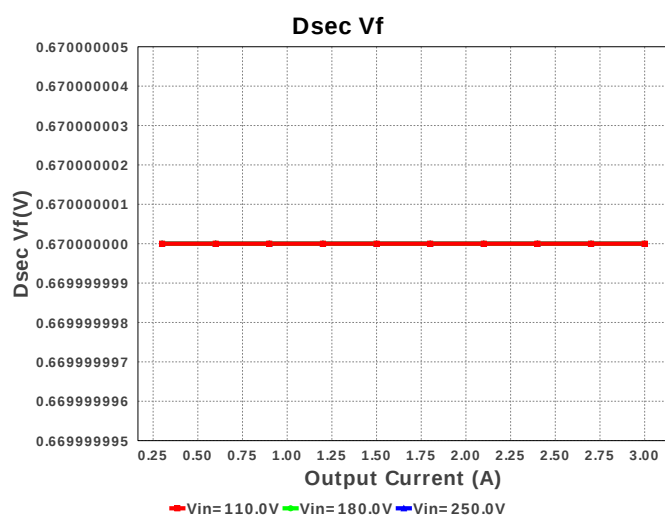
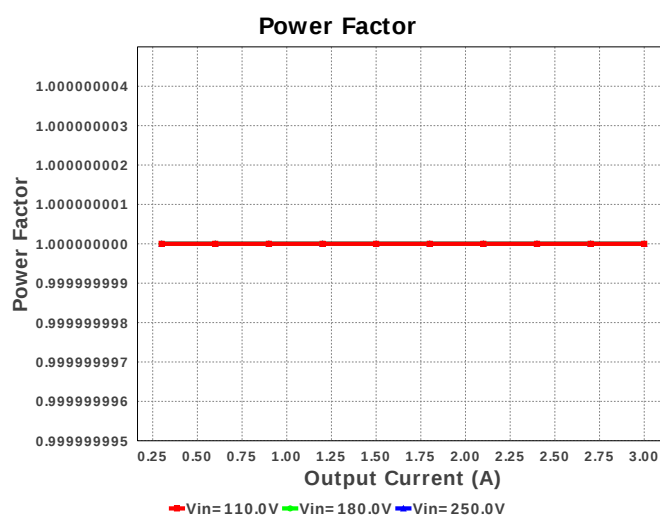
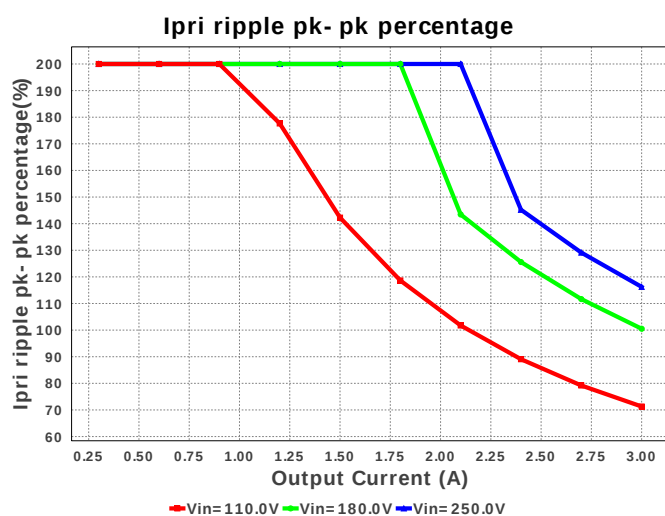
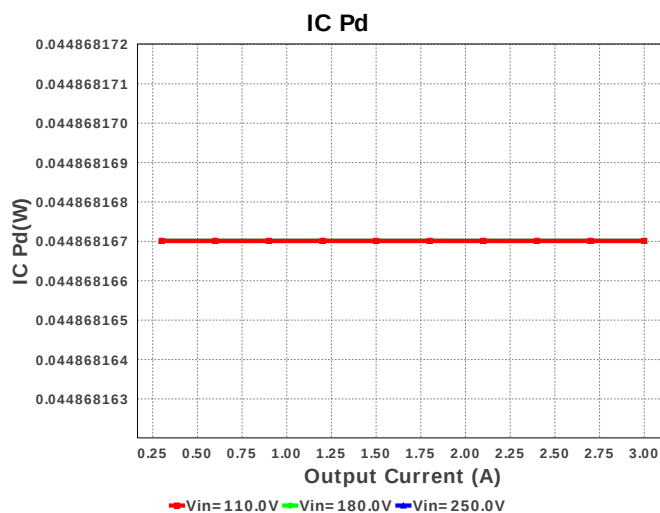
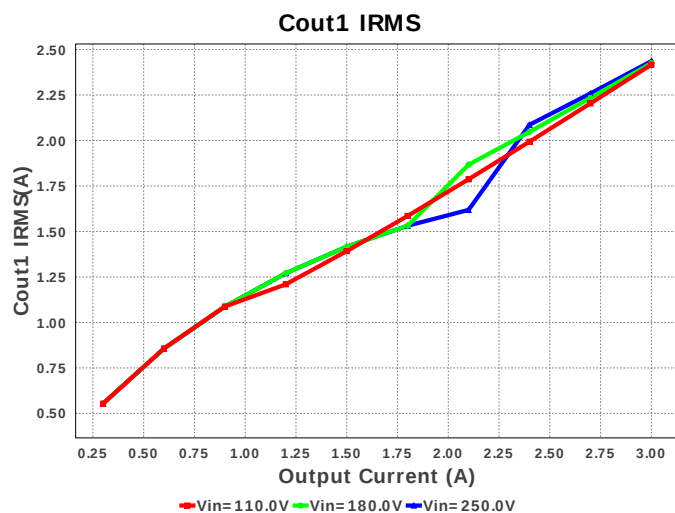


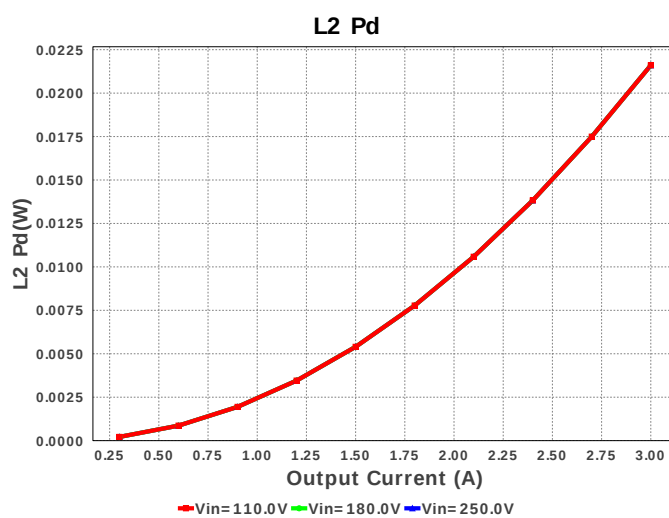
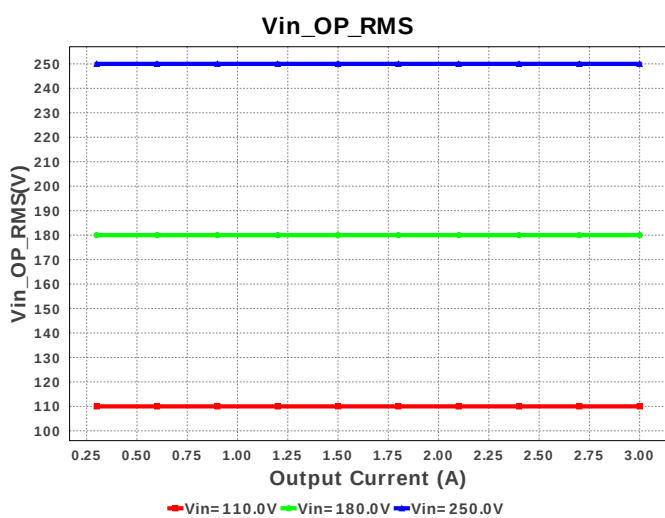
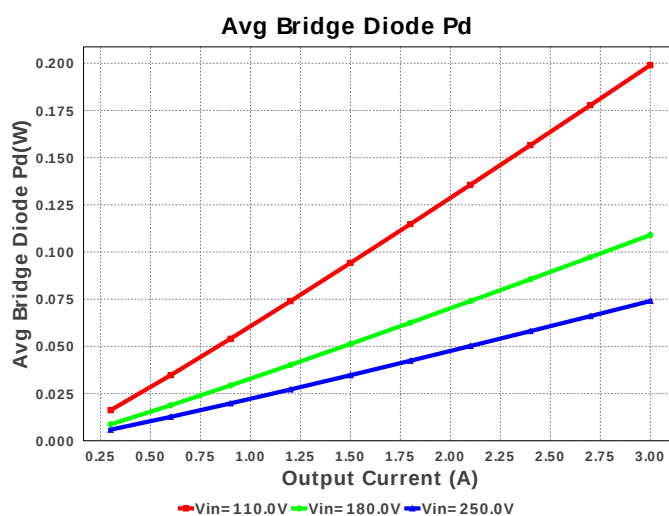
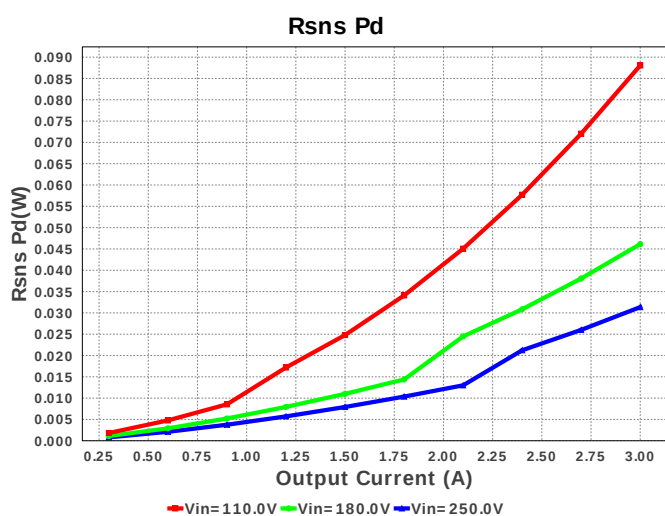
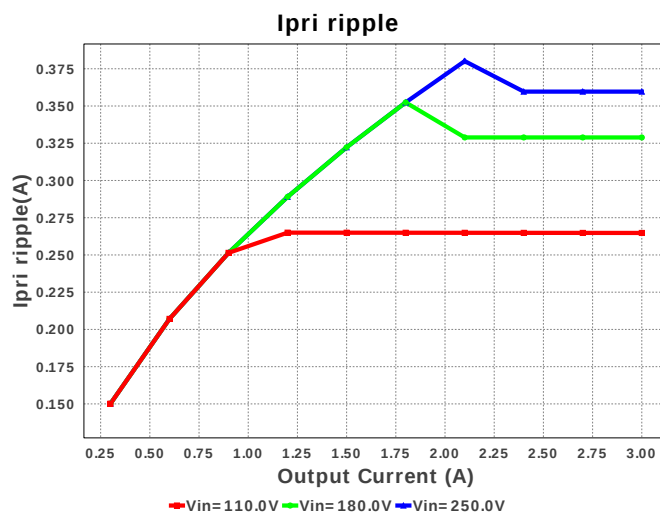
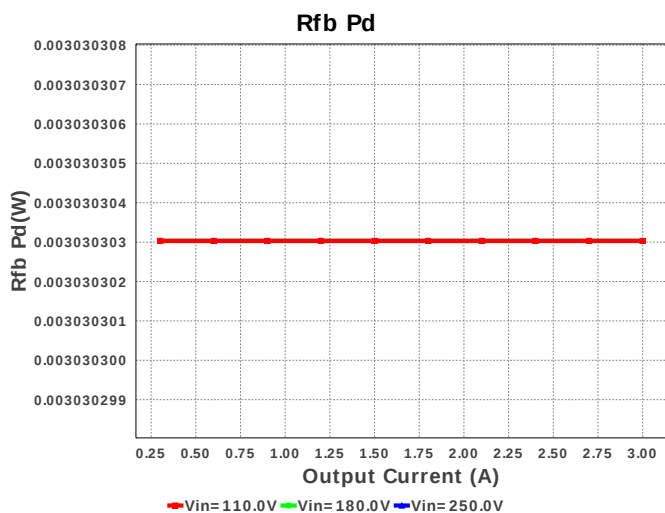


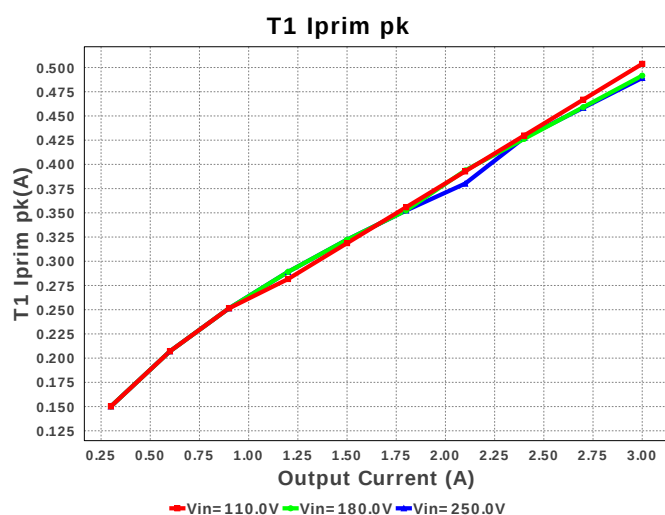
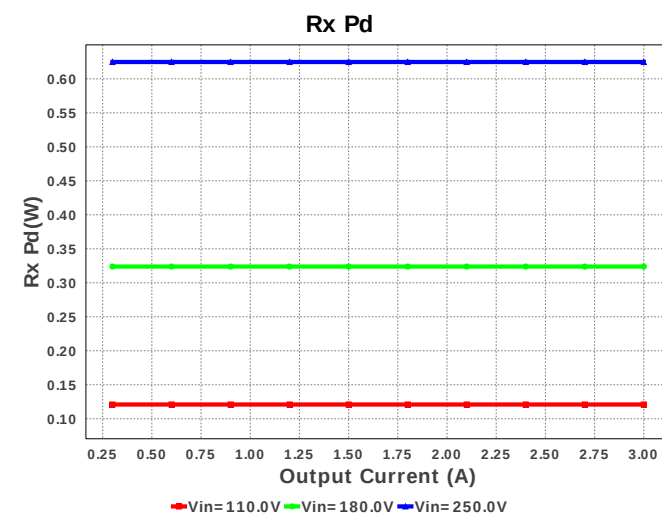
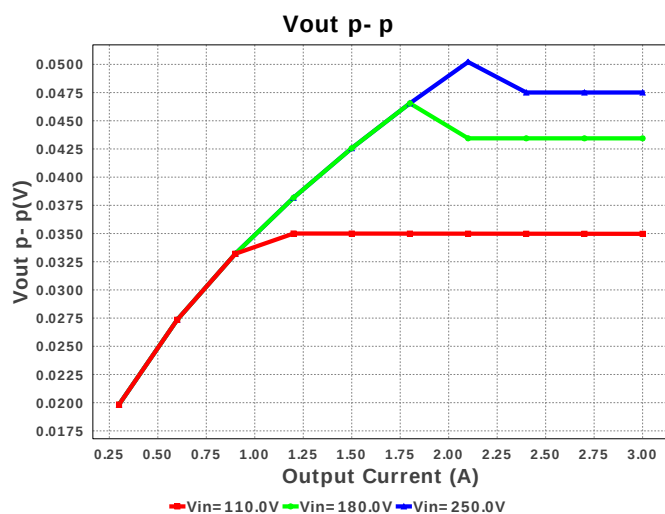
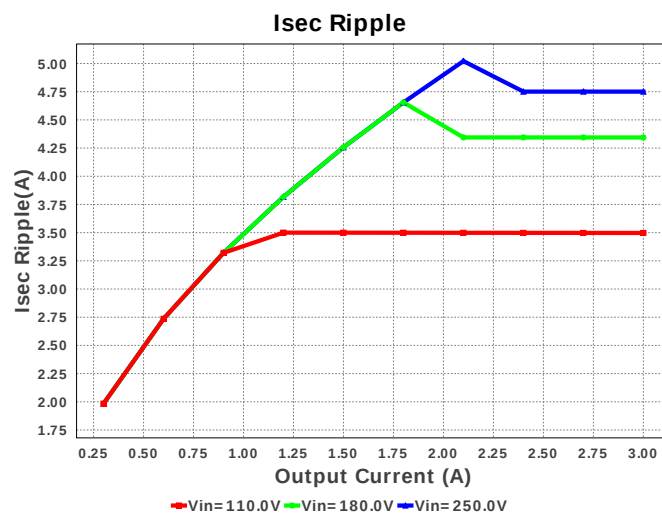
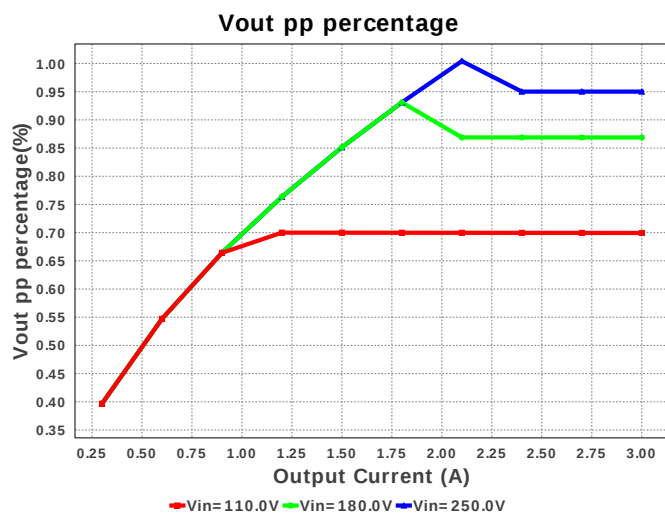












## Operating Values

| #  | Name                         | Value      | Category | Description                                                           |
|----|------------------------------|------------|----------|-----------------------------------------------------------------------|
| 1. | Cout1 IRMS                   | 2.417 A    | Current  | Output capacitor1 RMS ripple current                                  |
| 2. | Iin rms                      | 158.43 mA  | Current  | RMS Input Current                                                     |
| 3. | Iout_DCM                     | 1.181 A    | Current  | Approximate Current below which DCM mode of operation will begin      |
| 4. | Ipri Avg                     | 151.636 mA | Current  | Average Current in Primary Winding over the complete Switching Period |
| 5. | Ipri ripple                  | 264.768 mA | Current  | Ripple Current in the Primary Winding                                 |
| 6. | Ipri ripple pk-pk percentage | 71.292 %   | Current  | Primary Current pk-pk ripple percentage(of Ipri avg during ton only)  |
| 7. | Isec Ripple                  | 3.497 A    | Current  | Ripple Current in the Secondary Winding                               |
| 8. | T1 Iprim RMS                 | 242.281 mA | Current  | Transformer Primary RMS Current                                       |
| 9. | T1 Iprim pk                  | 503.766 mA | Current  | Transformer Primary Peak Current                                      |

| #   | Name                | Value                   | Category | Description                                                                                |
|-----|---------------------|-------------------------|----------|--------------------------------------------------------------------------------------------|
| 10. | T1 Is1 RMS          | 3.853 A                 | Current  | Transformer Secondary1 RMS Current                                                         |
| 11. | T1 Is1 pk           | 6.654 A                 | Current  | Transformer Secondary1 Peak Current                                                        |
| 12. | AC Frequency        | 50.0 Hz                 | General  | Input AC frequency                                                                         |
| 13. | BOM Count           | 54                      | General  | Total Design BOM count                                                                     |
| 14. | Daux trr            | 0.0 ns                  | General  | Auxiliary Diode Reverse Recovery Time                                                      |
| 15. | Dsec Vf             | 670.0 mV                | General  | Effective Forward Voltage Drop at the Operating Current                                    |
| 16. | Dsec trr            | 19.64 ns                | General  | Output Diode Reverse Recovery Time                                                         |
| 17. | Dsec2 Vf            | 423.539 mV              | General  | Effective Forward Voltage Drop at the Operating Current                                    |
| 18. | Dsnub trr           | 30.0 ns                 | General  | Snubber Diode Reverse Recovery Time                                                        |
| 19. | FootPrint           | 3.105 k mm <sup>2</sup> | General  | Total Foot Print Area of BOM components                                                    |
| 20. | Frequency           | 99.307 kHz              | General  | Switching frequency                                                                        |
| 21. | Pout                | 15.0 W                  | General  | Total output power                                                                         |
| 22. | Power Factor        | 1.0                     | General  | Assumed Power Factor for the Application                                                   |
| 23. | Tdead               | 0.0 ns                  | General  | Approximate Dead Time of the Regulator                                                     |
| 24. | Toff                | 6.158 us                | General  | Approximate Converter Off Time                                                             |
| 25. | Ton Act             | 4.112 us                | General  | Approximate Converter On Time                                                              |
| 26. | Total BOM           | \$0.0                   | General  | Total BOM Cost                                                                             |
| 27. | Tsw                 | 10.07 us                | General  | Switching Time Period                                                                      |
| 28. | Vaux                | 10.975 V                | General  | Auxiliary Voltage                                                                          |
| 29. | Vsnub               | 118.16 V                | General  | Voltage Across the Snubber                                                                 |
| 30. | Vout Actual         | 4.99 V                  | Op_Point | Vout Actual calculated based on selected voltage divider resistors                         |
| 31. | Vout OP             | 5.0 V                   | Op_Point | Operational Output Voltage                                                                 |
| 32. | Duty Cycle          | 40.83 %                 | Op_point | Duty cycle                                                                                 |
| 33. | Efficiency          | 86.074 %                | Op_point | Steady state efficiency                                                                    |
| 34. | IC Tj               | 32.243 degC             | Op_point | IC junction temperature                                                                    |
| 35. | ICThetaJA           | 50.0 degC/W             | Op_point | IC junction-to-ambient thermal resistance                                                  |
| 36. | IOUT_OP             | 3.0 A                   | Op_point | Iout operating point                                                                       |
| 37. | M1 TJOP             | 35.188 degC             | Op_point | M1 MOSFET junction temperature                                                             |
| 38. | Peak Rectified Vin  | 155.562 V               | Op_point | Peak voltage seen at rectified input                                                       |
| 39. | Vin_OP_RMS          | 110.0 V                 | Op_point | AC Input RMS Voltage                                                                       |
| 40. | Vout p-p            | 34.973 mV               | Op_point | Peak-to-peak output ripple voltage                                                         |
| 41. | Avg Bridge Diode Pd | 199.047 mW              | Power    | Average Power Dissipation in the Bridge Diode over the AC Line Period                      |
| 42. | Cbulk Pd            | 114.091 mW              | Power    | Bulk capacitor power dissipation                                                           |
| 43. | Cout1 Pd            | 58.418 mW               | Power    | Output capacitor1 power dissipation                                                        |
| 44. | Cx Pd               | 0.0 W                   | Power    | X-cap Power Dissipation                                                                    |
| 45. | Cy Pd               | 0.0 W                   | Power    | Y-caps Power Dissipation                                                                   |
| 46. | Dsec Pd             | 1.005 W                 | Power    | Secondary Diode Power Dissipation                                                          |
| 47. | Dsec2 Pd            | 635.309 mW              | Power    | Secondary Diode Power Dissipation                                                          |
| 48. | IC Pd               | 44.868 mW               | Power    | IC power dissipation                                                                       |
| 49. | L1 Pd               | 1.502 mW                | Power    | Power Dissipation in the Inductor                                                          |
| 50. | L2 Pd               | 21.6 mW                 | Power    | Average Power Dissipation in the Inductor Over the AC Line Period                          |
| 51. | M1 Pd               | 62.503 mW               | Power    | M1 MOSFET total power dissipation                                                          |
| 52. | Paux                | 10.959 mW               | Power    | Power Dissipation in Raux and Daux                                                         |
| 53. | Pd Rstartup         | 179.048 mW              | Power    | Power Dissipation in Rstartup1 and Rstartup2                                               |
| 54. | Rdrv Pd             | 5.898 μW                | Power    | Power Dissipation in Gate Drive Resistor                                                   |
| 55. | Rfb Pd              | 3.03 mW                 | Power    | Rfb Power Dissipation                                                                      |
| 56. | Rsns Pd             | 88.05 mW                | Power    | Current Limit Sense Resistor Power Dissipation                                             |
| 57. | Rx Pd               | 120.961 mW              | Power    | Total Power Dissipation in Rx1 and Rx2                                                     |
| 58. | Snubber Pd          | 241.892 mW              | Power    | Snubber Power Dissipation                                                                  |
| 59. | T1 Pd               | 357.418 mW              | Power    | Estimated Losses in Transformer                                                            |
| 60. | Total Pd            | 2.427 W                 | Power    | Total Power Dissipation                                                                    |
| 61. | Vout Tolerance      | 2.173 %                 |          | Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable |
| 62. | Vout pp percentage  | 699.453 m%              |          | Output Voltage ripple percentage                                                           |

## Design Inputs

| #  | Name     | Value    | Description            |
|----|----------|----------|------------------------|
| 1. | Iout     | 3.0      | Maximum Output Current |
| 2. | VinMax   | 250.0    | Maximum input voltage  |
| 3. | VinMin   | 110.0    | Minimum input voltage  |
| 4. | Vout     | 5.0      | Output Voltage         |
| 5. | line_fsw | 50.0     | Light Output in Lumen  |
| 6. | base_pn  | UCC28C41 | Base Product Number    |
| 7. | source   | AC       | Input Source Type      |
| 8. | Ta       | 30.0     | Ambient temperature    |

## Design Assistance

1. **UCC28C41** Product Folder : <http://www.ti.com/product/UCC28C41> : contains the data sheet and other resources.

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