



OPERATING VALUES

Optimization Tuning



Footprint: **653** BOM Cost: **\$8.139999** Efficiency: **90**

Advanced Options

User Preferred Frequency:
 Frequency: 200KHz < KHz < 1000KHz

Current Design: #4

| | |
|--------------|---------|
| base_pn | LM22677 |
| VinMin | 13 V |
| VinMax | 17 V |
| Vout | 7 V |
| Iout | 2 A |
| Ta | 25 degC |
| onOff | I |
| ErrorFeature | I |
| SyncFeature | I |
| SoftStart | 0 ms |
| UseCustomFsw | Y |

Name: **Design 4 - LM22677J-ADJ**

Notes:

Modify Operating Point

Vin: Iout:

| Name | Value | Category | Description |
|--------------|----------|----------|---|
| Total BOM | 8.14\$ | | Total BOM Cost |
| BOM Count | 12 | | Total Design BOM count |
| L Ipp | 0.75A | Current | Peak-to-peak inductor ripple current |
| Iin Avg | 0.91A | Current | Average input current |
| IC Ipk | 2.38A | Current | Peak switch current in IC |
| Cout IRMS | 0.21A | Current | Output capacitor RMS ripple current |
| Cin IRMS | 0.87A | Current | Input capacitor RMS ripple current |
| M1 Irms | 1.32A | Current | Q lavg |
| Frequency | 575KHz | General | Switching frequency |
| M Vds Act | 0.14V | General | |
| FootPrint | 653mm2 | General | Total Foot Print Area of BOM components |
| Mode | CCM | General | Conduction Mode |
| Pout | 14W | General | Total output power |
| D1 Tj | 25degC | Op_Point | D1 junction temperature |
| IC Tj | 38.9degC | Op_Point | IC junction temperature |
| ICThetaJA | 22degC/W | Op_Point | IC junction-to-ambient thermal resistance |
| Duty Cycle | 43.2% | Op_Point | Duty cycle |
| VIN_OP | 17V | Op_Point | Vin operating point |
| Cross Freq | 16.9KHz | Op_Point | Bode plot crossover frequency |
| IOUT_OP | 2A | Op_Point | Iout operating point |
| Efficiency | 90.1% | Op_Point | Steady state efficiency |
| Phase Marg | 96.4deg | Op_Point | Bode Plot Phase Margin |
| Vout p-p | 0.04V | Op_Point | Peak-to-peak output ripple voltage |
| Cout Pd | 2.94mW | Power | Output capacitor power dissipation |
| Diode Pd | 0.56W | Power | Diode power dissipation |
| L Pd | 0.22W | Power | Inductor power dissipation |
| Cin Pd | 0.11W | Power | Input capacitor power dissipation |
| IC Pd | 0.63W | Power | IC power dissipation |
| Total Pd | 1.54W | Power | Total Power Dissipation |
| Vout OP | 7V | Unknown | Vin operating point |
| IC Tolerance | 0.01V | Unknown | IC Feedback Tolerance |