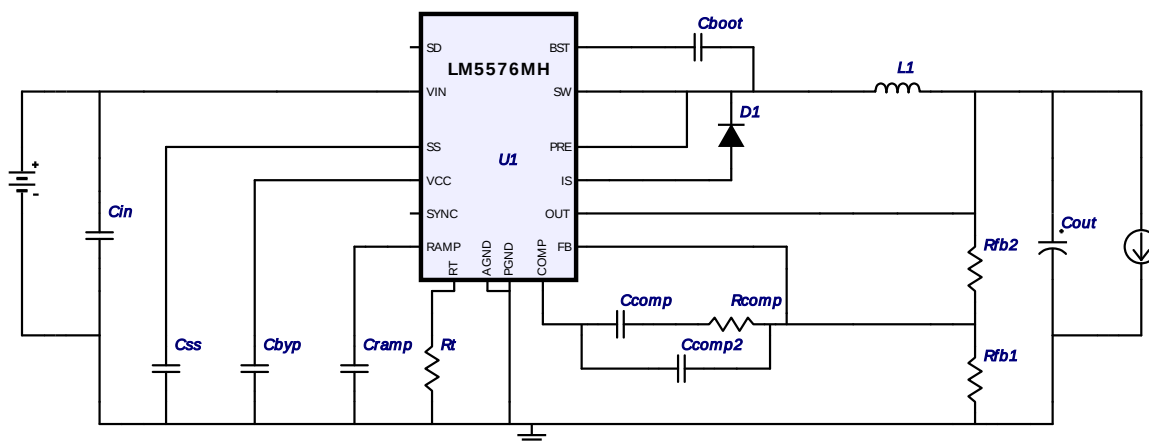
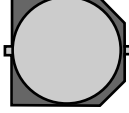


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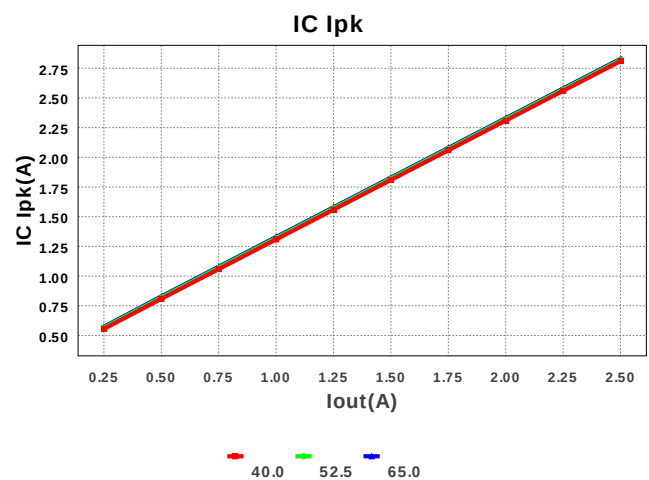
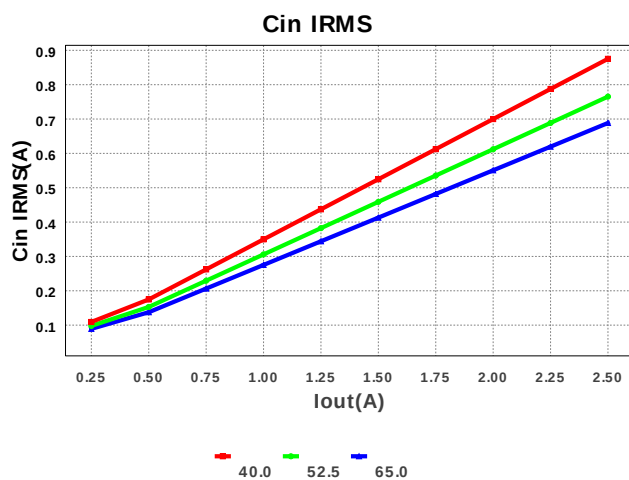
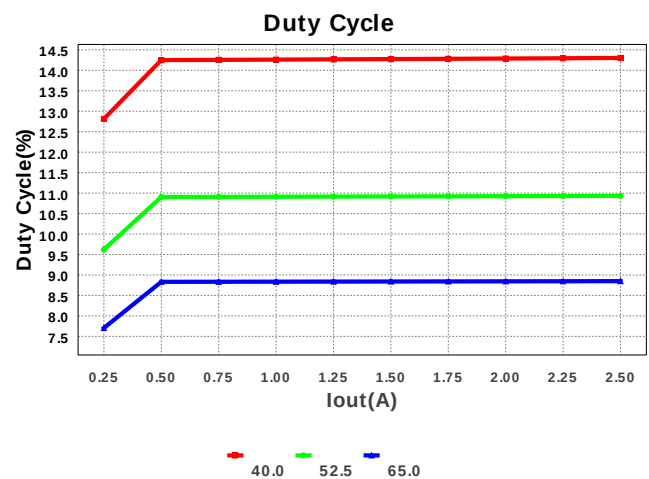
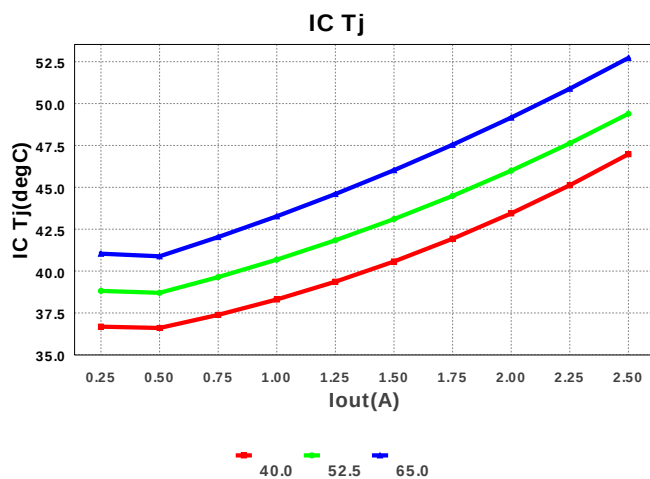
Design : 3606446/12 LM5576MH/NOPB
LM5576MH/NOPB 40.0V-65.0V to 5.0V @ 2.5A

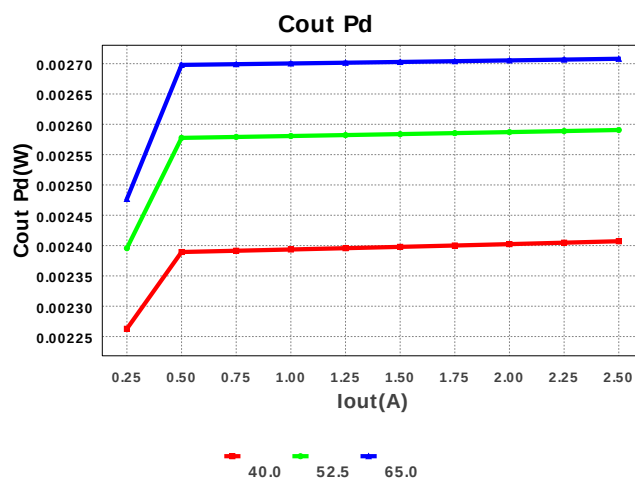
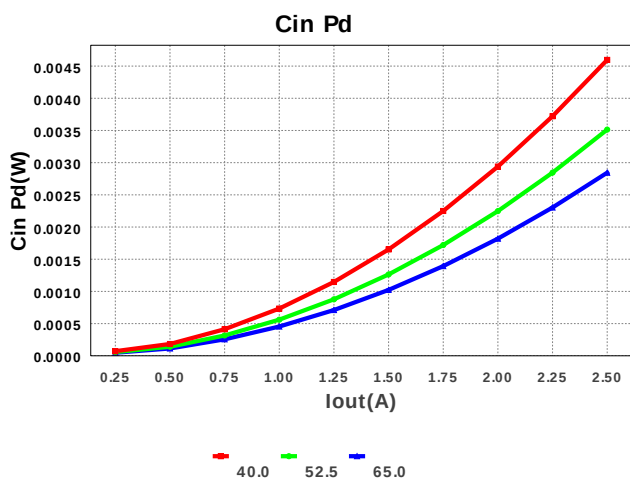
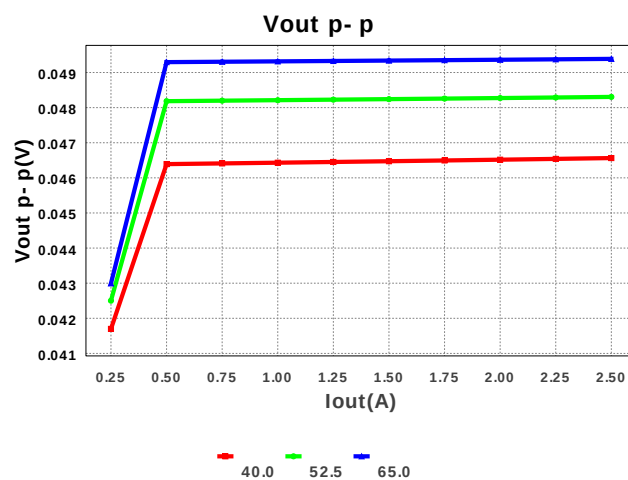
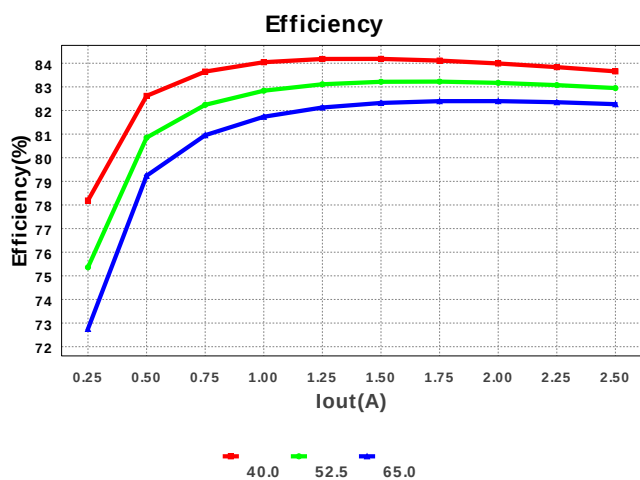
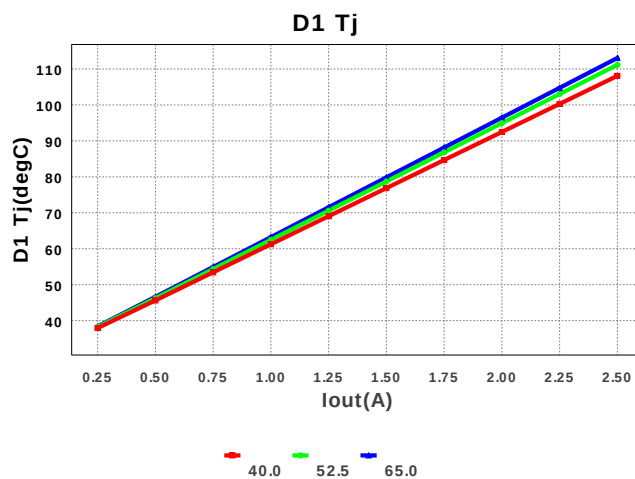
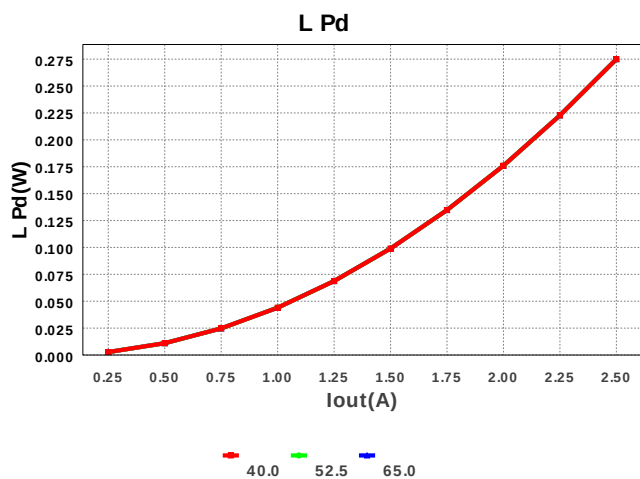


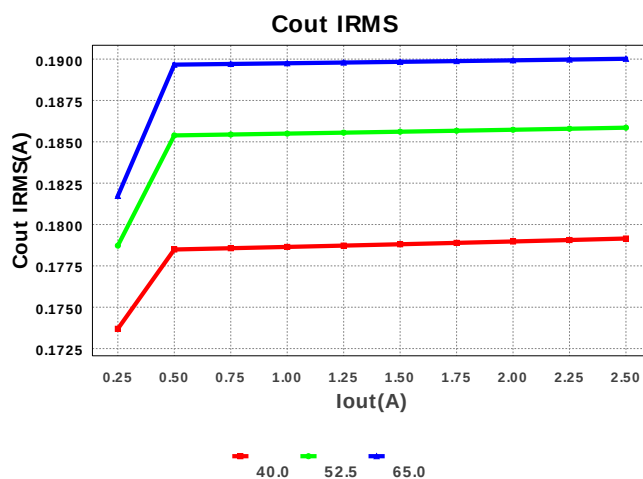
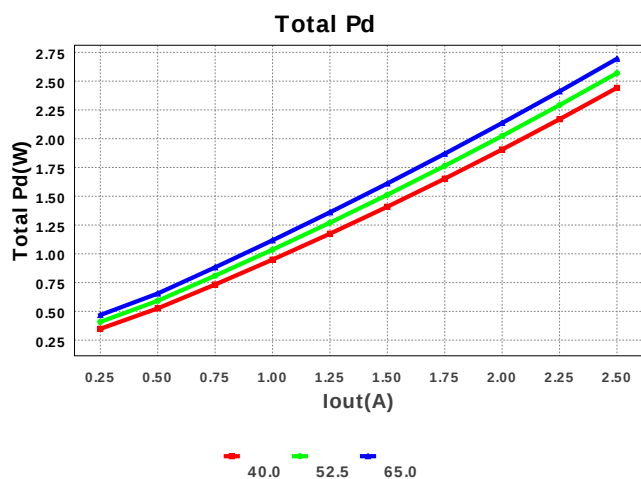
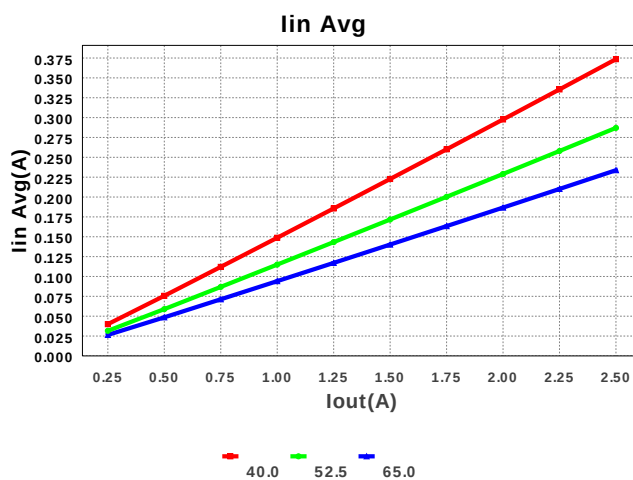
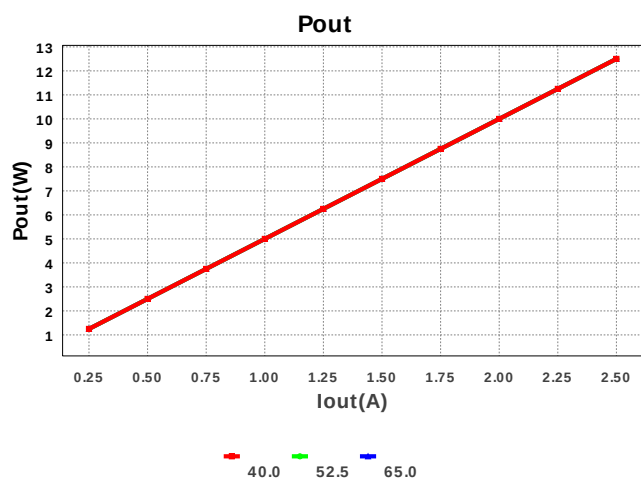
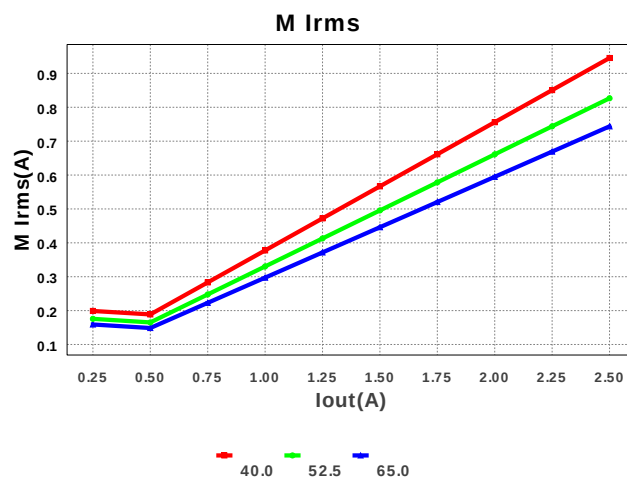
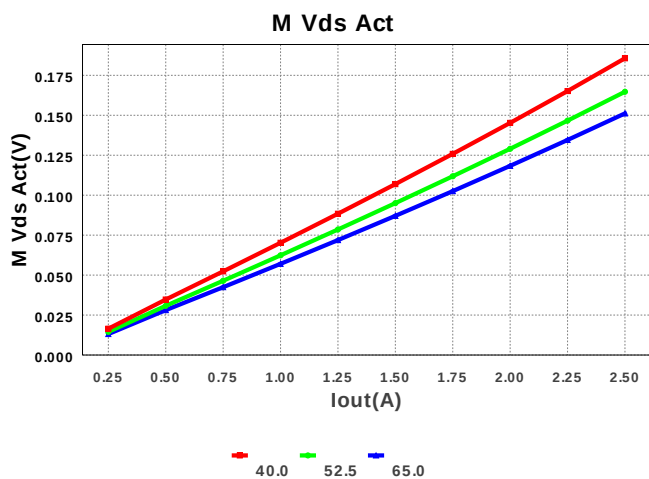
Electrical BOM

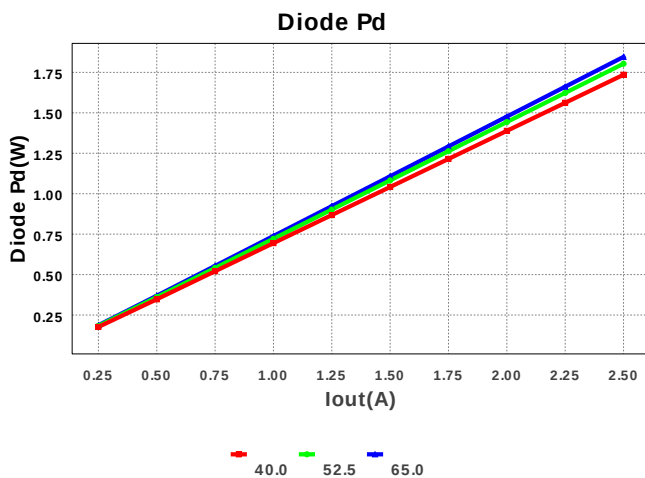
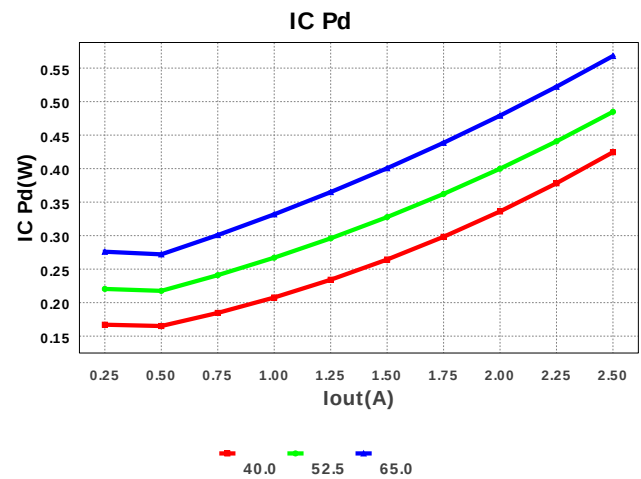
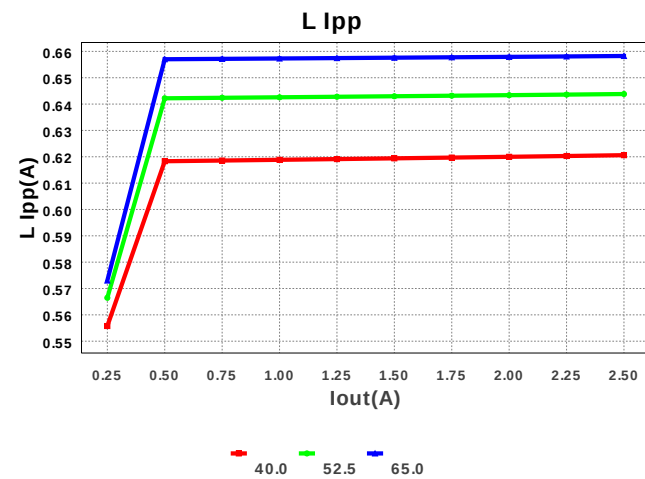
#	Name	Manufacturer	Part Number	Qty	Price	Properties	Footprint
1.	Cboot	Kemet	C0805C223K5RACTU Series= X7R	1	\$0.01	Cap= 22.0 nF ESR= 125.0 mOhm VDC= 50.0 V IRMS= 645.0 mA	 0805 13mm2
2.	Cbyp	AVX	08053C104KAT2A Series= X7R	1	\$0.01	Cap= 100.0 nF ESR= 280.0 mOhm VDC= 25.0 V IRMS= 0.0 A	 0805 13mm2
3.	Ccomp	Kemet	C0805C102K5RACTU Series= X7R	1	\$0.01	Cap= 1.0 nF ESR= 384.0 mOhm VDC= 50.0 V IRMS= 214.0 mA	 0805 13mm2
4.	Ccomp2	Yageo America	CC0805KRX7R9BB271 Series= X7R	1	\$0.01	Cap= 270.0 pF VDC= 50.0 V IRMS= 0.0 A	 0805 13mm2
5.	Cin	TDK	C3216X7R2A105M Series= 285	1	\$0.11	Cap= 1.0 µF ESR= 6.0 mOhm VDC= 100.0 V IRMS= 4.5 A	 1206 19mm2
6.	Cout	Panasonic	EEE-FC1V101P Series= FC	2	\$0.24	Cap= 100.0 µF ESR= 150.0 mOhm VDC= 35.0 V IRMS= 220.0 mA	 SM_RADIAL_G 172mm2
7.	Cramp	Yageo America	CC0805KRX7R9BB271 Series= X7R	1	\$0.01	Cap= 270.0 pF VDC= 50.0 V IRMS= 0.0 A	 0805 13mm2
8.	Css	MuRata	GRM155R71E822KA01D Series= X7R	1	\$0.01	Cap= 8.2 nF VDC= 25.0 V IRMS= 0.0 A	 0402 8mm2
9.	D1	Vishay-Semiconductor	30WQ10FNPBF	1	\$0.37	VF@Io= 810.0 mV VRRM= 100.0 V	 DPAK 102mm2

#	Name	Manufacturer	Part Number	Qty	Price	Properties	Footprint
10.	L1	Bourns	SRR1210-270M	1	\$0.44	L= 27.0 μ H DCR= 40.0 mOhm	 SRR1210 196mm2
11.	Rcomp	Vishay-Dale	CRCW080556K2FKEA Series= CRCW..e3	1	\$0.01	Res= 56.2 kOhm Power= 125.0 mW Tolerance= 1.0%	 0805 13mm2
12.	Rfb1	Vishay-Dale	CRCW08051K00FKEA Series= CRCW..e3	1	\$0.01	Res= 1,000 Ohm Power= 125.0 mW Tolerance= 1.0%	 0805 13mm2
13.	Rfb2	Vishay-Dale	CRCW08053K09FKEA Series= CRCW..e3	1	\$0.01	Res= 3.09 kOhm Power= 125.0 mW Tolerance= 1.0%	 0805 13mm2
14.	Rt	Vishay-Dale	CRCW080520K5FKEA Series= CRCW..e3	1	\$0.01	Res= 20.5 kOhm Power= 125.0 mW Tolerance= 1.0%	 0805 13mm2
15.	U1	Texas Instruments	LM5576MH/NOPB	1	\$2.60	Switcher	 MXA20A 71mm2









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	688.491 m A	Current	Input capacitor RMS ripple current
2.	Cout IRMS	190.02 m A	Current	Output capacitor RMS ripple current
3.	IC Ipk	2.828 A	Current	Peak switch current in IC
4.	Iin Avg	233.76 m A	Current	Average input current
5.	L Ipp	658.25 m A	Current	Peak-to-peak inductor ripple current
6.	M1 Irms	743.672 m A	Current	Q lavg
7.	BOM Count	16.0	General	Total Design BOM count
8.	FootPrint	857.0 mm2	General	Total Foot Print Area of BOM components
9.	Frequency	298.73 k Hz	General	Switching frequency
10.	IC Tolerance	18.0 m V	General	IC Feedback Tolerance
11.	M Vds Act	151.164 m V	General	Voltage drop across the MosFET
12.	Mode	CCM	General	Conduction Mode
13.	Pout	12.5 W	General	Total output power
14.	Total BOM	\$4.1	General	Total BOM Cost
15.	D1 Tj	113.062 degC	Op_Point	D1 junction temperature
16.	Vout OP	5.0 V	Op_Point	Operational Output Voltage
17.	Duty Cycle	8.849 %	Op_point	Duty cycle
18.	Efficiency	82.267 %	Op_point	Steady state efficiency
19.	IC Tj	52.723 degC	Op_point	IC junction temperature
20.	ICThetaJA	40.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
21.	IOUT_OP	2.5 A	Op_point	Iout operating point
22.	VIN_OP	65.0 V	Op_point	Vin operating point
23.	Vout p-p	49.388 m V	Op_point	Peak-to-peak output ripple voltage
24.	Cin Pd	2.844 m W	Power	Input capacitor power dissipation
25.	Cout Pd	2.708 m W	Power	Output capacitor power dissipation
26.	Diode Pd	1.846 W	Power	Diode power dissipation
27.	IC Pd	568.07 m W	Power	IC power dissipation
28.	L Pd	275.0 m W	Power	Inductor power dissipation
29.	Total Pd	2.694 W	Power	Total Power Dissipation

Design Inputs

#	Name	Value	Description
1.	Iout	2.5 A	Maximum Output Current
2.	Iout1	2.5 Amps	Output Current #1
3.	VinMax	65.0 V	Maximum input voltage
4.	VinMin	40.0 V	Minimum input voltage
5.	Vout	5.0 V	Output Voltage
6.	Vout1	5.0 Volt	Output Voltage #1
7.	base_pn	LM5576	National Based Product Number
8.	source	DC	Input Source Type
9.	Ta	30.0 degC	Ambient temperature

Design Assistance

1. **LM5576** Product Folder : <http://www.ti.com/product/lm5576> : contains the data sheet and other resources.

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