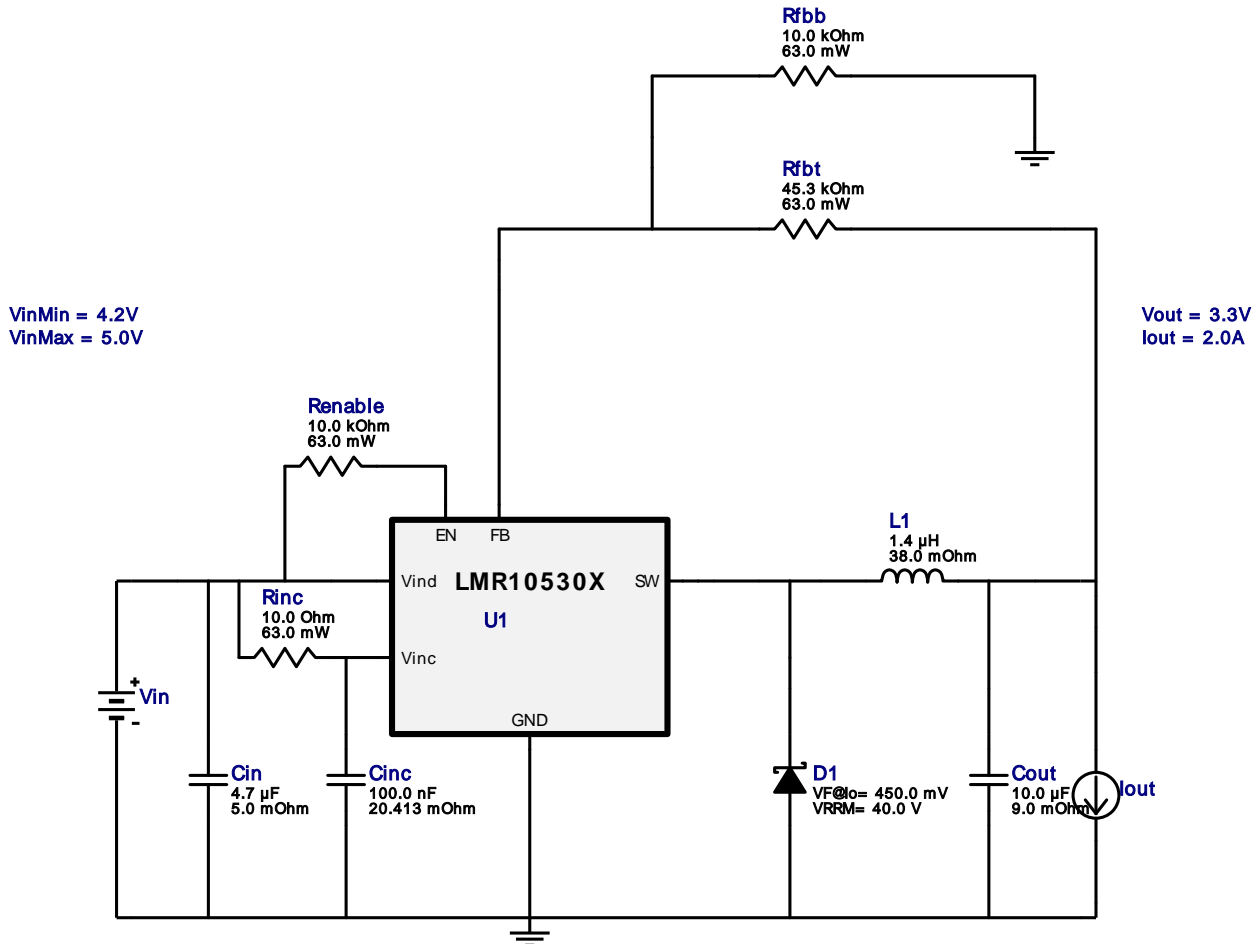







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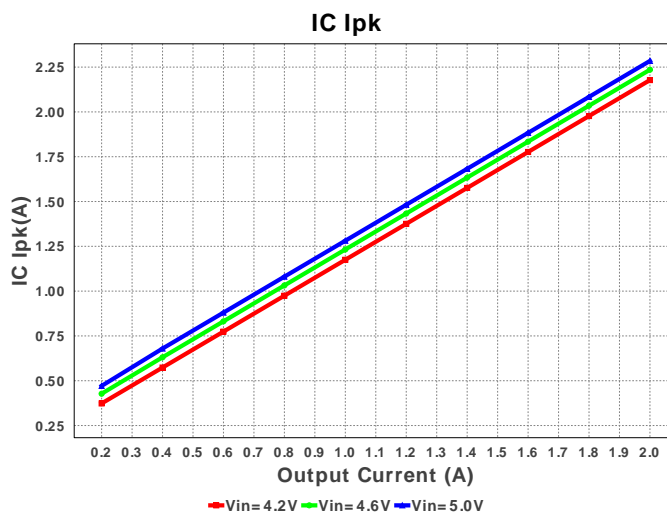
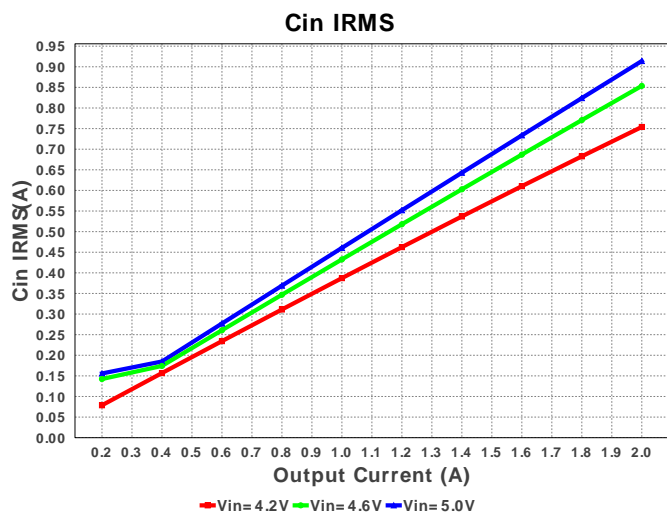
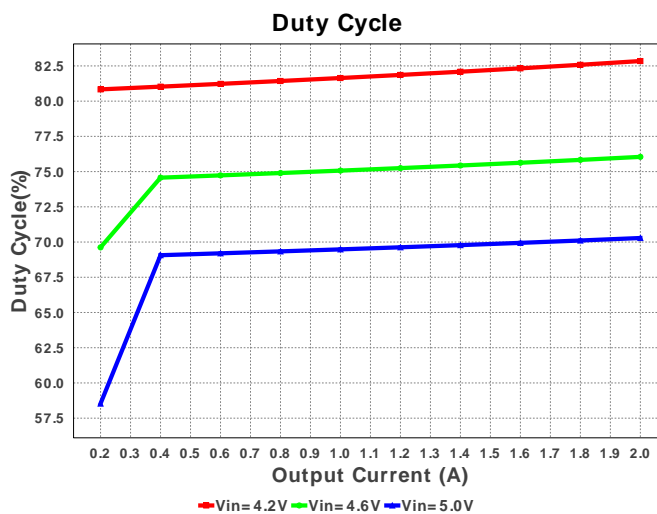
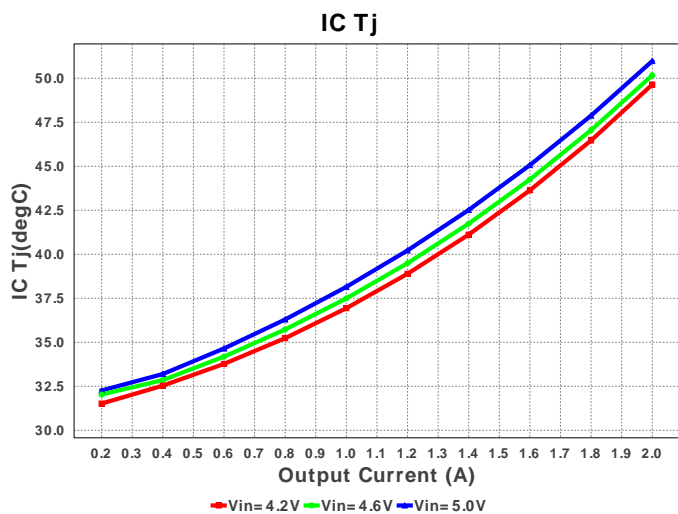
Design : 4379941/3 LMR10530XSD/NOPB
 LMR10530XSD/NOPB 4.2V-5.0V to 3.30V @ 2.0A

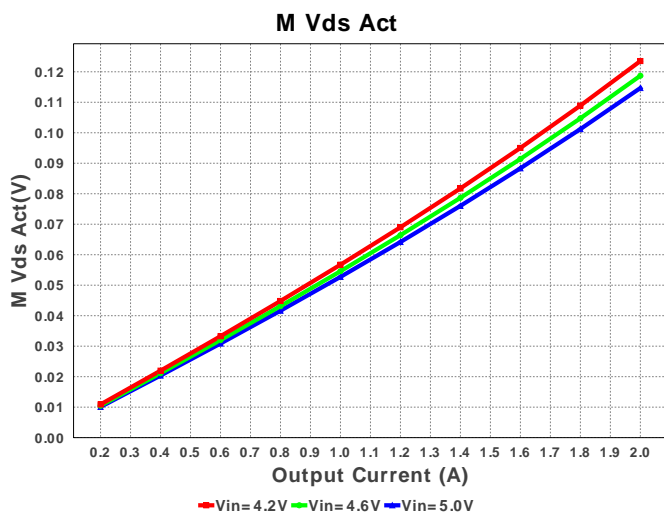
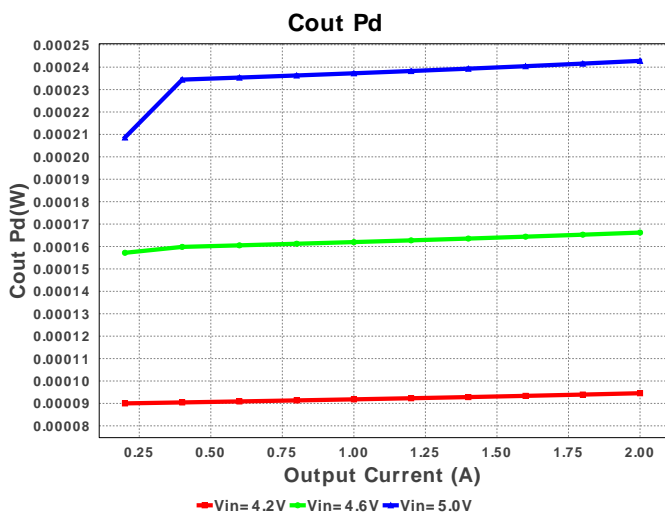
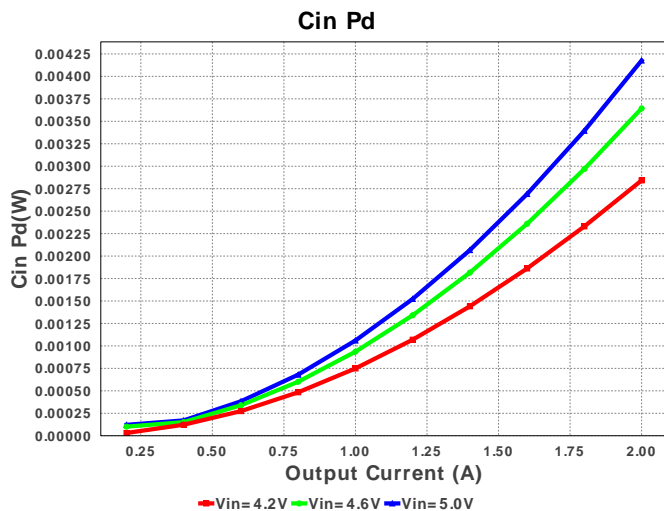
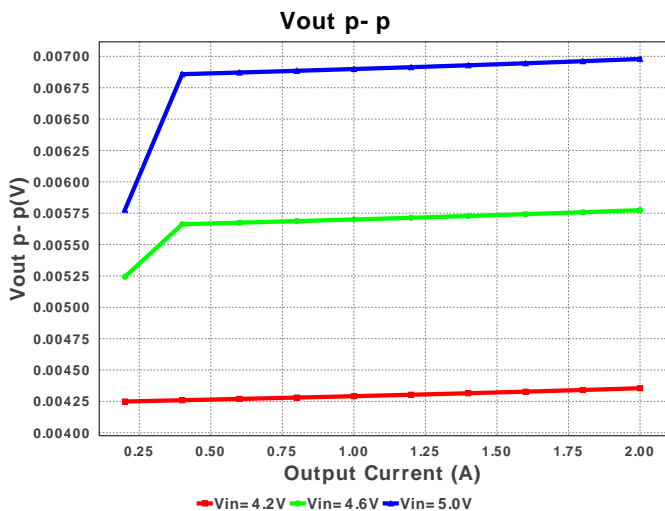
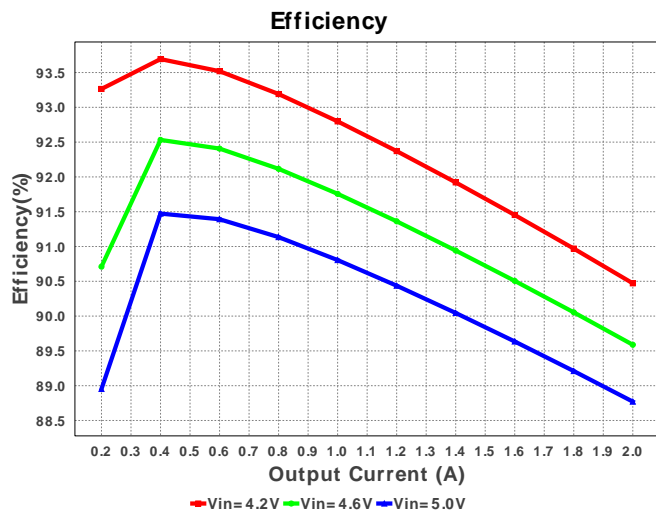
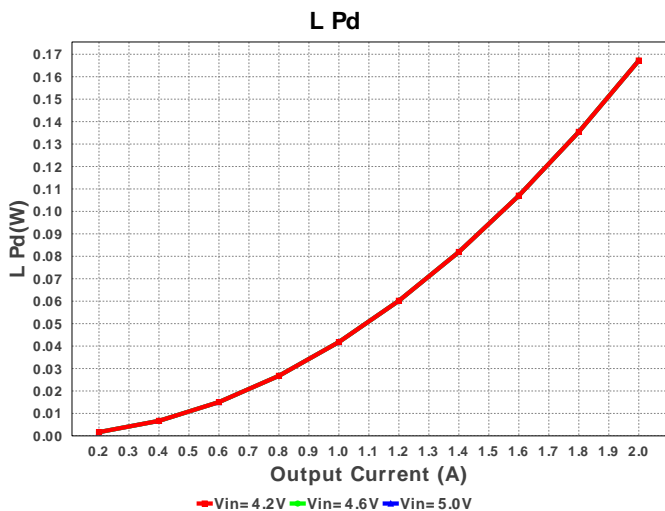


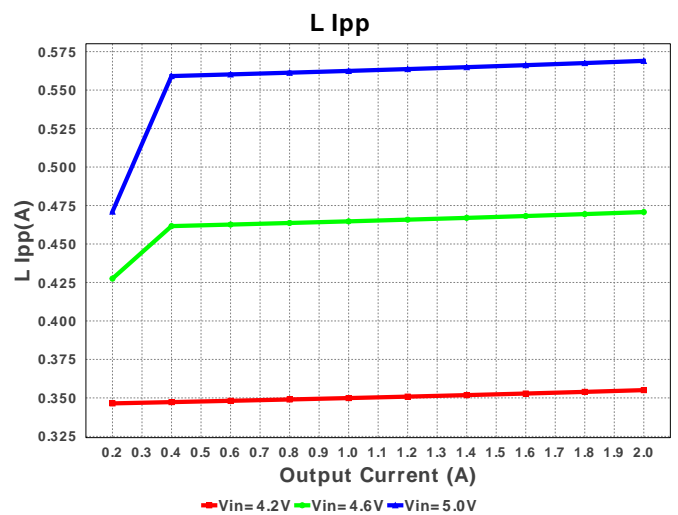
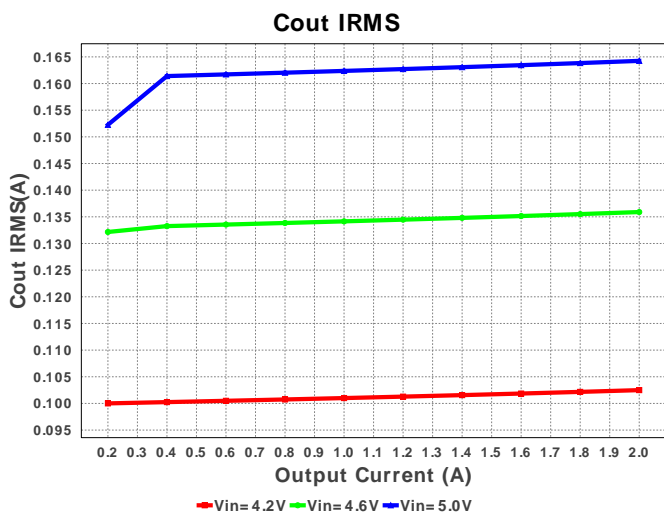
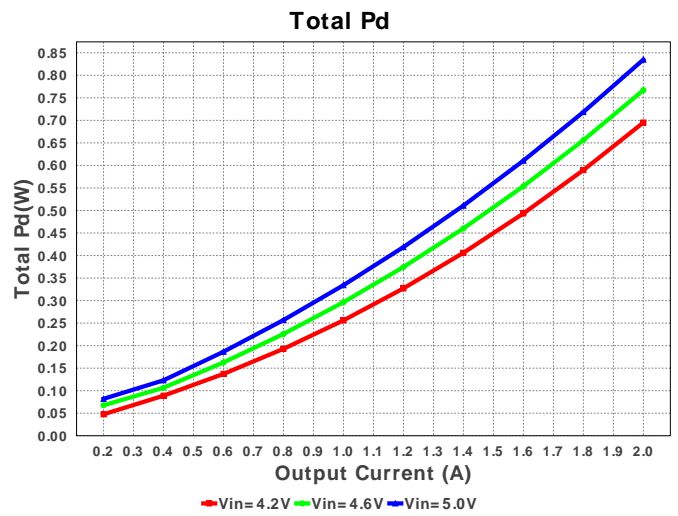
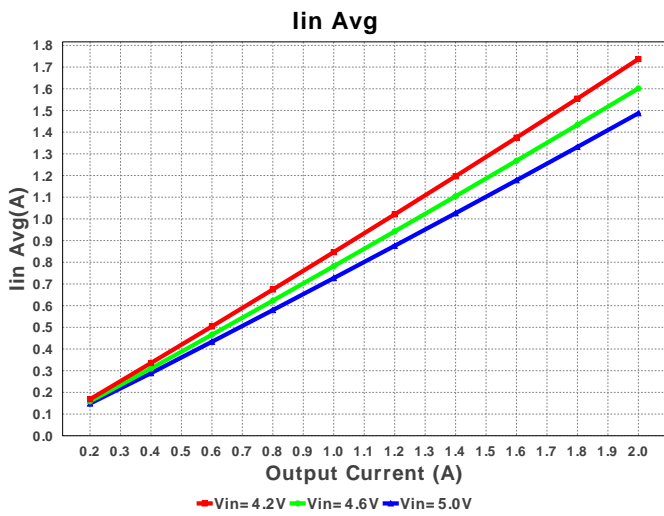
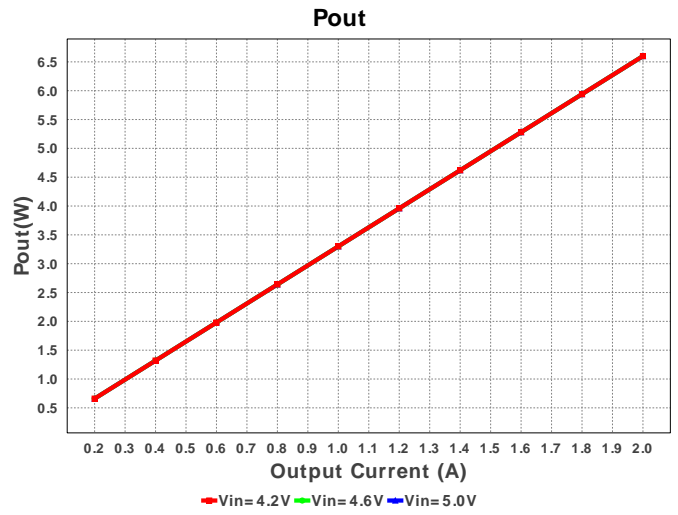
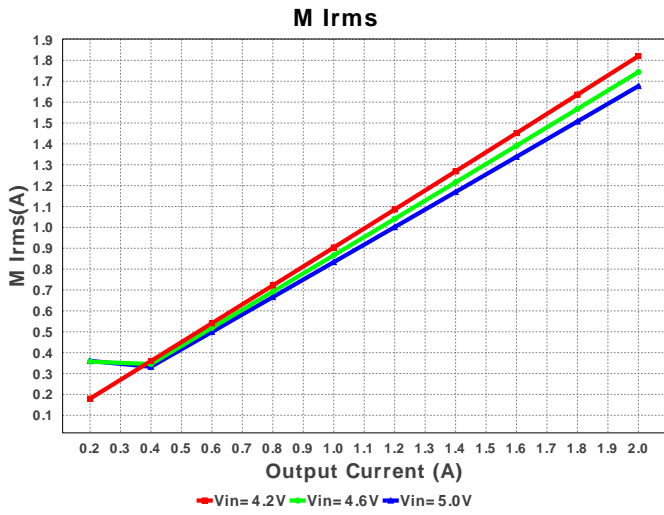
Electrical BOM

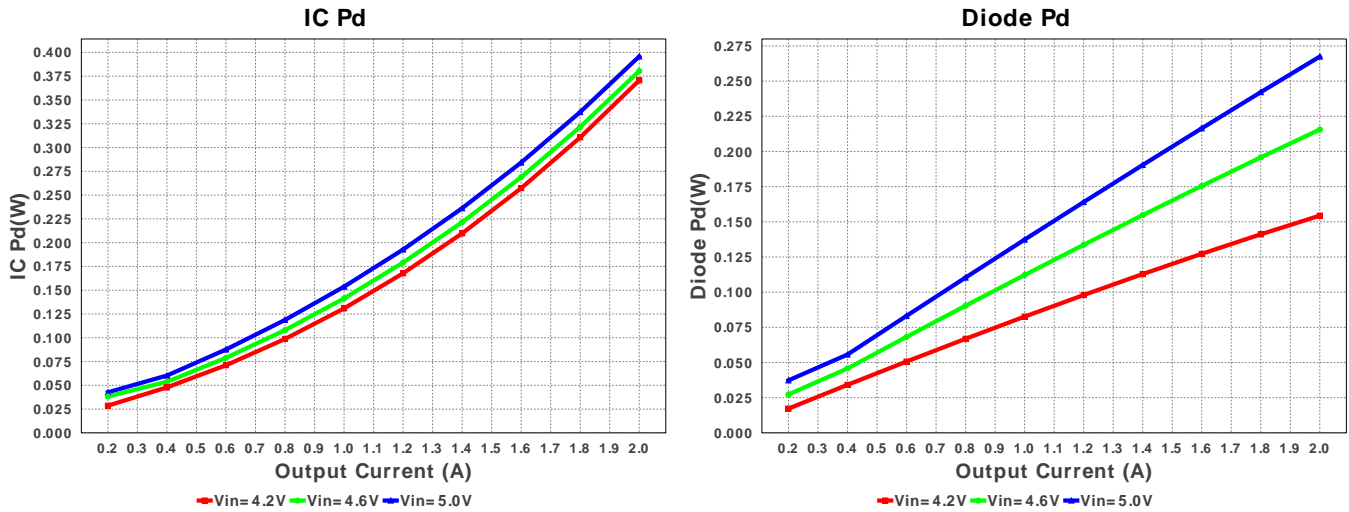
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cin	MuRata	GRM188R60J475KE19D Series= X5R	Cap= 4.7 uF ESR= 5.0 mOhm VDC= 6.3 V IRMS= 2.0 A	1	\$0.02	 0603 5 mm ²
2.	Cinc	TDK	C1005X5R0J104K Series= X5R	Cap= 100.0 nF ESR= 20.413 mOhm VDC= 6.3 V IRMS= 0.0 A	1	\$0.01	 0402 3 mm ²
3.	Cout	MuRata	GRM188R60J106ME47D Series= X5R	Cap= 10.0 uF ESR= 9.0 mOhm VDC= 6.3 V IRMS= 2.74 A	1	\$0.03	 0603 5 mm ²
4.	D1	Diodes Inc.	1N5819HW-7-F	VF@Io= 450.0 mV VRRM= 40.0 V	1	\$0.08	 SOD-123 13 mm ²
5.	L1	Bourns	SDR0403-1R4ML	L= 1.4 uH DCR= 38.0 mOhm	1	\$0.18	 SDR0403 28 mm ²

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
6.	Renable	Vishay-Dale	CRCW040210K0FKED Series= CRCW..e3	Res= 10.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
7.	Rfbb	Vishay-Dale	CRCW040210K0FKED Series= CRCW..e3	Res= 10.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
8.	Rfbt	Vishay-Dale	CRCW040245K3FKED Series= CRCW..e3	Res= 45.3 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
9.	Rinc	Vishay-Dale	CRCW040210R0FKED Series= CRCW..e3	Res= 10.0 Ohm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
10.	U1	Texas Instruments	LMR10530XSD/NOPB	Switcher	1	\$0.45	SDA10A 16 mm ²









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	913.995 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	164.251 mA	Current	Output capacitor RMS ripple current
3.	IC Ipk	2.284 A	Current	Peak switch current in IC
4.	Iin Avg	1.487 A	Current	Average input current
5.	L Ipp	568.98 mA	Current	Peak-to-peak inductor ripple current
6.	M Irms	1.677 A	Current	MOSFET RMS current
7.	BOM Count	10	General	Total Design BOM count
8.	FootPrint	81.0 mm ²	General	Total Foot Print Area of BOM components
9.	Frequency	1.5 MHz	General	Switching frequency
10.	IC Tolerance	16.0 mV	General	IC Feedback Tolerance
11.	M Vds Act	114.673 mV	General	
12.	Pout	6.6 W	General	Total output power
13.	Total BOM	\$0.81	General	Total BOM Cost
14.	Duty Cycle	70.286 %	Op_point	Duty cycle
15.	Efficiency	88.771 %	Op_point	Steady state efficiency
16.	IC Tj	50.976 degC	Op_point	IC junction temperature
17.	ICThetaJA	53.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
18.	IOUT_OP	2.0 A	Op_point	Iout operating point
19.	VIN_OP	5.0 V	Op_point	Vin operating point
20.	Vout p-p	6.979 mV	Op_point	Peak-to-peak output ripple voltage
21.	Cin Pd	4.177 mW	Power	Input capacitor power dissipation
22.	Cout Pd	242.807 μW	Power	Output capacitor power dissipation
23.	Diode Pd	267.424 mW	Power	Diode power dissipation
24.	IC Pd	395.776 mW	Power	IC power dissipation
25.	L Pd	167.2 mW	Power	Inductor power dissipation
26.	Total Pd	834.876 mW	Power	Total Power Dissipation

Design Inputs

#	Name	Value	Description
1.	Iout	2.0	Maximum Output Current
2.	Iout1	2.0	Output Current #1
3.	VinMax	5.0	Maximum input voltage
4.	VinMin	4.2	Minimum input voltage
5.	Vout	3.3	Output Voltage
6.	Vout1	3.3	Output Voltage #1
7.	base_pn	LMR10530X	Texas Instruments Base Part Number
8.	source	DC	Input Source Type
9.	ta	30.0	Ambient temperature

Design Assistance

1. LMR10530X Product Folder : <http://www.ti.com/product/LMR10530> : contains the data sheet and other resources.

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