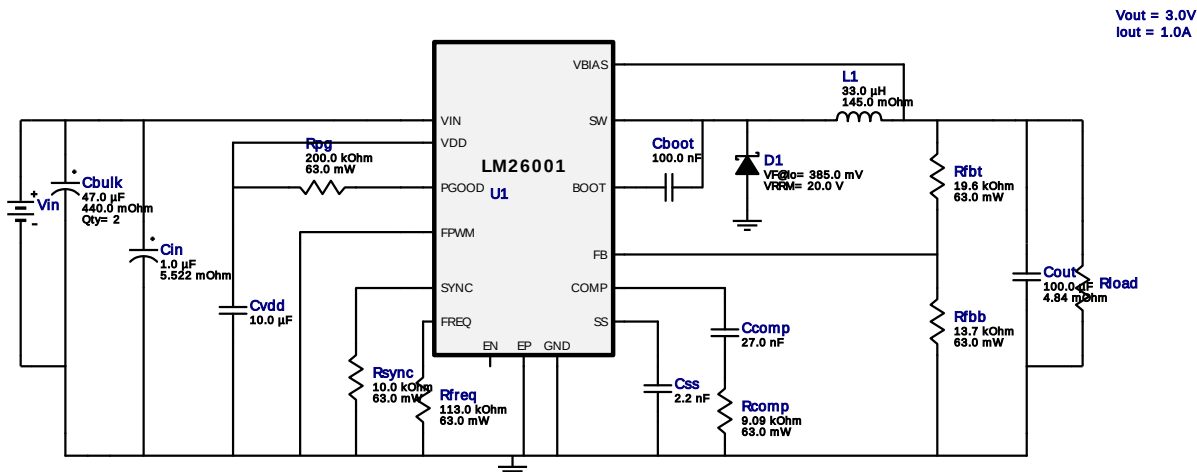
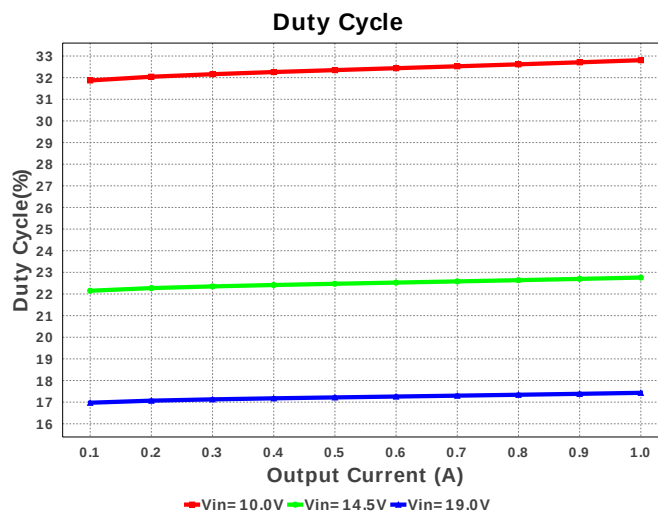
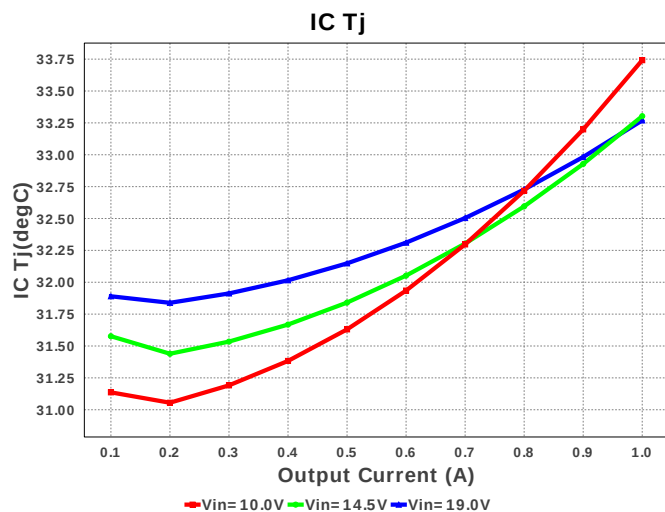


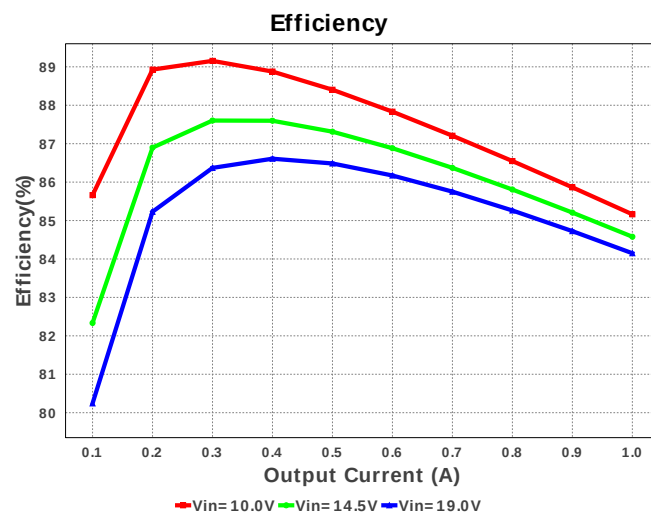
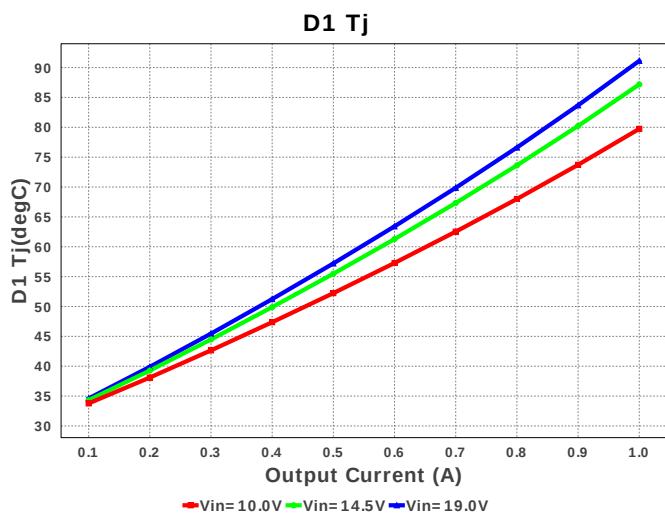
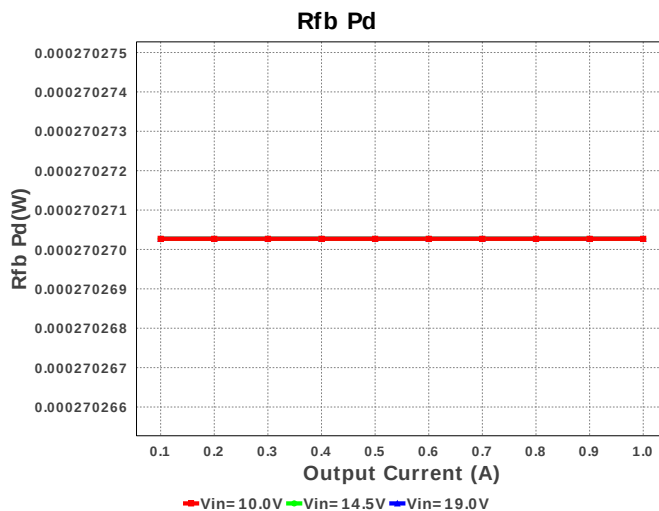
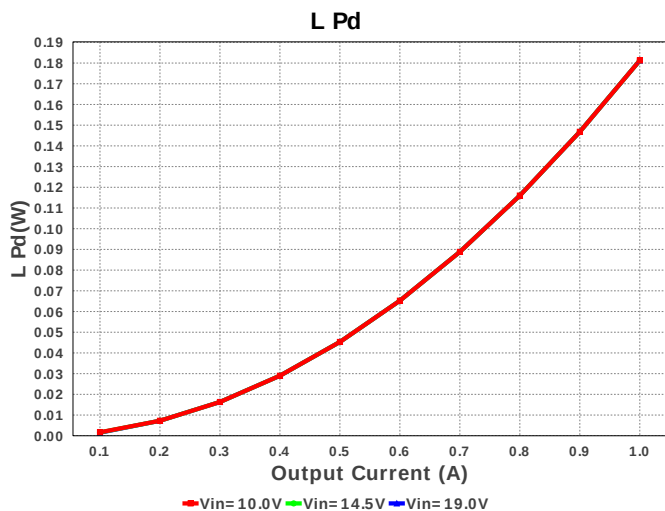
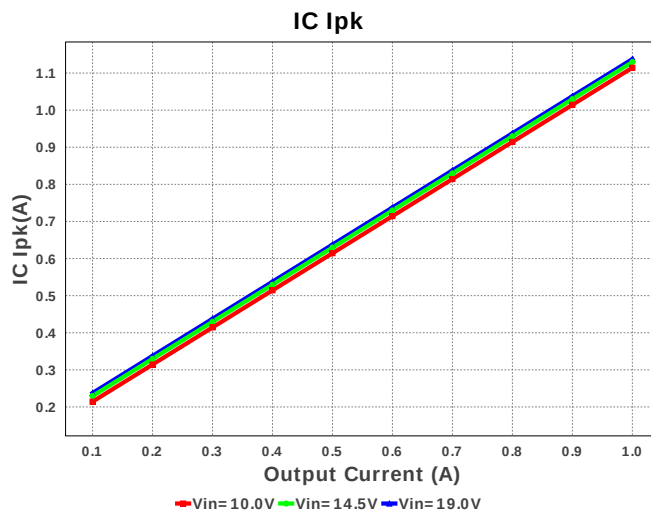
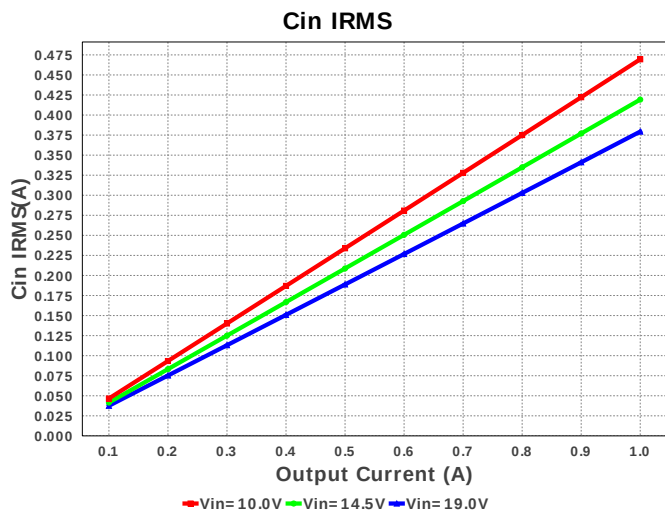


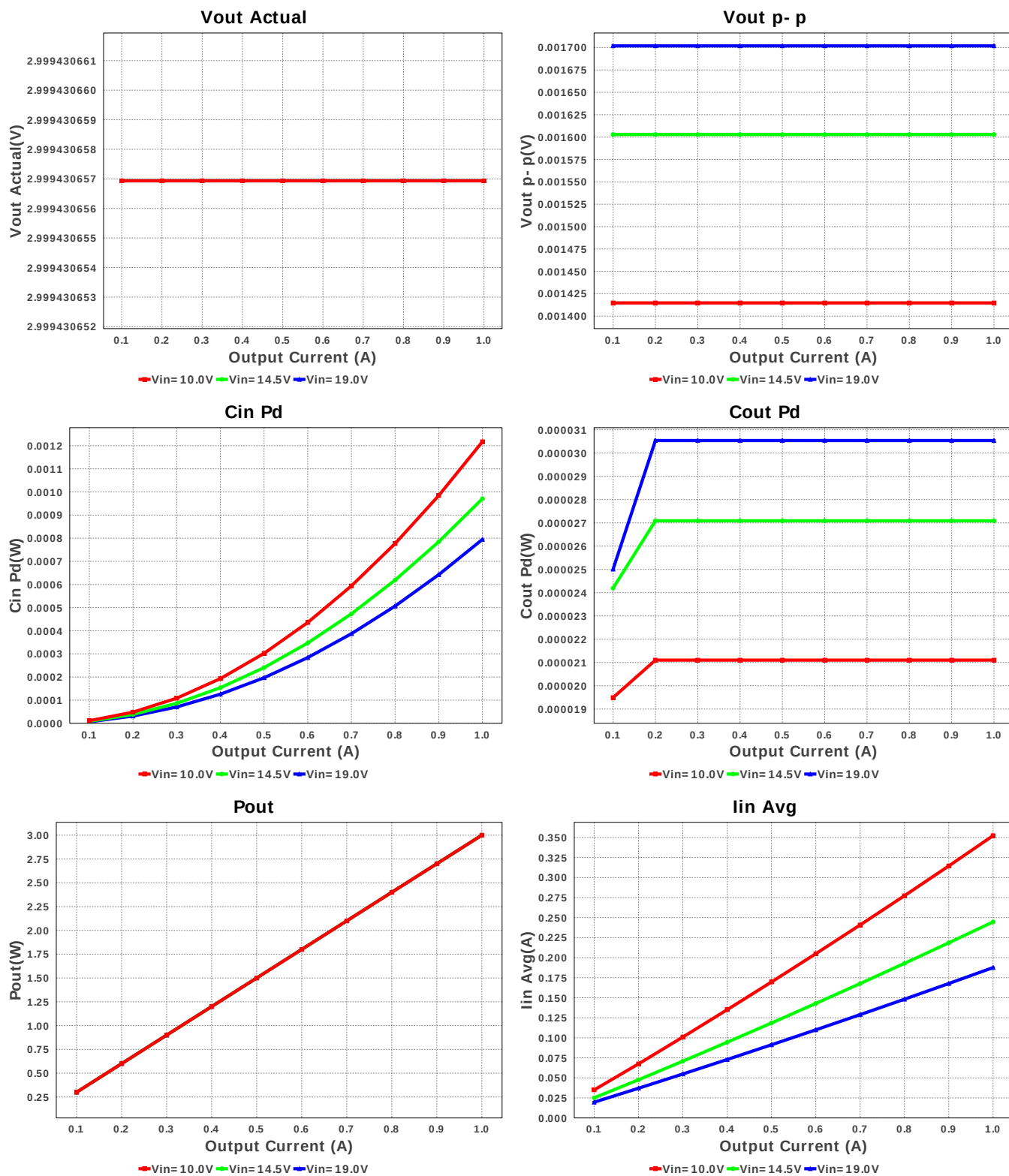
Electrical BOM

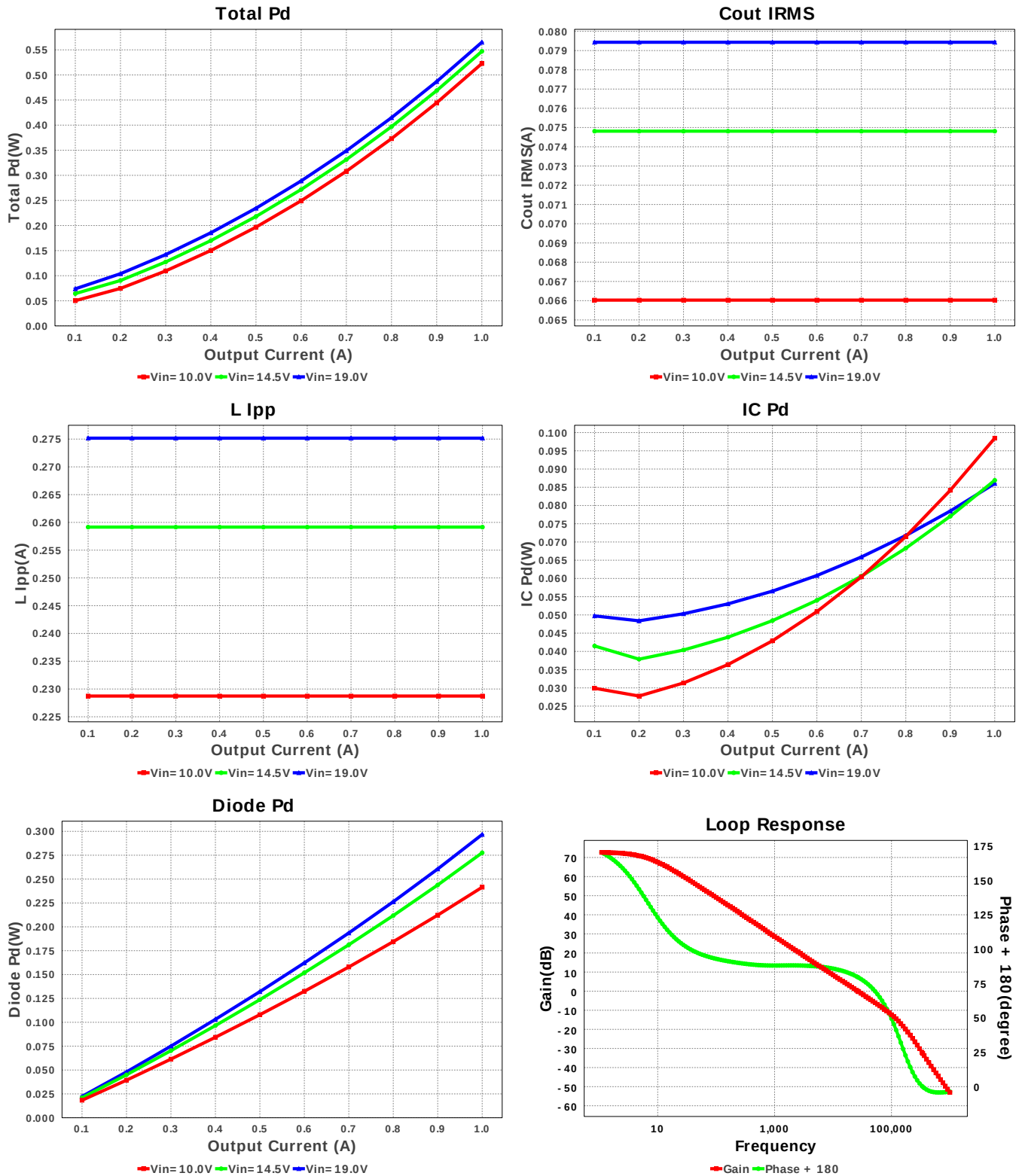
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cboot	MuRata	GRM21BR71E104KA01L Series= X7R	Cap= 100.0 nF VDC= 25.0 V IRMS= 0.0 A	1	\$0.01	0805 7 mm ²
2.	Cbulk	Nichicon	UUD1V470MCL1GS Series= uD	Cap= 47.0 uF ESR= 440.0 mOhm VDC= 35.0 V IRMS= 230.0 mA	2	\$0.11	SM_RADIAL_6.3AMM 80 mm ²
3.	Ccomp	Yageo America	CC0805KRX7R9BB273 Series= X7R	Cap= 27.0 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	0805 7 mm ²
4.	Cin	TDK	C1608X7R1V105K080AC Series= X7R	Cap= 1.0 uF ESR= 5.522 mOhm VDC= 35.0 V IRMS= 2.2162 A	1	\$0.05	0603 5 mm ²
5.	Cout	MuRata	GRM31CD80G107ME39L Series= X6T	Cap= 100.0 uF ESR= 4.84 mOhm VDC= 4.0 V IRMS= 4.3381 A	1	\$0.14	1206_190 11 mm ²
6.	Css	Yageo America	CC0805KRX7R9BB222 Series= X7R	Cap= 2.2 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	0805 7 mm ²
7.	Cvdd	Taiyo Yuden	LMK212BJ106KG-T Series= X5R	Cap= 10.0 uF VDC= 10.0 V IRMS= 0.0 A	1	\$0.03	0805 7 mm ²
8.	D1	ON Semiconductor	MBR0520LT1G	VF@Io= 385.0 mV VRRM= 20.0 V	1	\$0.06	SOD-123 13 mm ²
9.	L1	Bourns	SRN8040-330M	L= 33.0 uH DCR= 145.0 mOhm	1	\$0.22	SRN8040 100 mm ²

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
10.	Rcomp	Vishay-Dale	CRCW04029K09FKED Series= CRCW..e3	Res= 9.09 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
11.	Rfbb	Vishay-Dale	CRCW040213K7FKED Series= CRCW..e3	Res= 13.7 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
12.	Rfbb	Vishay-Dale	CRCW040219K6FKED Series= CRCW..e3	Res= 19.6 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
13.	Rfreq	Vishay-Dale	CRCW0402113KFKED Series= CRCW..e3	Res= 113.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
14.	Rpg	Vishay-Dale	CRCW0402200KFKED Series= CRCW..e3	Res= 200.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
15.	Rsync	Vishay-Dale	CRCW040210K0FKED Series= CRCW..e3	Res= 10.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
16.	U1	Texas Instruments	LM26001MXAX/NOPB	Switcher	1	\$1.25	 MXA16A 59 mm ²









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	379.375 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	79.434 mA	Current	Output capacitor RMS ripple current
3.	IC Ipk	1.138 A	Current	Peak switch current in IC
4.	Iin Avg	187.64 mA	Current	Average input current
5.	L Ipp	275.17 mA	Current	Peak-to-peak inductor ripple current
6.	BOM Count	17	General	Total Design BOM count
7.	FootPrint	392.0 mm ²	General	Total Foot Print Area of BOM components
8.	Frequency	324.583 kHz	General	Switching frequency
9.	Pout	3.0 W	General	Total output power

#	Name	Value	Category	Description
10.	Total BOM	\$2.06	General	Total BOM Cost
11.	D1 Tj	91.123 degC	Op_Point	D1 junction temperature
12.	Low Freq Gain	72.652 dB	Op_Point	Gain at 10Hz
13.	Vout Actual	2.999 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
14.	Vout OP	3.0 V	Op_Point	Operational Output Voltage
15.	Cross Freq	26.521 kHz	Op_point	Bode plot crossover frequency
16.	Duty Cycle	17.431 %	Op_point	Duty cycle
17.	Efficiency	84.149 %	Op_point	Steady state efficiency
18.	Gain Marg	-32.669 dB	Op_point	Bode Plot Gain Margin
19.	IC Tj	33.269 degC	Op_point	IC junction temperature
20.	ICThetaJA	38.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
21.	IOUT_OP	1.0 A	Op_point	Iout operating point
22.	Phase Marg	79.757 deg	Op_point	Bode Plot Phase Margin
23.	VIN_OP	19.0 V	Op_point	Vin operating point
24.	Vout p-p	1.702 mV	Op_point	Peak-to-peak output ripple voltage
25.	Cin Pd	794.756 μ W	Power	Input capacitor power dissipation
26.	Cout Pd	30.539 μ W	Power	Output capacitor power dissipation
27.	Diode Pd	296.714 mW	Power	Diode power dissipation
28.	IC Pd	86.034 mW	Power	IC power dissipation
29.	L Pd	181.25 mW	Power	Inductor power dissipation
30.	Rfb Pd	270.27 μ W	Power	Rfb Power Dissipation
31.	Total Pd	565.114 mW	Power	Total Power Dissipation
32.	Vout Tolerance	2.419 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	1.0	Maximum Output Current
2.	VinMax	19.0	Maximum input voltage
3.	VinMin	10.0	Minimum input voltage
4.	Vout	3.0	Output Voltage
5.	base_pn	LM26001	Texas Instruments Base Part Number
6.	source	DC	Input Source Type
7.	ta	30.0	Ambient temperature

Design Assistance

1. LM26001 Product Folder : <http://www.ti.com/product/LM26001> : contains the data sheet and other resources.

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