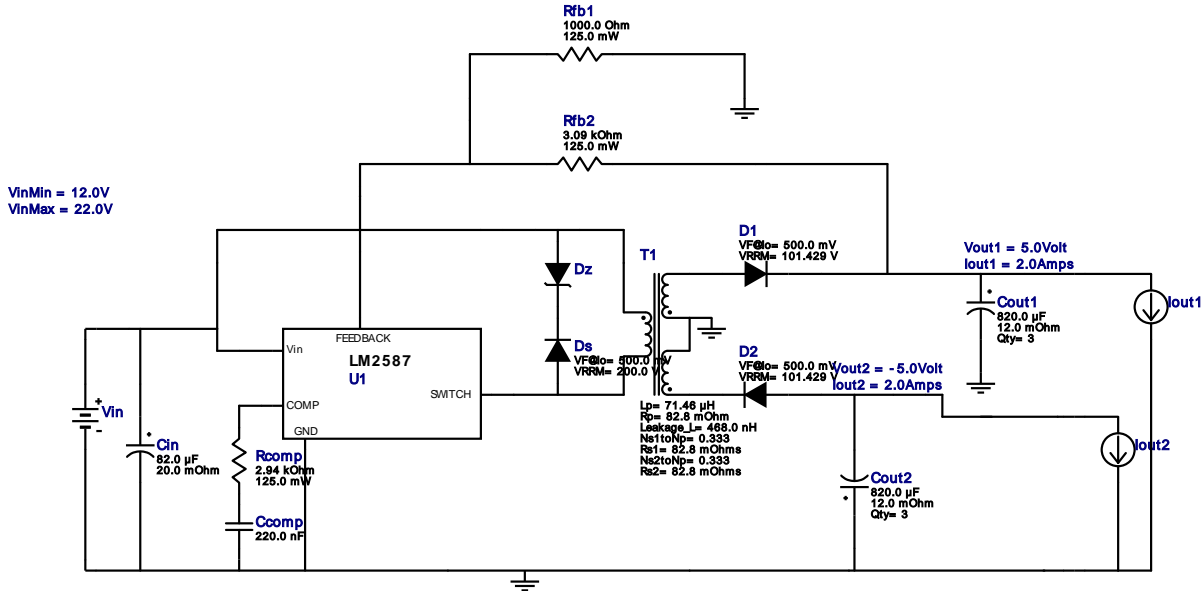


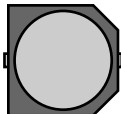
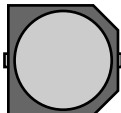





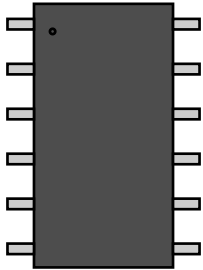
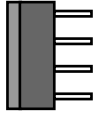
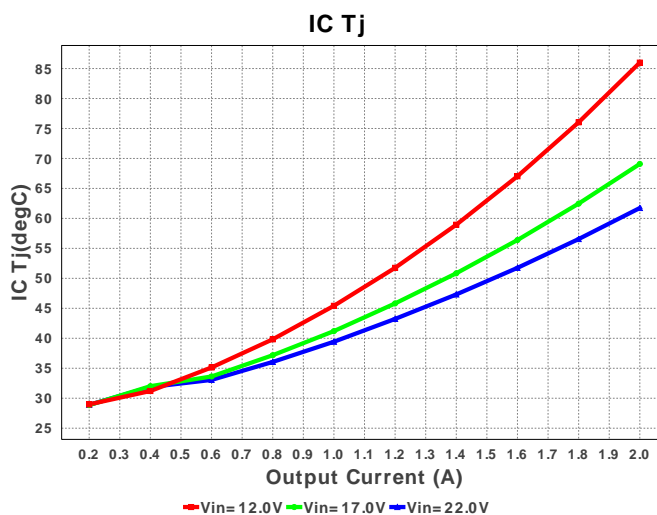
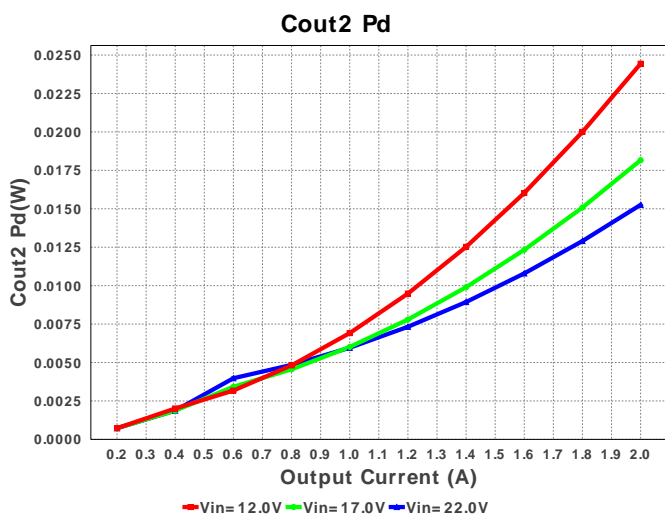


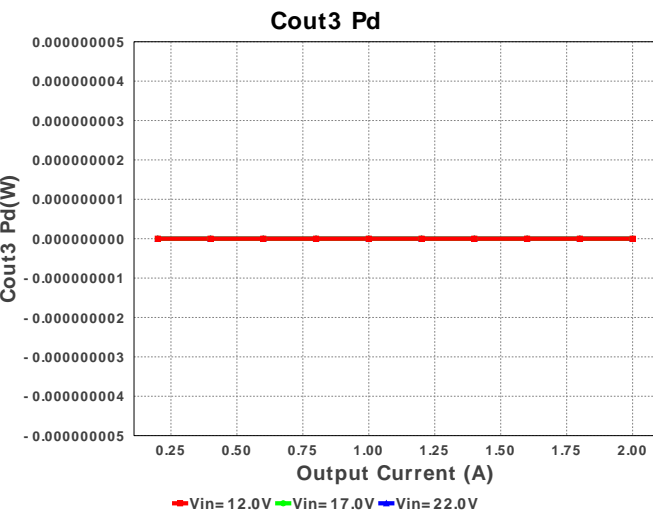
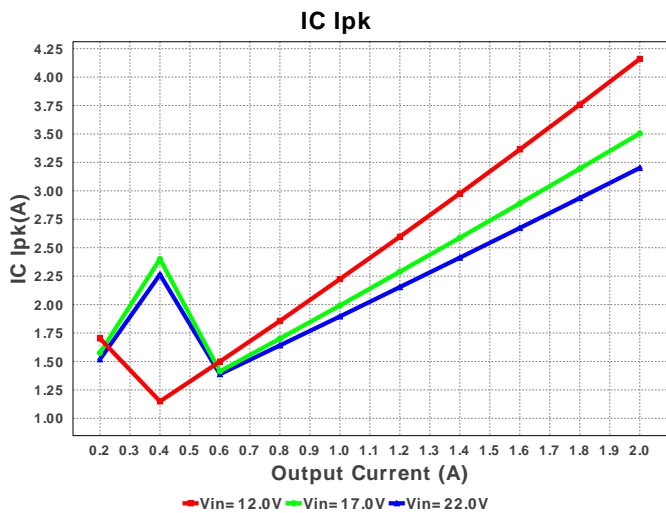
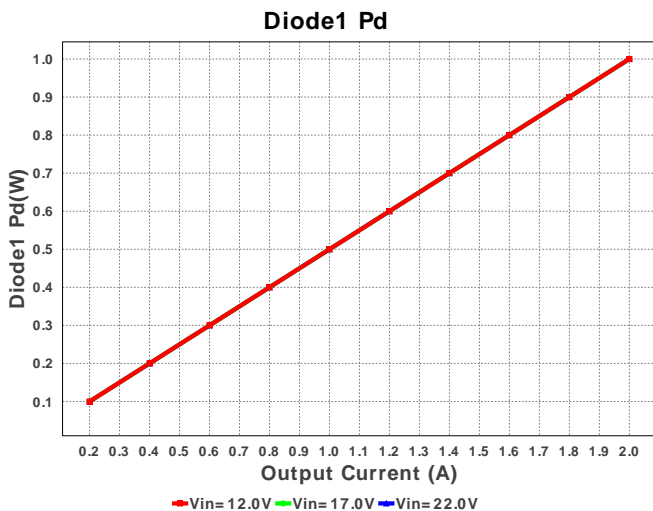
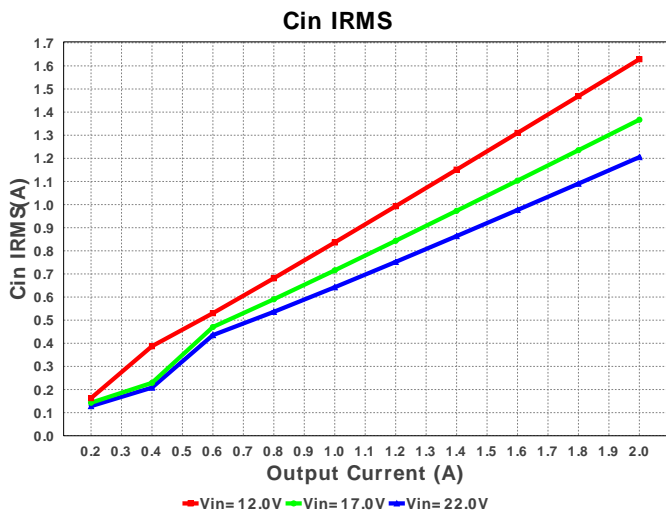
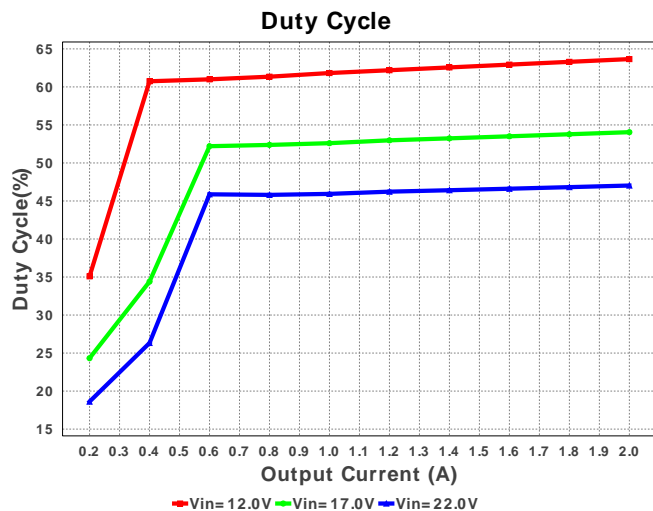
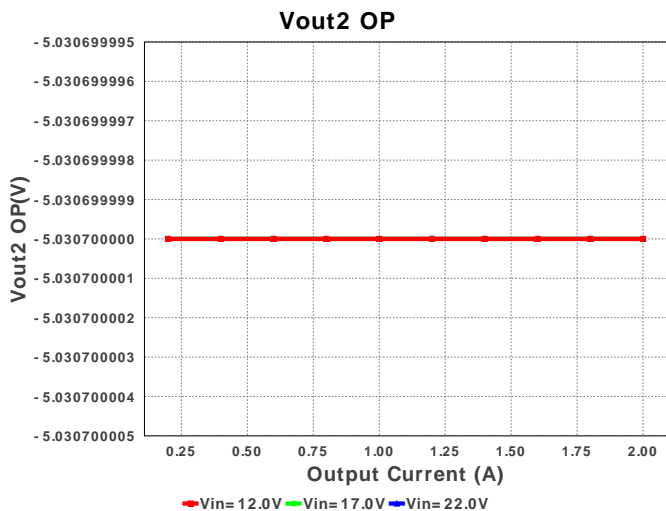
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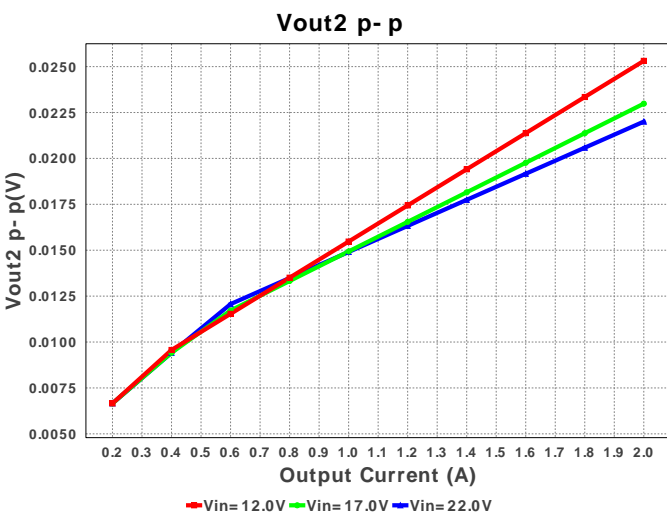
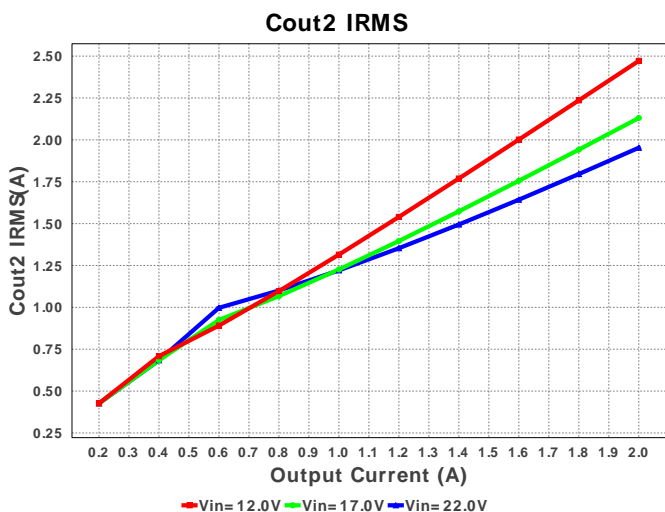
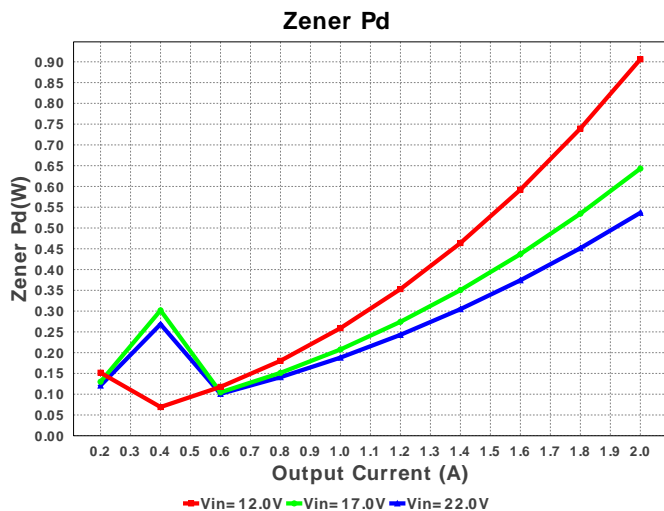
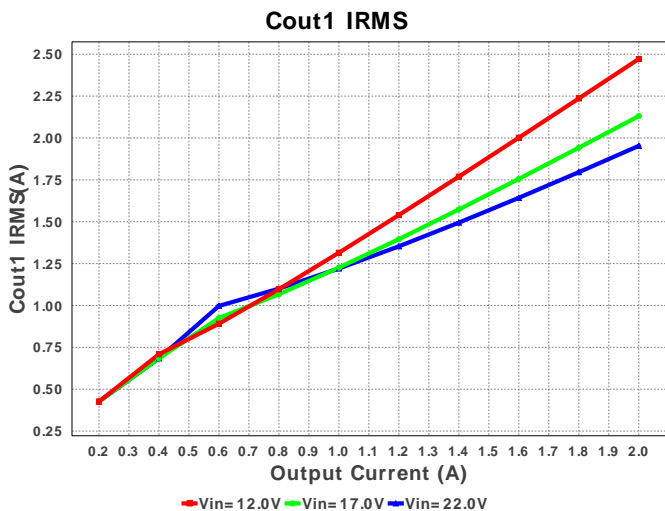
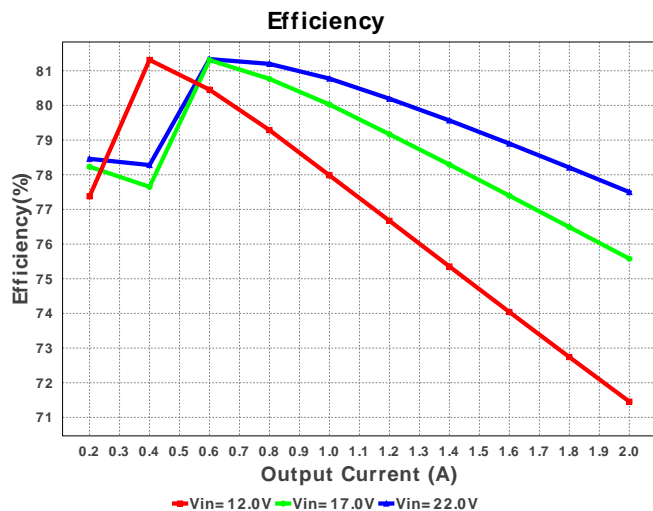
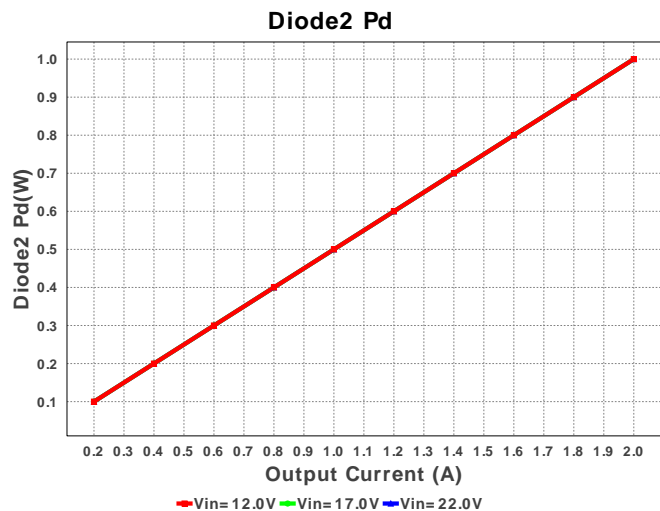
 Design : 3989908/20 LM2587T-ADJ/NOPB
 LM2587T-ADJ/NOPB 12.0V-22.0V to 5.00V @ 2.0A

Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Ccomp	Taiyo Yuden	UMK212B7224KG-T Series= X7R	Cap= 220.0 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.02	 0805 7 mm ²
2.	Cin	Panasonic	35SVPF82M Series= SVFP	Cap= 82.0 uF ESR= 20.0 mOhm VDC= 35.0 V IRMS= 4.0 A	1	\$0.61	 CAPSMT_62_E12 106 mm ²
3.	Cout1	Panasonic	6SVP820M Series= SVP	Cap= 820.0 uF ESR= 12.0 mOhm VDC= 6.3 V IRMS= 5.44 A	3	\$0.72	 SM_RADIAL_10AMM 160 mm ²
4.	Cout2	Panasonic	6SVP820M Series= SVP	Cap= 820.0 uF ESR= 12.0 mOhm VDC= 6.3 V IRMS= 5.44 A	3	\$0.72	 SM_RADIAL_10AMM 160 mm ²
5.	D1	CUSTOM	CUSTOM	VF@Io= 500.0 mV VRRM= 101.429 V	1	NA	CUSTOM 0 mm ²
6.	D2	CUSTOM	CUSTOM	VF@Io= 500.0 mV VRRM= 101.429 V	1	NA	CUSTOM 0 mm ²
7.	Ds	CUSTOM	CUSTOM	VF@Io= 500.0 mV VRRM= 200.0 V	1	NA	CUSTOM 0 mm ²
8.	Dz	Micro Commercial Components	3SMAJ5936B-TP	Zener	1	\$0.12	 SMA 37 mm ²

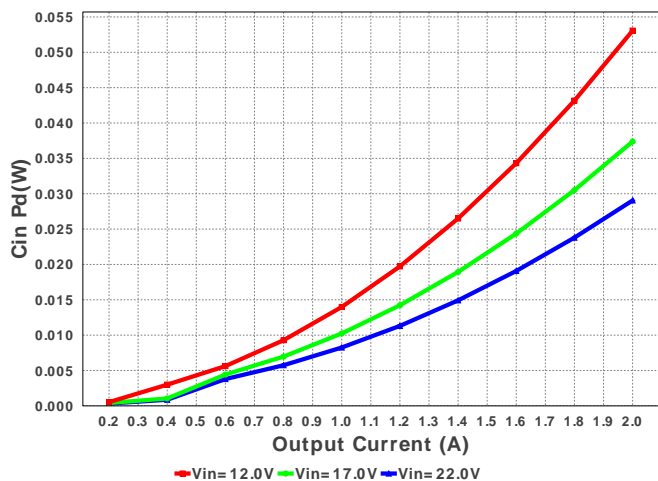
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
9.	HeatSink	Aavid	563002B00000G	Heatsink	1	\$0.46	 563002 403 mm ²
10.	Rcomp	Panasonic	ERJ-6ENF2941V Series= ERJ-6E	Res= 2.94 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
11.	Rfb1	Panasonic	ERJ-6ENF1001V Series= ERJ-6E	Res= 1000.0 Ohm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
12.	Rfb2	Panasonic	ERJ-6ENF3091V Series= ERJ-6E	Res= 3.09 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
13.	T1	Coiltronics	VPH4-0047-R	Lp= 71.46 µH Rp= 82.8 mOhm Leakage_L= 468.0 nH Ns1toNp= 0.333 Rs1= 82.8 mOhms Ns2toNp= 0.333 Rs2= 82.8 mOhms	1	\$5.63	 VP4 532 mm ²
14.	U1	Texas Instruments	LM2587T-ADJ/NOPB	Switcher	1	\$3.95	 TA07B 121 mm ²



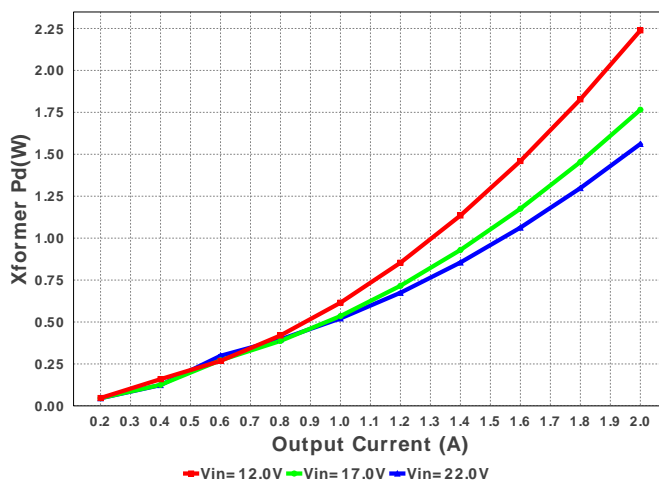




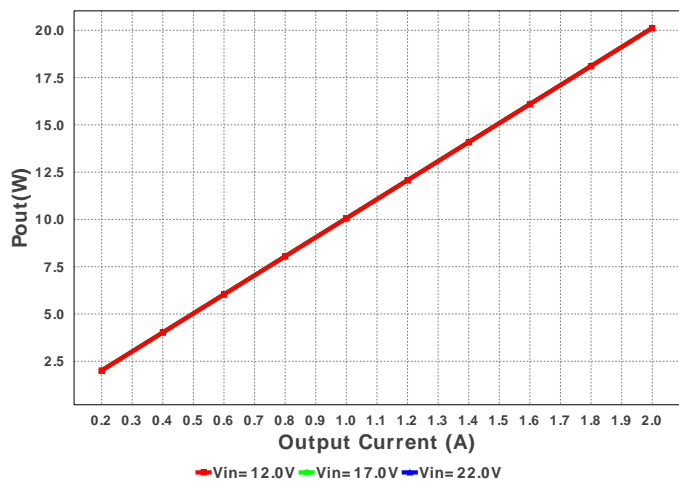
Cin Pd



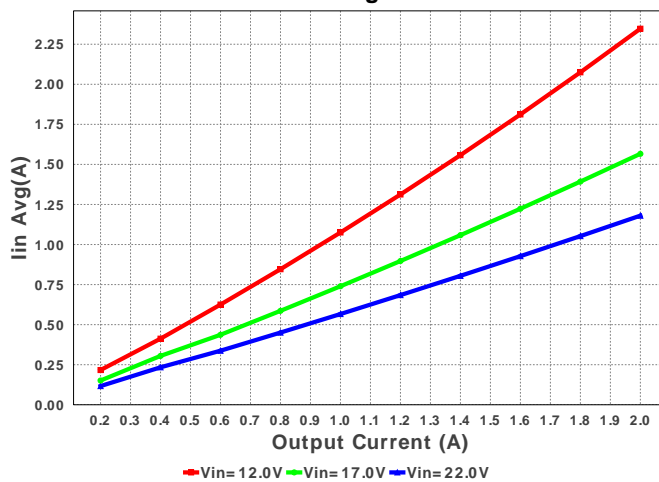
Xformer Pd



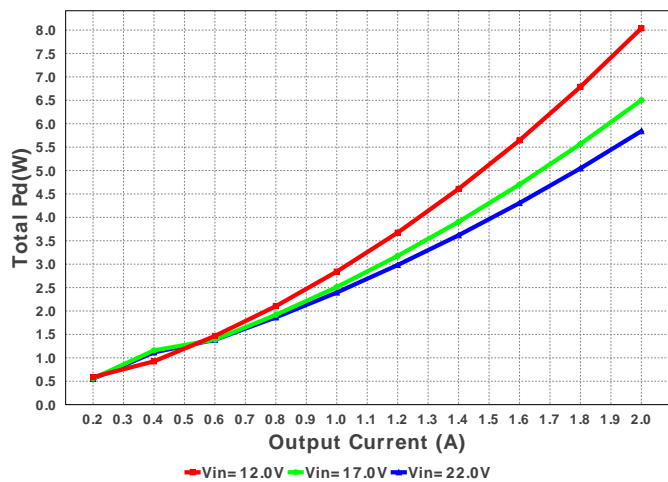
Pout



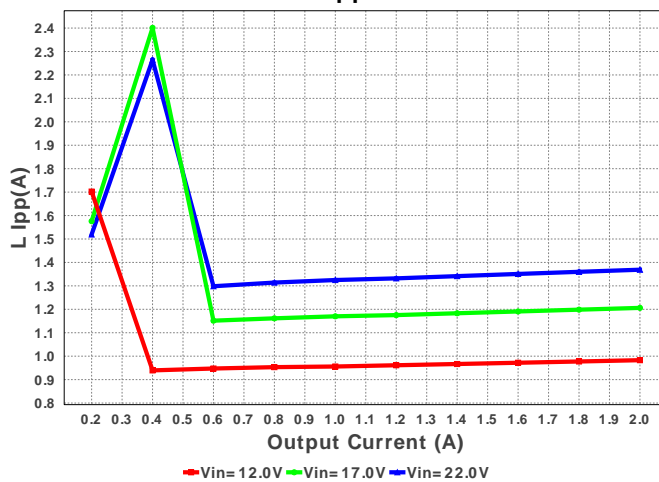
Iin Avg

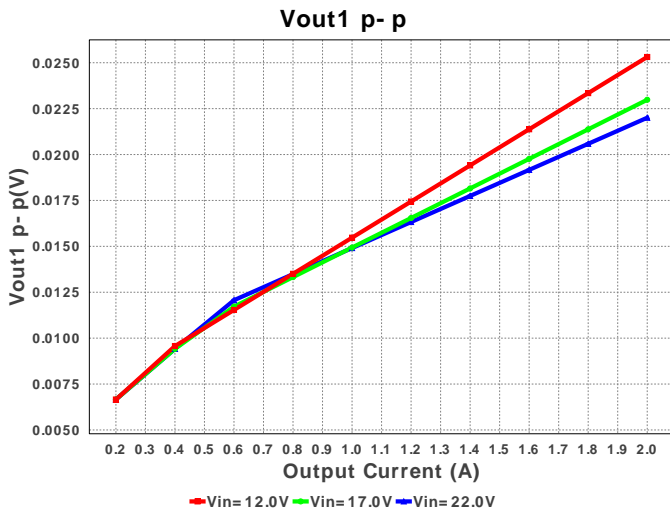
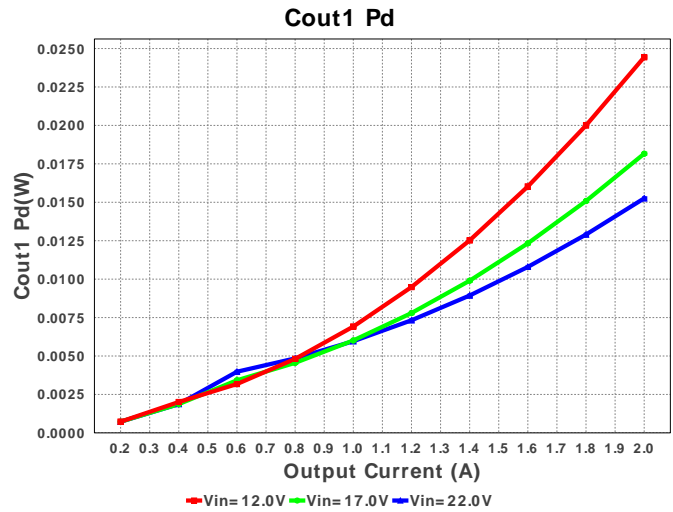
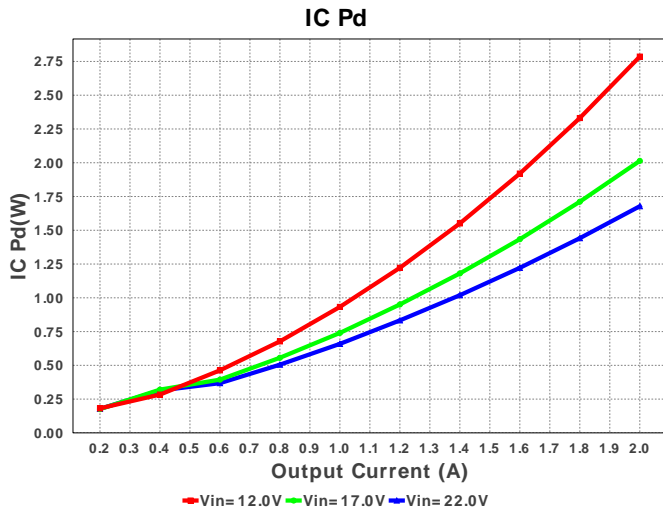


Total Pd



L Ipp





Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	1.701 A	Current	Input capacitor RMS ripple current
2.	Cout1 IRMS	2.578 A	Current	Output capacitor1 RMS ripple current
3.	Cout2 IRMS	2.578 A	Current	Output capacitor2 RMS ripple current
4.	IC Ipk	4.244 A	Current	Peak switch current
5.	Iin Avg	2.391 A	Current	Average input current
6.	L Ipp	1.046 A	Current	Peak-to-peak inductor ripple current
7.	BOM Count	18	General	Total Design BOM count
8.	FootPrint	2.391 k mm ²	General	Total Foot Print Area of BOM components
9.	Frequency	100.0 kHz	General	Switching frequency
10.	IC Tolerance	22.0 mV	General	IC Feedback Tolerance
11.	Pout	20.123 W	General	Total output power
12.	Total BOM	\$0.0	General	Total BOM Cost
13.	Vout1 OP	5.031 V	Op_Point	Operational Voltage 1
14.	Vout2 OP	-5.031 V	Op_Point	Operational Voltage 2
15.	Duty Cycle	64.171 %	Op_point	Duty cycle
16.	Efficiency	70.135 %	Op_point	Steady state efficiency
17.	IC Tj	90.249 degC	Op_point	IC junction temperature
18.	ICThetaJA	21.893 degC/W	Op_point	IC junction-to-ambient thermal resistance
19.	IOUT_OP	2.0 A	Op_point	Iout operating point
20.	VIN_OP	12.0 V	Op_point	Vin operating point
21.	Vout1 p-p	26.572 mV	Op_point	Peak-to-peak output1 ripple voltage
22.	Vout2 p-p	26.572 mV	Op_point	Peak-to-peak output2 ripple voltage
23.	Cin Pd	57.9 mW	Power	Input capacitor power dissipation
24.	Cout1 Pd	26.579 mW	Power	Output capacitor1 power dissipation
25.	Cout1 Pd	26.579 mW	Power	Output capacitor1 power dissipation
26.	Cout2 Pd	26.579 mW	Power	Output capacitor2 power dissipation
27.	Cout3 Pd	0.0 W	Power	Output capacitor3 power dissipation
28.	Diode1 Pd	1.0 W	Power	Diode1 power dissipation
29.	Diode2 Pd	1.0 W	Power	Diode2 power dissipation
30.	IC Pd	2.98 W	Power	IC power dissipation
31.	Total Pd	8.569 W	Power	Total Power Dissipation

#	Name	Value	Category	Description
32.	Xformer Pd	2.409 W	Power	Transformer power dissipation
33.	Zener Pd	1.062 W	Power	Zener power dissipation

Design Inputs

#	Name	Value	Description
1.	Iout	2.0	Maximum Output Current
2.	Iout1	2.0	Output Current #1
3.	Iout2	2.0	Output Current #2
4.	VinMax	22.0	Maximum input voltage
5.	VinMin	12.0	Minimum input voltage
6.	Vout	5.0	Output Voltage
7.	Vout1	5.0	Output Voltage #1
8.	Vout2	-5.0	Output Voltage #2
9.	base_pn	LM2587	Texas Instruments Base Part Number
10.	source	DC	Input Source Type
11.	ta	25.0	Ambient temperature

Design Assistance

1. LM2587 Product Folder : <http://www.ti.com/product/LM2587> : contains the data sheet and other resources.

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