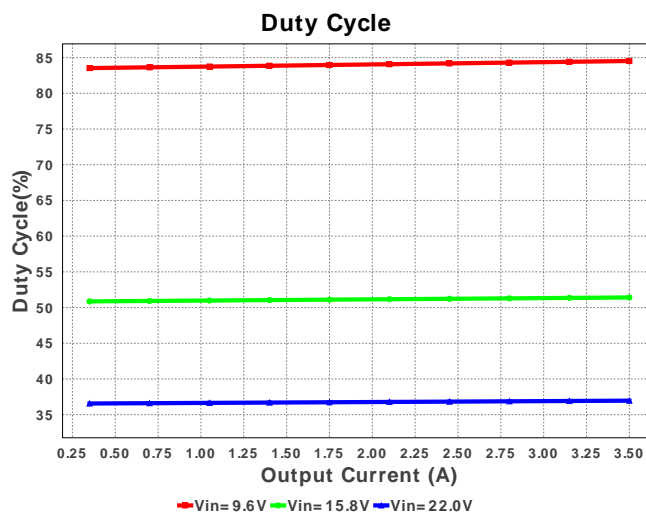
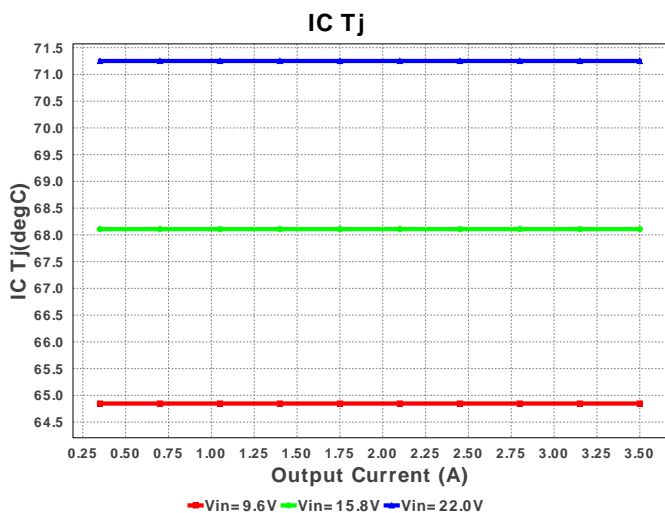
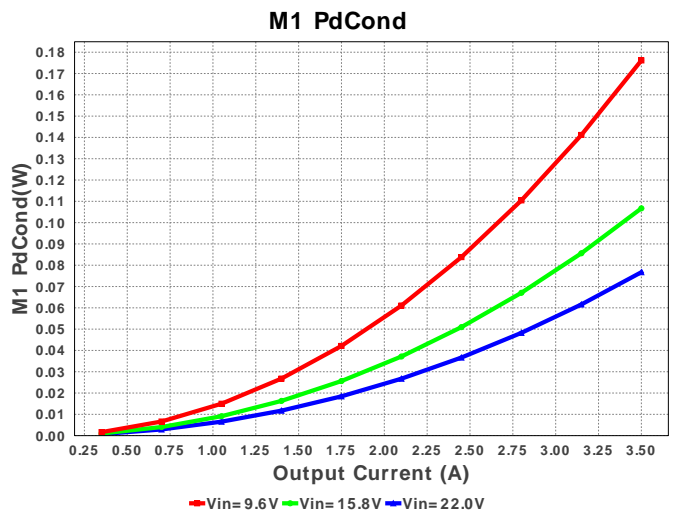
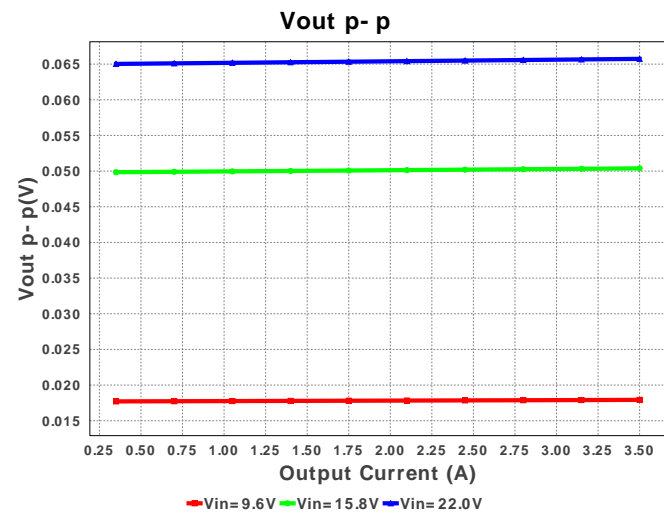
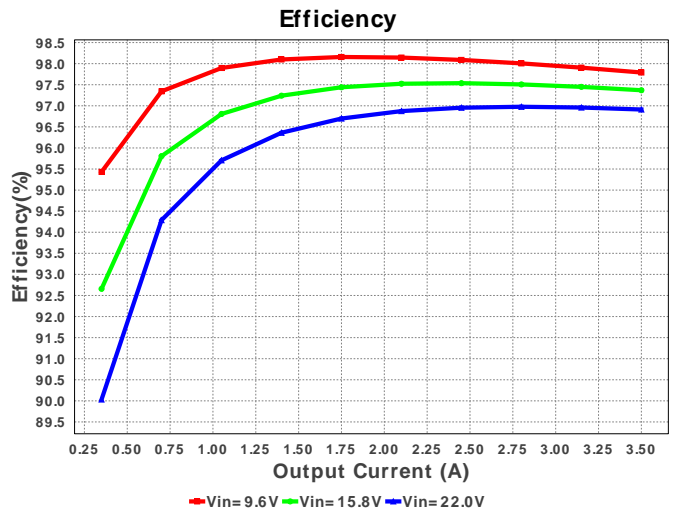
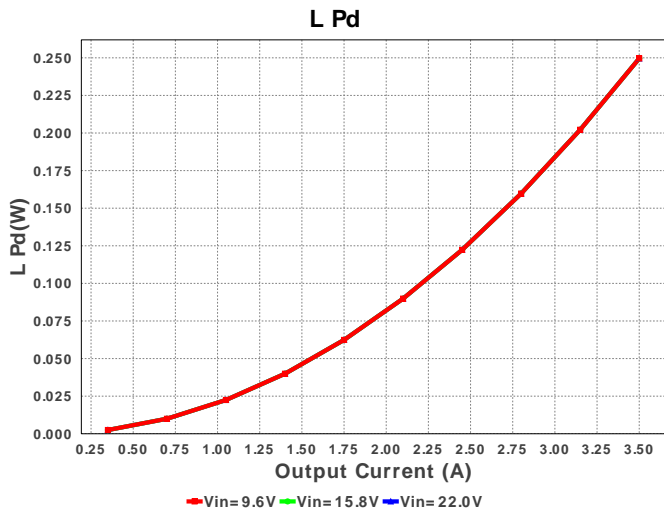
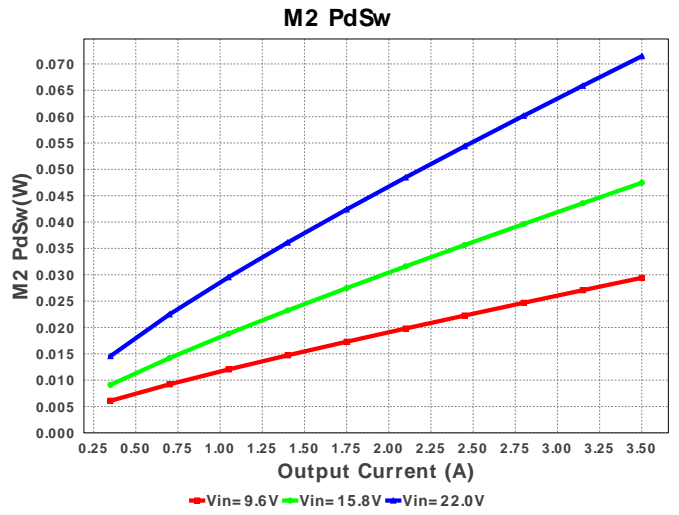
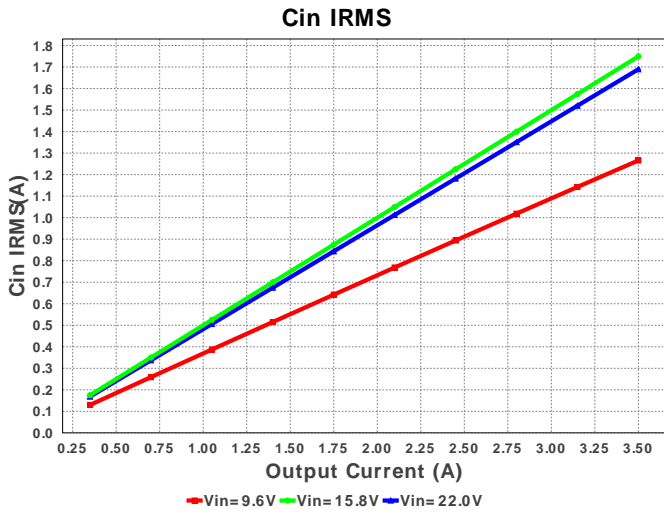
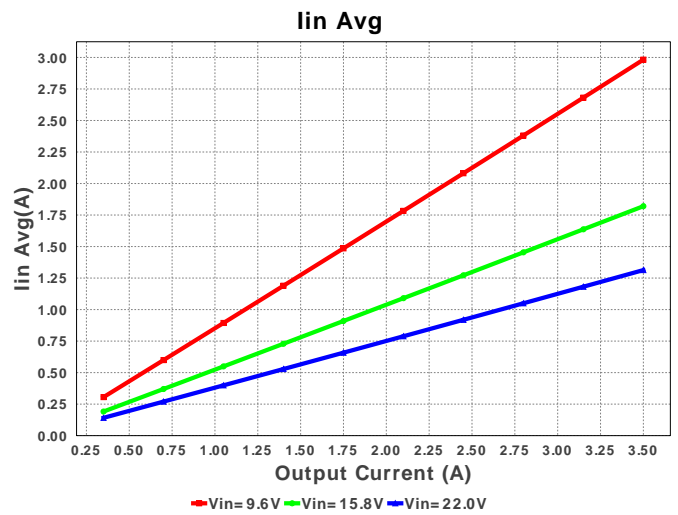
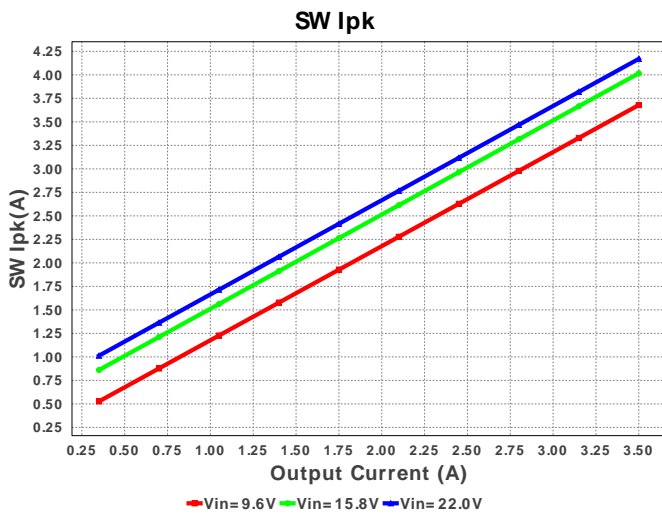
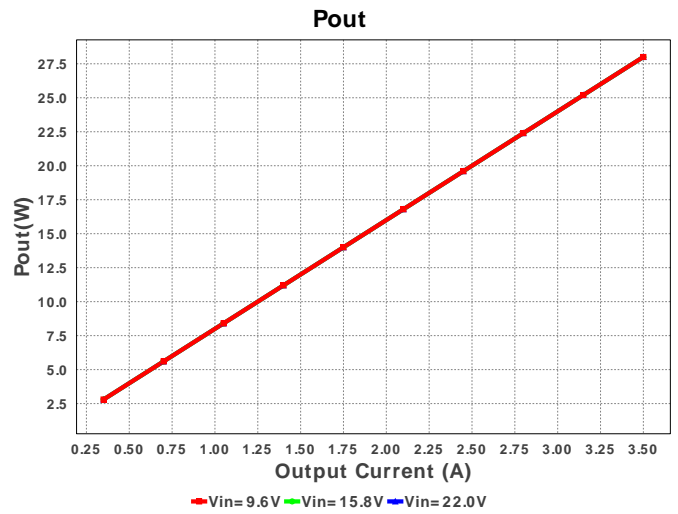
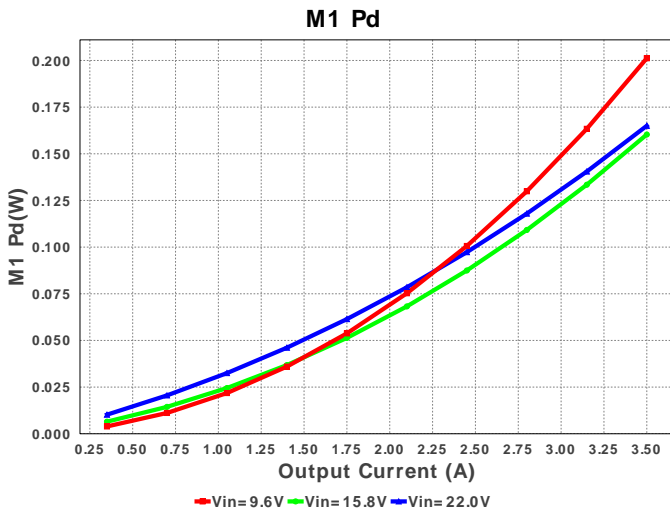
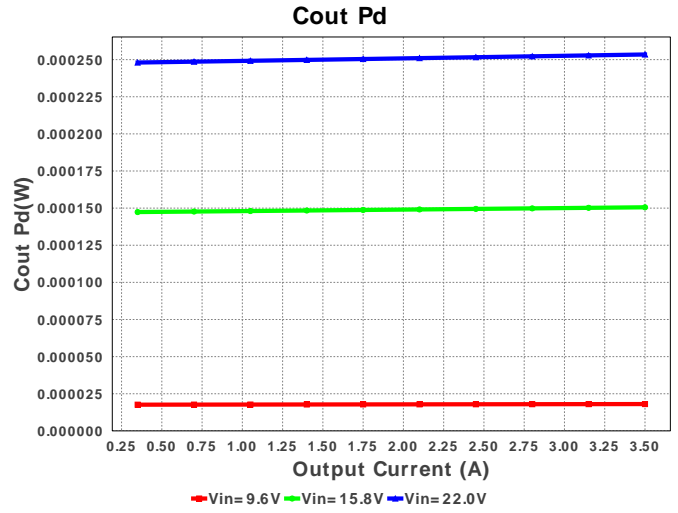
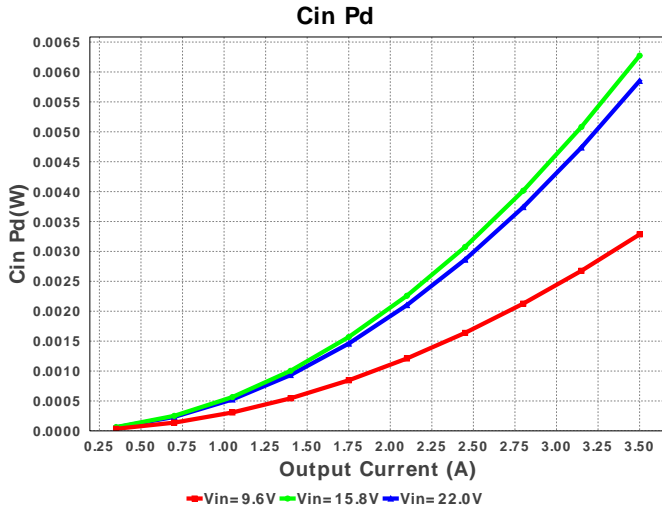
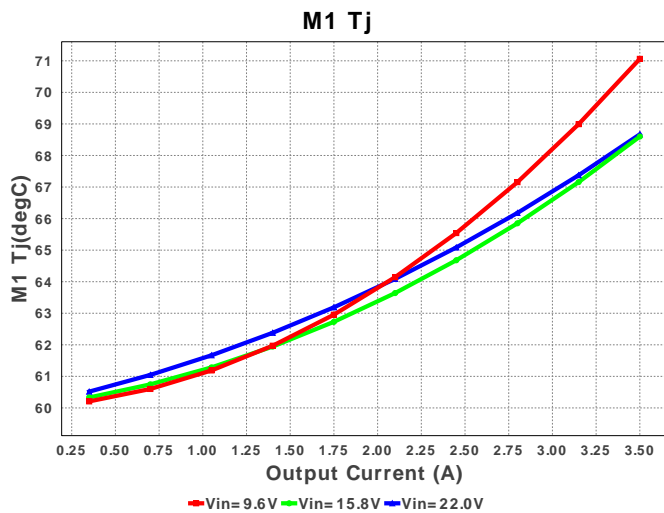
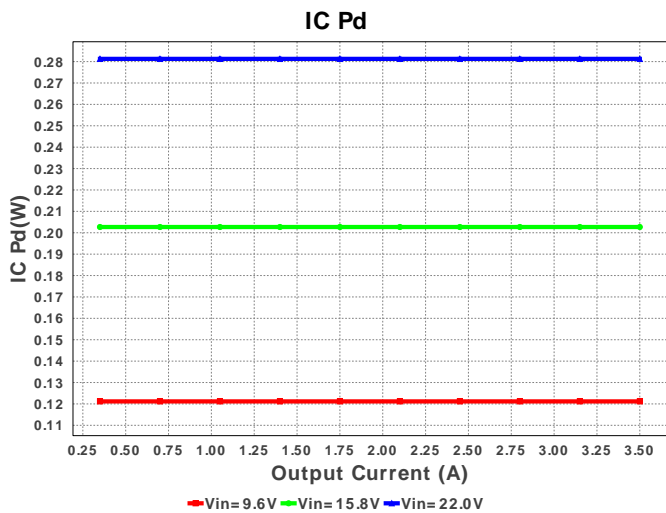
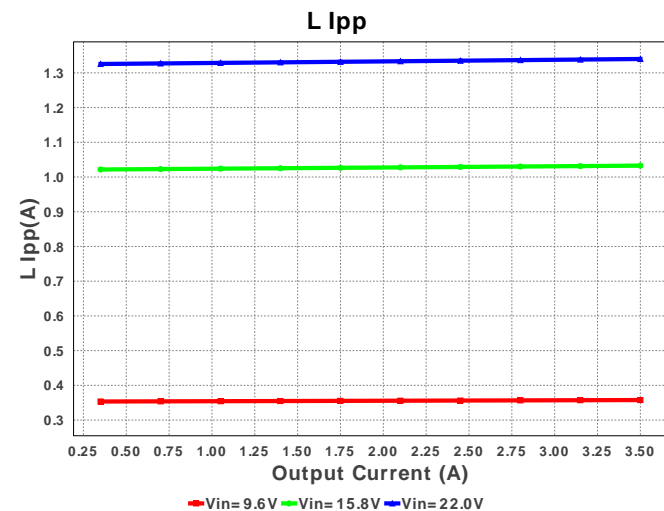
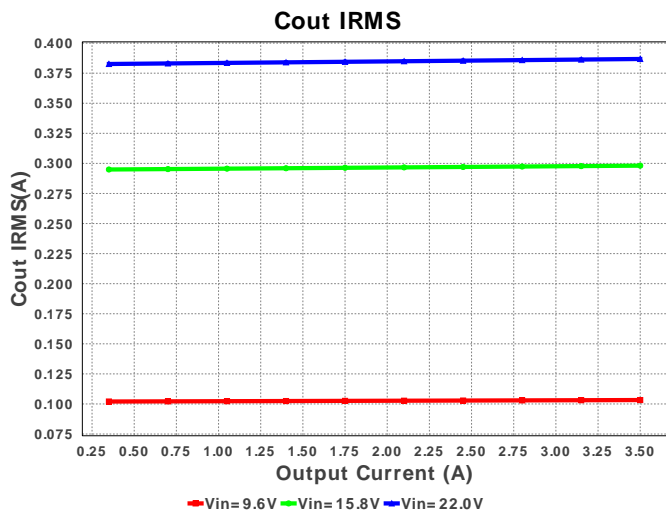
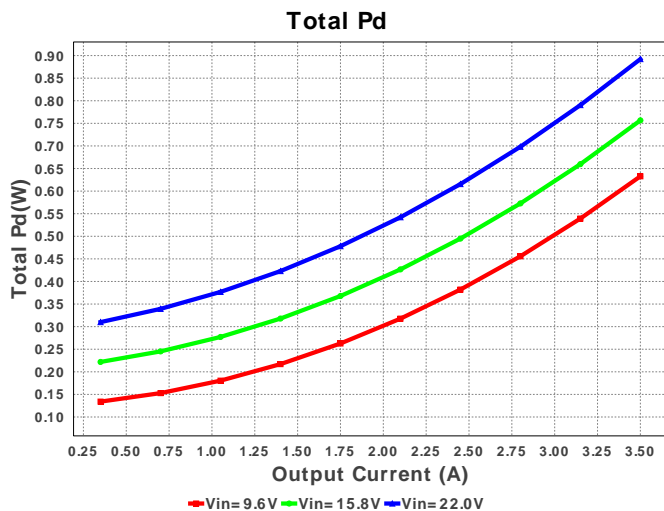
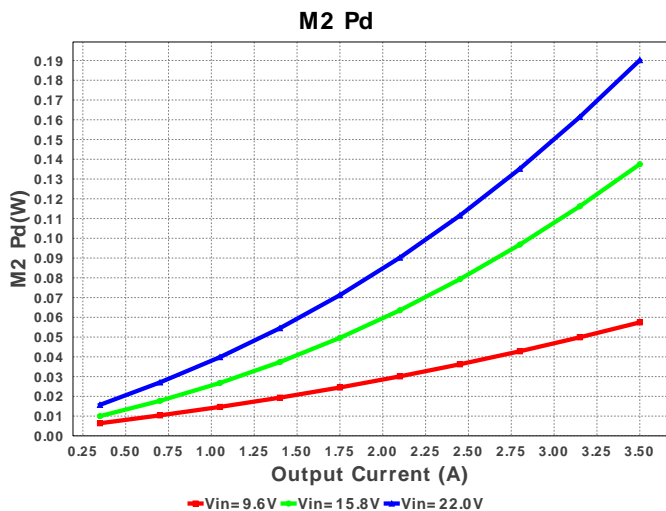


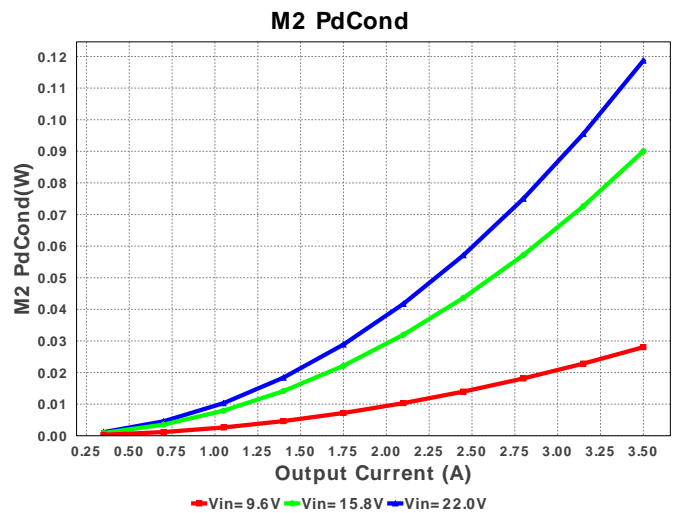
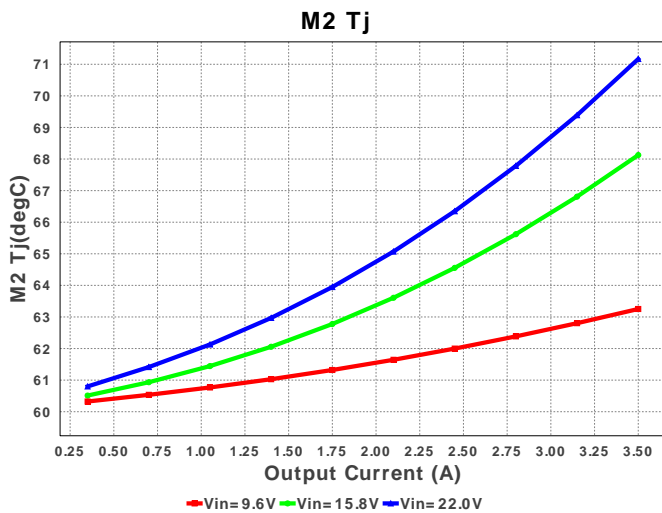
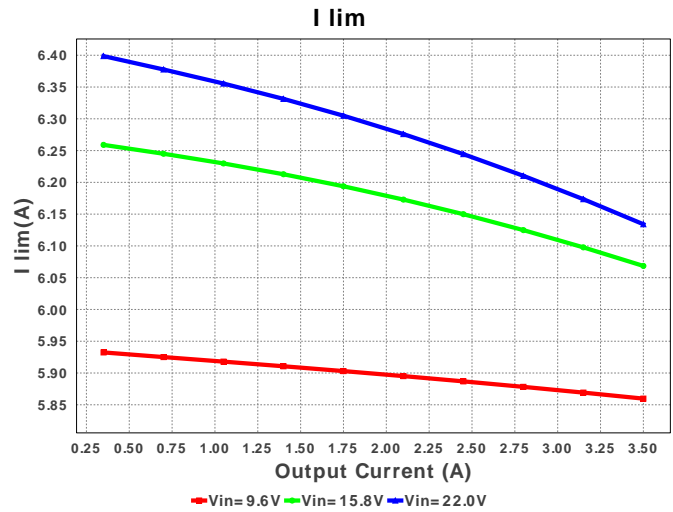
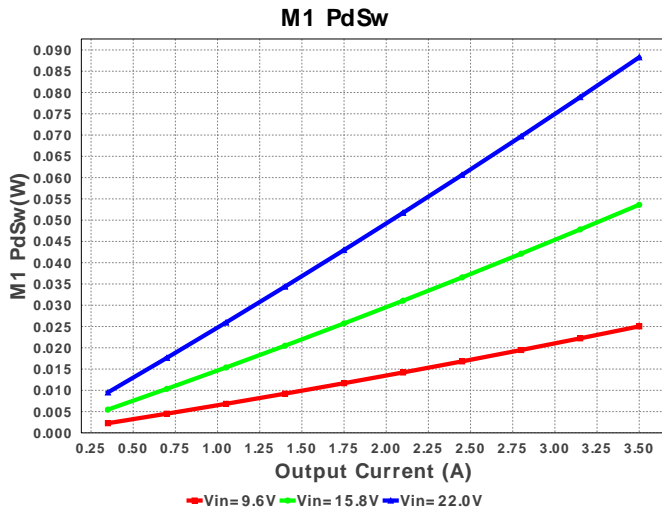
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
10.	M1	Texas Instruments	CSD17507Q5A	VdsMax= 30.0 V IdsMax= 65.0 Amps	1	\$0.22	 TRANS_NexFET_Q5A 55 mm ²
11.	M2	Texas Instruments	CSD18537NQ5A	VdsMax= 60.0 V IdsMax= 50.0 Amps	1	\$0.28	 TRANS_NexFET_Q5A 55 mm ²
12.	Rfb1	Panasonic	ERJ-6ENF1022V Series= ERJ-6E	Res= 10.2 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
13.	Rfb2	Panasonic	ERJ-6ENF1243V Series= ERJ-6E	Res= 124.0 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
14.	Rilim	Panasonic	ERJ-6ENF1051V Series= ERJ-6E	Res= 1.05 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
15.	Ron	Panasonic	ERJ-6ENF1873V Series= ERJ-6E	Res= 187.0 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
16.	Rr	Vishay-Dale	CRCW08053M48FKEA Series= CRCW..e3	Res= 3.48 MOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
17.	U1	Texas Instruments	LM3150MH/NOPB	Switcher	1	\$1.62	 MXA14A 59 mm ²











Operating Values

#	Name	Value	Category	Description
1.	BOM Count	17		Total Design BOM count
2.	Total BOM	\$5.86		Total BOM Cost
3.	Cin IRMS	1.689 A	Current	Input capacitor RMS ripple current
4.	Cout IRMS	386.811 mA	Current	Output capacitor RMS ripple current
5.	I lim	6.134 A	Current	Current limit threshold
6.	Iin Avg	1.313 A	Current	Average input current
7.	L Ipp	1.34 A	Current	Peak-to-peak inductor ripple current
8.	SW Ipk	4.17 A	Current	Peak switch current
9.	FootPrint	337.0 mm ²	General	Total Foot Print Area of BOM components
10.	Frequency	386.172 kHz	General	Switching frequency
11.	IC Tolerance	12.0 mV	General	IC Feedback Tolerance
12.	Mode	CCM	General	Conduction Mode
13.	Pout	28.0 W	General	Total output power
14.	Vout Actual	7.894 V	Op_point	Vout Actual calculated based on selected voltage divider resistors
15.	Duty Cycle	36.961 %	Op_point	Duty cycle
16.	Efficiency	96.912 %	Op_point	Steady state efficiency
17.	IC Tj	71.251 degC	Op_point	IC junction temperature
18.	IOUT_OP	3.5 A	Op_point	Iout operating point
19.	M1 Tj	68.67 degC	Op_point	M1 MOSFET junction temperature
20.	M2 Tj	71.168 degC	Op_point	M2 MOSFET junction temperature
21.	VIN_OP	22.0 V	Op_point	Vin operating point
22.	Vout p-p	65.738 mV	Op_point	Peak-to-peak output ripple voltage
23.	Cin Pd	5.851 mW	Power	Input capacitor power dissipation
24.	Cout Pd	253.461 μW	Power	Output capacitor power dissipation
25.	IC Pd	281.275 mW	Power	IC power dissipation
26.	L Pd	249.594 mW	Power	Inductor power dissipation
27.	M1 Pd	165.005 mW	Power	M1 MOSFET total power dissipation
28.	M1 PdCond	76.722 mW	Power	M1 MOSFET conduction losses
29.	M1 PdSw	88.283 mW	Power	M1 MOSFET switching losses
30.	M2 Pd	190.182 mW	Power	M2 MOSFET total power dissipation
31.	M2 PdCond	118.715 mW	Power	M2 MOSFET conduction losses

#	Name	Value	Category	Description
32.	M2 PdSw	71.468 mW	Power	M2 MOSFET switching losses
33.	Total Pd	892.203 mW	Power	Total Power Dissipation
34.	Vout Tolerance	3.904 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	3.5	Maximum Output Current
2.	VinMax	22.0	Maximum input voltage
3.	VinMin	9.6	Minimum input voltage
4.	VinTyp	14.4	Typical input voltage
5.	Vout	8.0	Output Voltage
6.	base_pn	LM3150	Base Product Number
7.	source	DC	Input Source Type
8.	Ta	60.0	Ambient temperature

Design Assistance

1. **LM3150** Product Folder : <http://www.ti.com/product/LM3150> : contains the data sheet and other resources.

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