







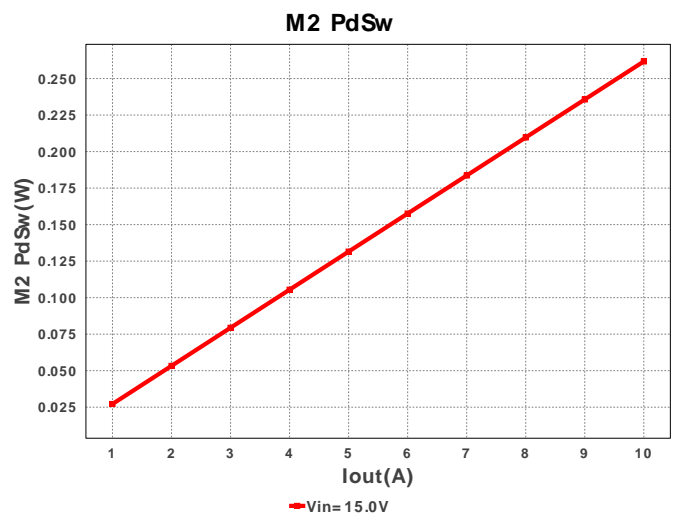
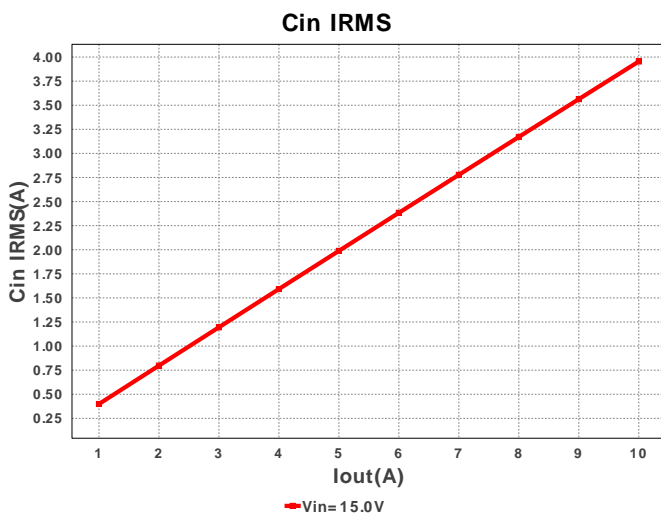
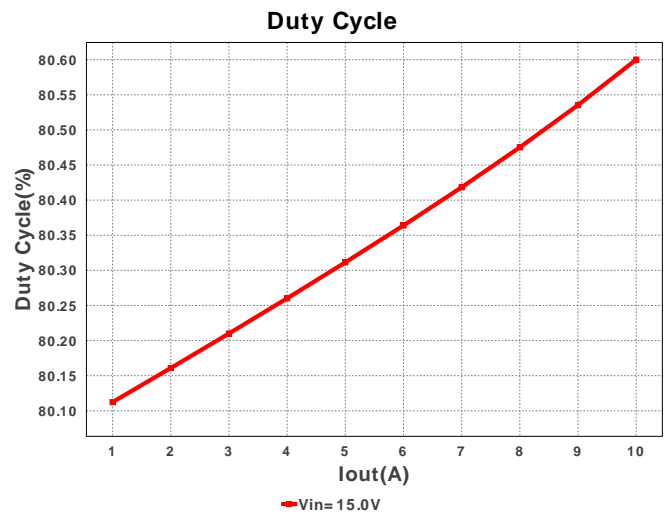
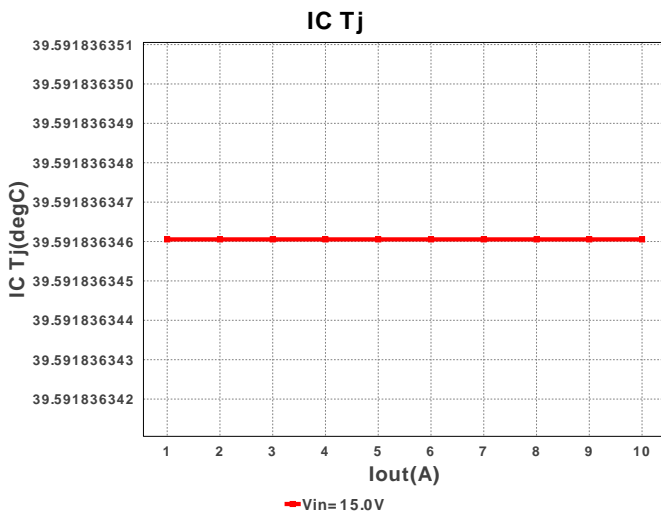
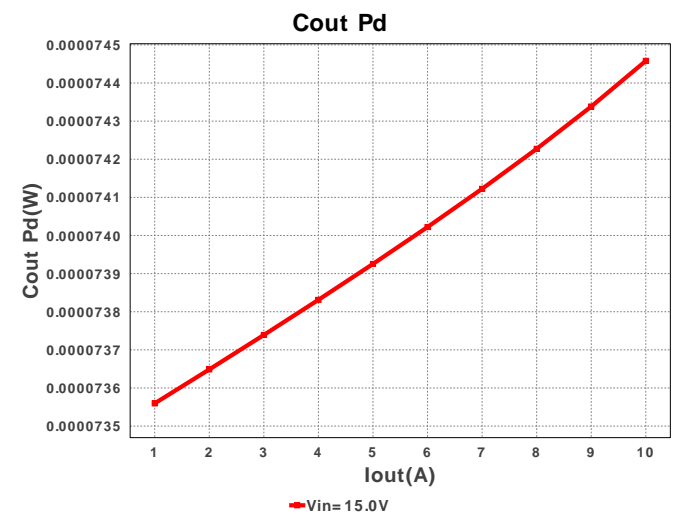
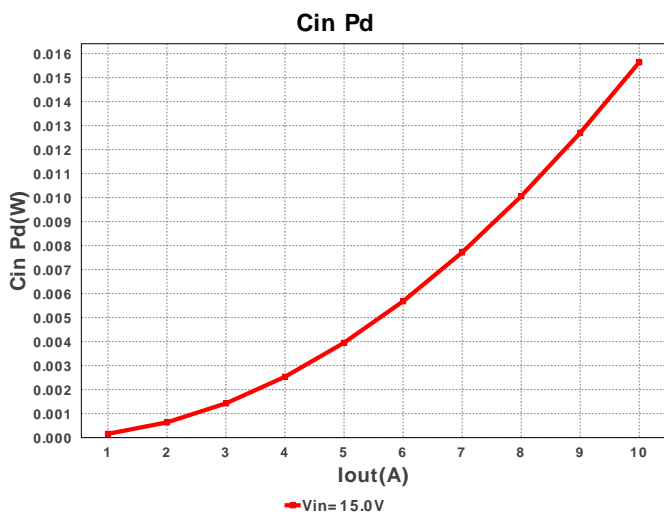
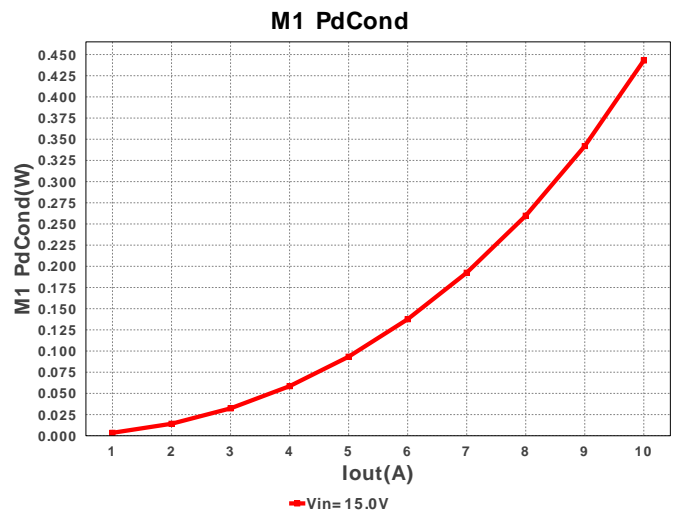
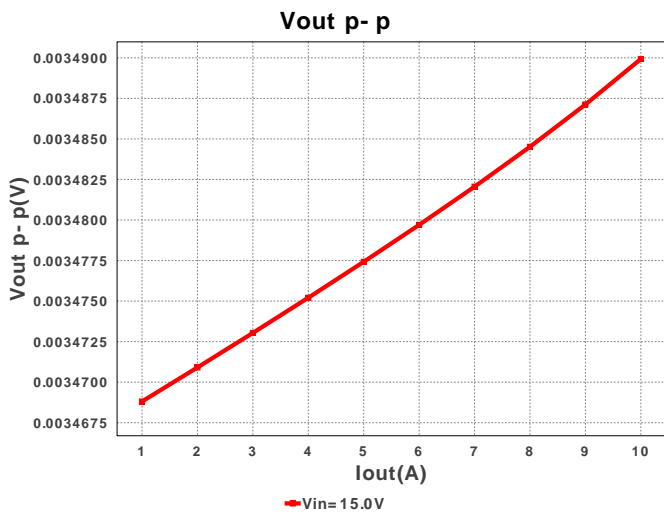
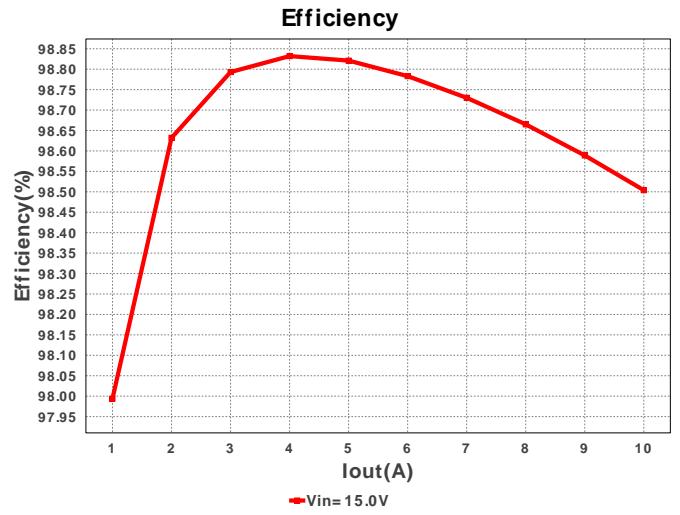
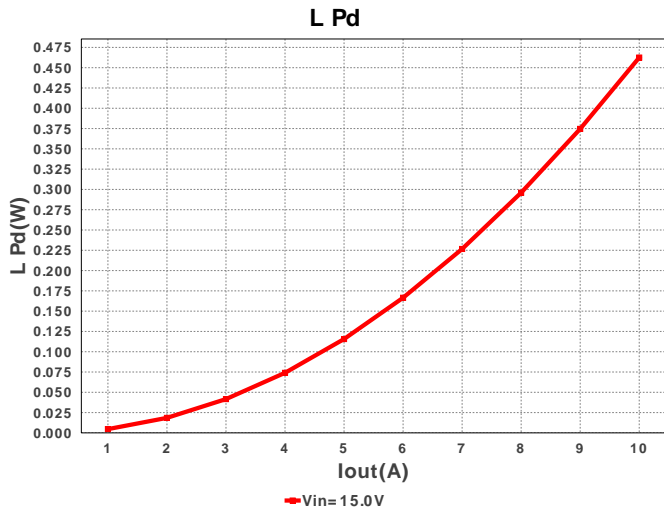
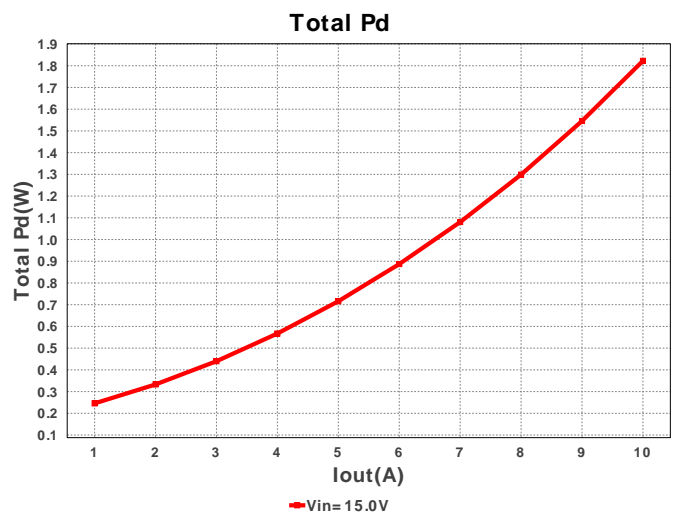
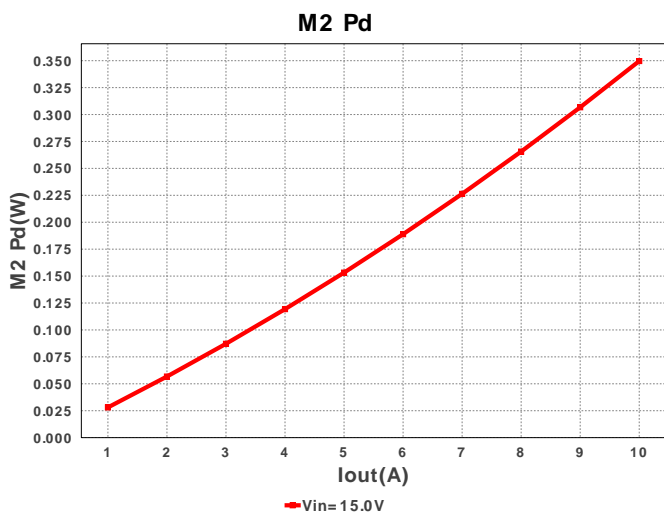
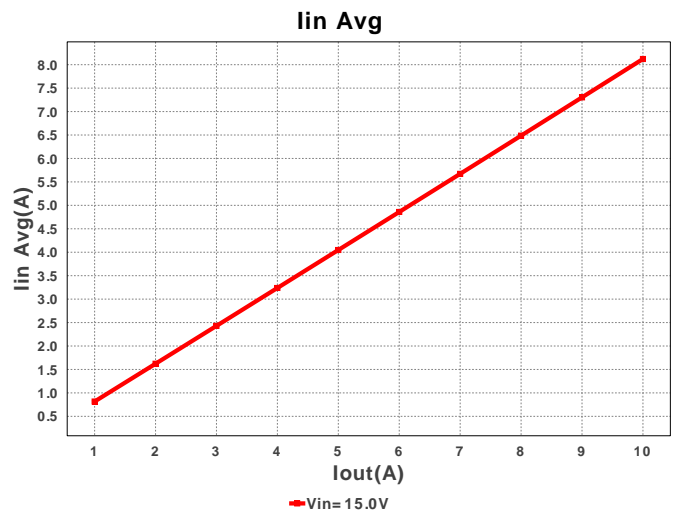
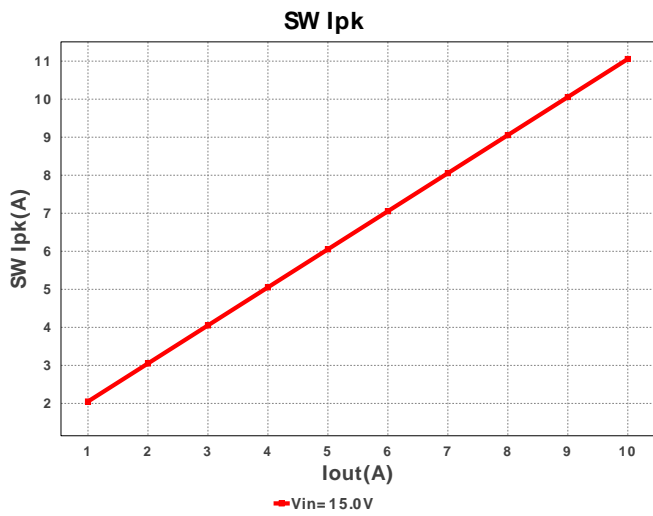
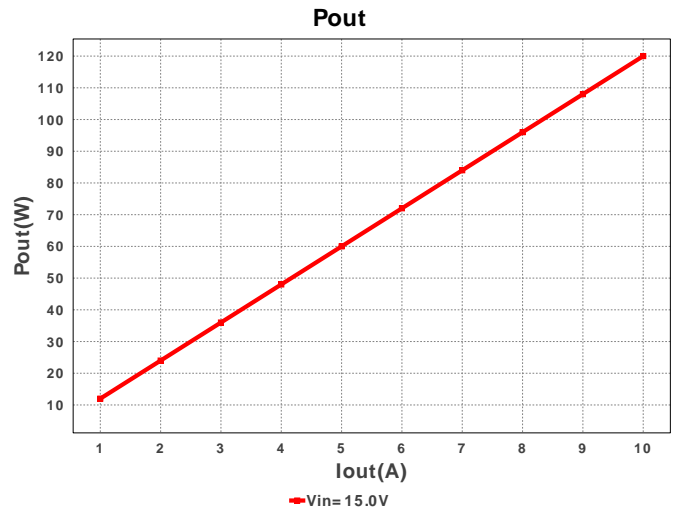
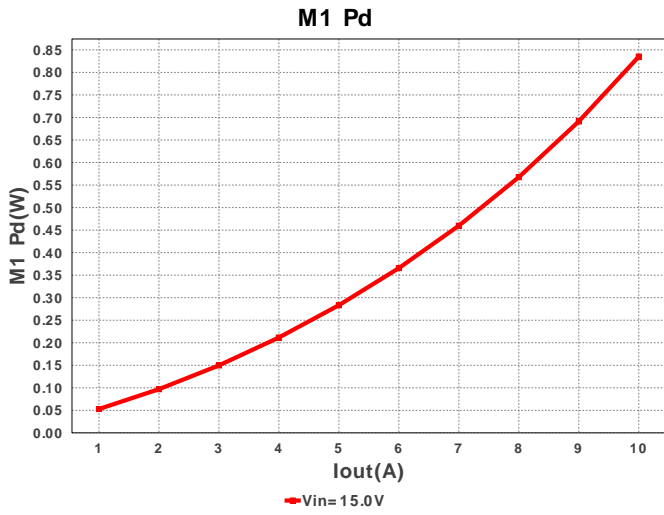
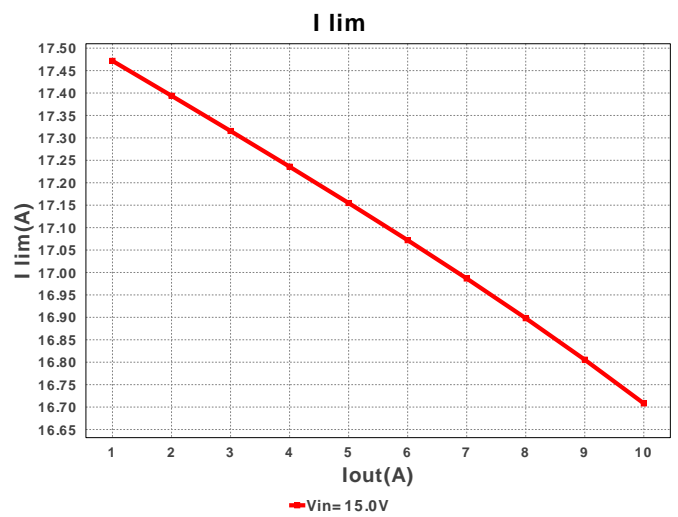
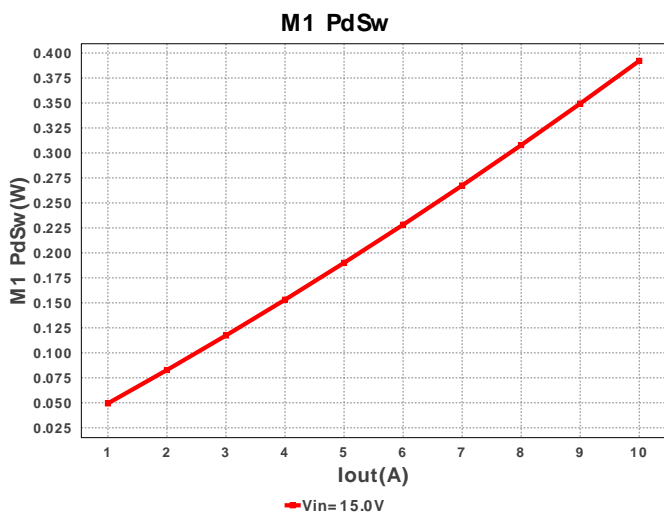
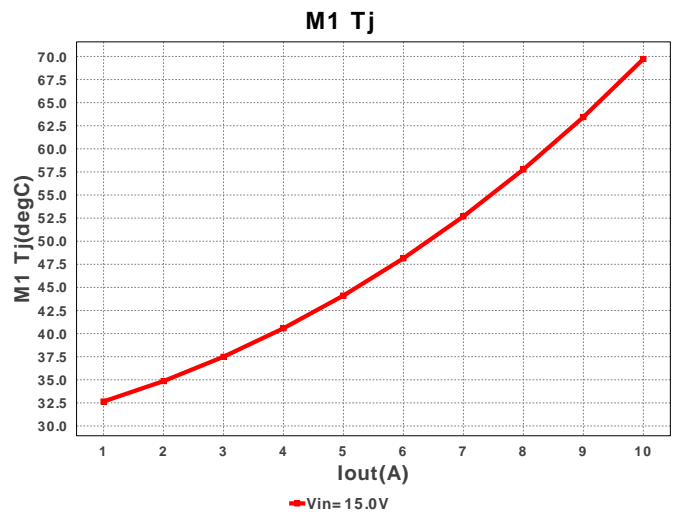
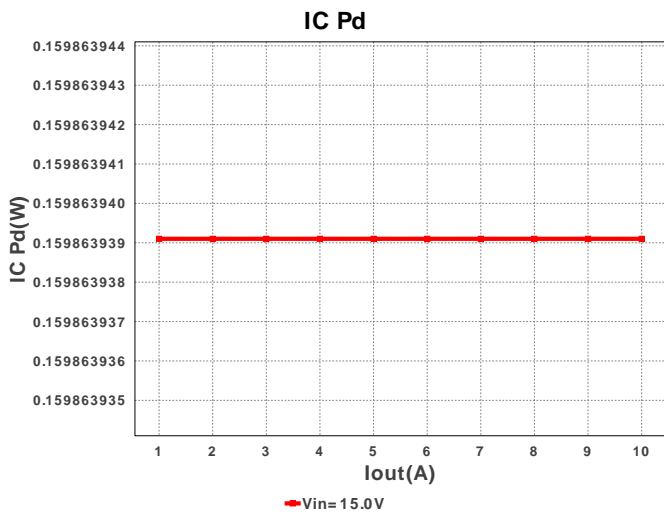
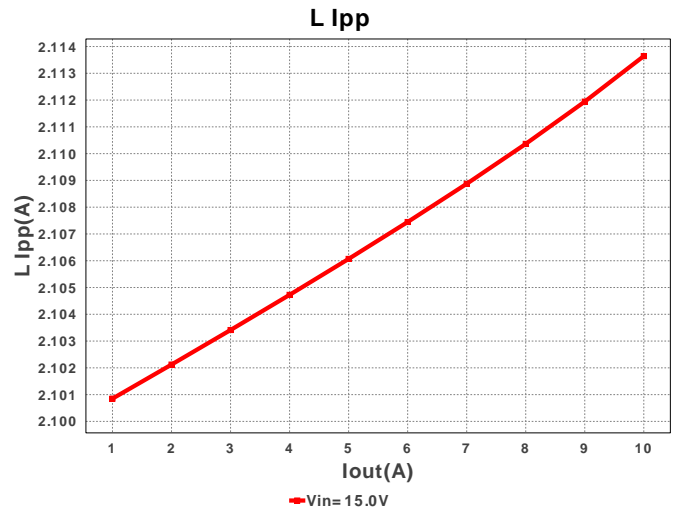
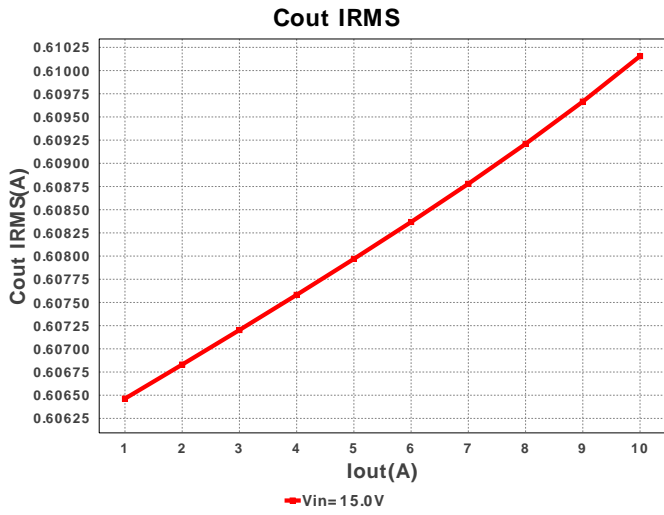


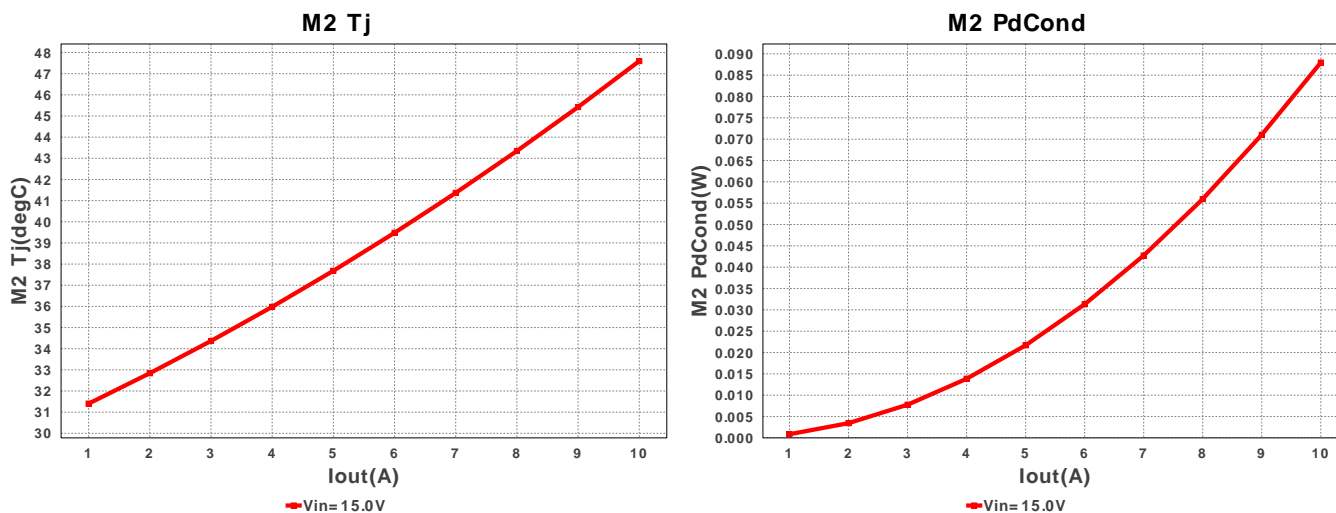
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
10.	M1	Texas Instruments	CSD16342Q5A	VdsMax= 25.0 V IdsMax= 100.0 Amps	1	\$0.47	 TRANS_NexFET_Q5A 55mm2
11.	M2	Texas Instruments	CSD16342Q5A	VdsMax= 25.0 V IdsMax= 100.0 Amps	1	\$0.47	 TRANS_NexFET_Q5A 55mm2
12.	Rfb1	Panasonic	ERJ-6ENF1002V Series= 225	Res= 10.0 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7mm2
13.	Rfb2	Panasonic	ERJ-6ENF1913V Series= 225	Res= 191.0 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7mm2
14.	Rilim	Vishay-Dale	CRCW0805887RFKEA Series= CRCW..e3	Res= 887.0 Ohm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7mm2
15.	Ron	Panasonic	ERJ-6ENF3163V Series= 225	Res= 316.0 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7mm2
16.	Rr	Panasonic	ERJ-6ENF6493V Series= 225	Res= 649.0 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7mm2
17.	U1	Texas Instruments	LM3150MHX/NOPB	Switcher	1	\$1.55	 MXA14A 59mm2











Operating Values

#	Name	Value	Category	Description
1.	BOM Count	27		Total Design BOM count
2.	Total BOM	\$6.27		Total BOM Cost
3.	Cin IRMS	3.954 A	Current	Input capacitor RMS ripple current
4.	Cout IRMS	610.156 mA	Current	Output capacitor RMS ripple current
5.	I lim	16.708 A	Current	Current limit threshold
6.	Iin Avg	8.122 A	Current	Average input current
7.	L Ipp	2.114 A	Current	Peak-to-peak inductor ripple current
8.	SW Ipk	11.057 A	Current	Peak switch current
9.	FootPrint	579.0 mm ²	General	Total Foot Print Area of BOM components
10.	Frequency	346.666 kHz	General	Switching frequency
11.	IC Tolerance	12.0 mV	General	IC Feedback Tolerance
12.	Pout	120.0 W	General	Total output power
13.	Duty Cycle	80.6 %	Op_point	Duty cycle
14.	Efficiency	98.504 %	Op_point	Steady state efficiency
15.	IC Tj	39.592 degC	Op_point	IC junction temperature
16.	IOUT_OP	10.0 A	Op_point	Iout operating point
17.	M1 Tj	69.726 degC	Op_point	M1 MOSFET junction temperature
18.	M2 Tj	47.595 degC	Op_point	M2 MOSFET junction temperature
19.	VIN_OP	15.0 V	Op_point	Vin operating point
20.	Vout p-p	3.49 mV	Op_point	Peak-to-peak output ripple voltage
21.	Cin Pd	15.636 mW	Power	Input capacitor power dissipation
22.	Cout Pd	74.458 μ W	Power	Output capacitor power dissipation
23.	IC Pd	159.864 mW	Power	IC power dissipation
24.	L Pd	462.5 mW	Power	Inductor power dissipation
25.	M1 Pd	835.111 mW	Power	M1 MOSFET total power dissipation
26.	M1 PdCond	442.984 mW	Power	M1 MOSFET conduction losses
27.	M1 PdSw	392.127 mW	Power	M1 MOSFET switching losses
28.	M2 Pd	349.652 mW	Power	M2 MOSFET total power dissipation
29.	M2 PdCond	87.955 mW	Power	M2 MOSFET conduction losses
30.	M2 PdSw	261.698 mW	Power	M2 MOSFET switching losses
31.	Total Pd	1.822 W	Power	Total Power Dissipation

Design Inputs

#	Name	Value	Description
1.	Iout	10.0 A	Maximum Output Current
2.	Iout1	10.0 Amps	Output Current #1
3.	SoftStart	1.0 ms	Soft Start Time (ms)
4.	VinMax	15.0 V	Maximum input voltage
5.	VinMin	15.0 V	Minimum input voltage
6.	Vout	12.0 V	Output Voltage
7.	Vout1	12.0 Volt	Output Voltage #1
8.	base_pn	LM3150	Base Product Number
9.	source	DC	Input Source Type
10.	Ta	30.0 degC	Ambient temperature
11.	UserFsw	350.0 kHz	Customer Selected Frequency

Design Assistance

1. **LM3150** Product Folder : <http://www.ti.com/product/lm3150> : contains the data sheet and other resources.

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