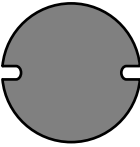
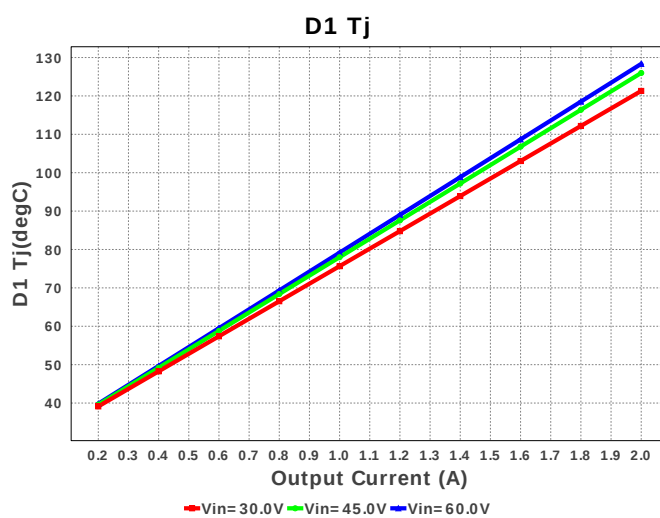
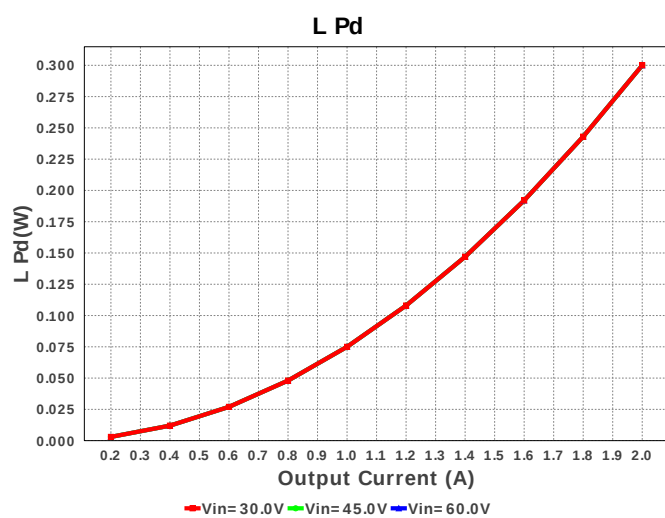
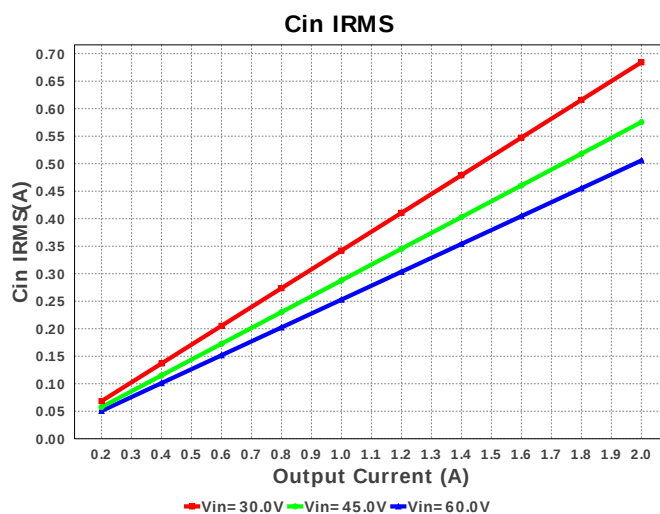
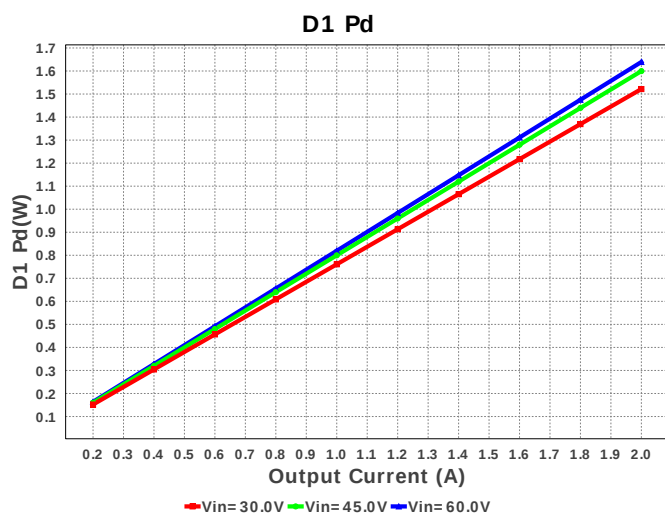
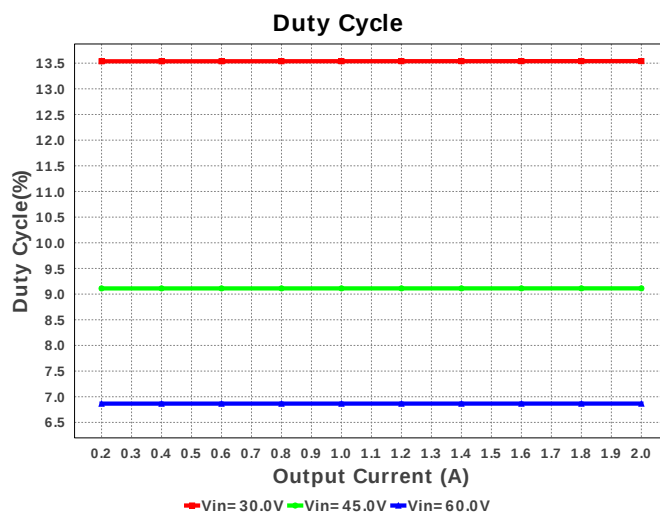
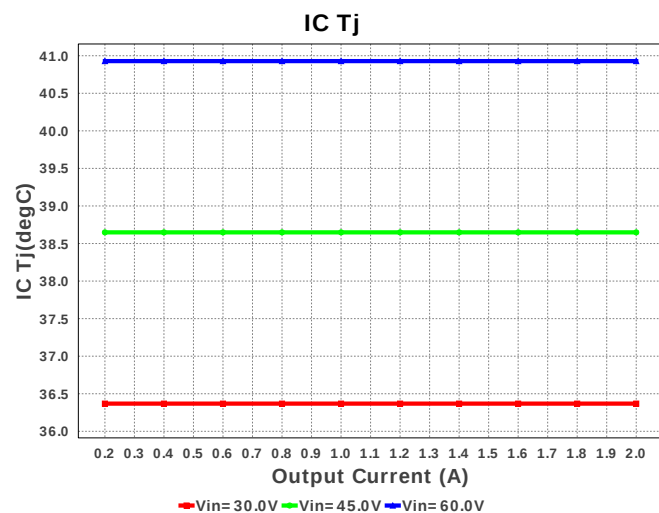
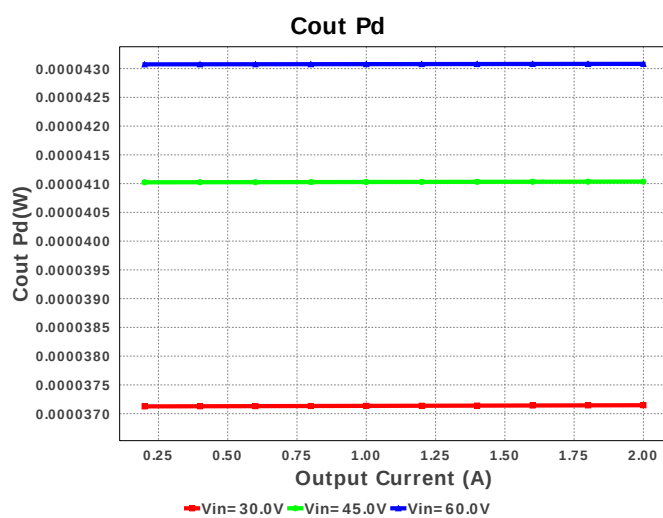
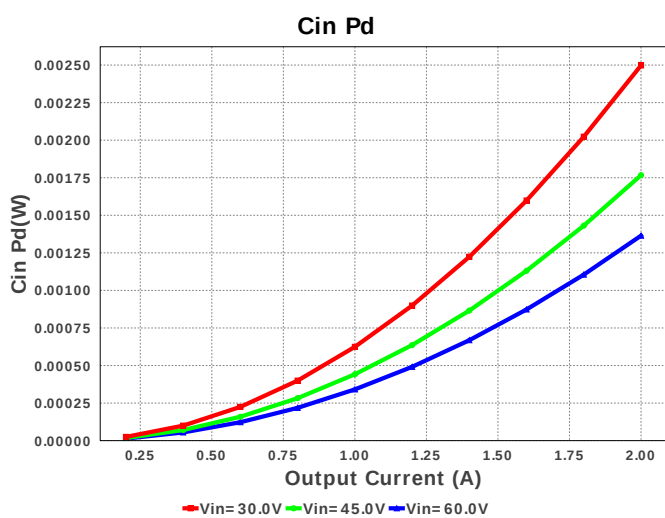
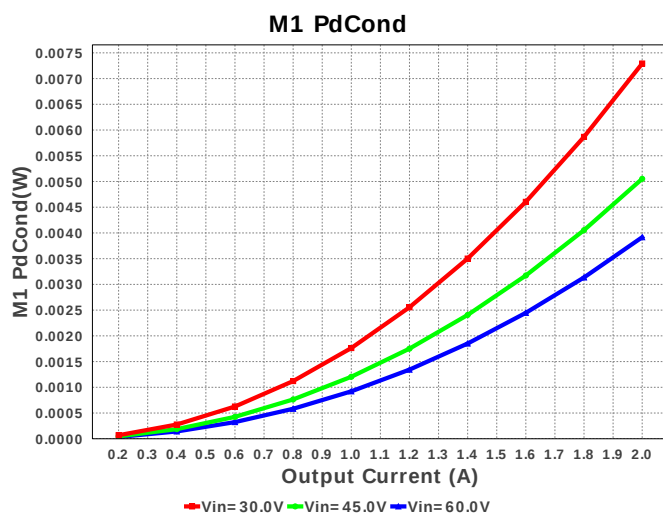
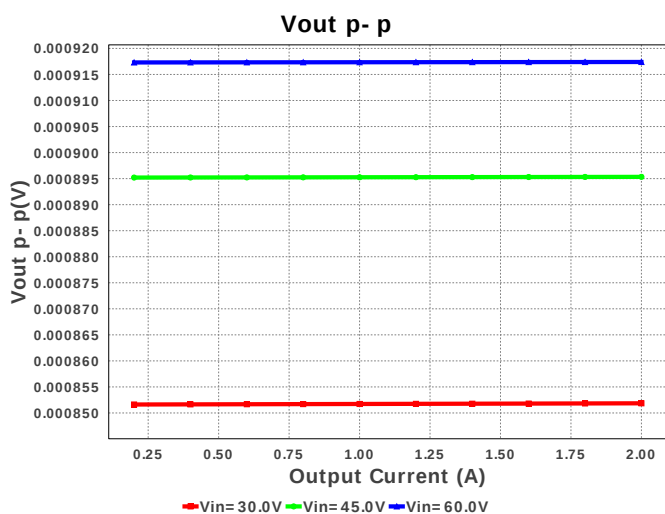
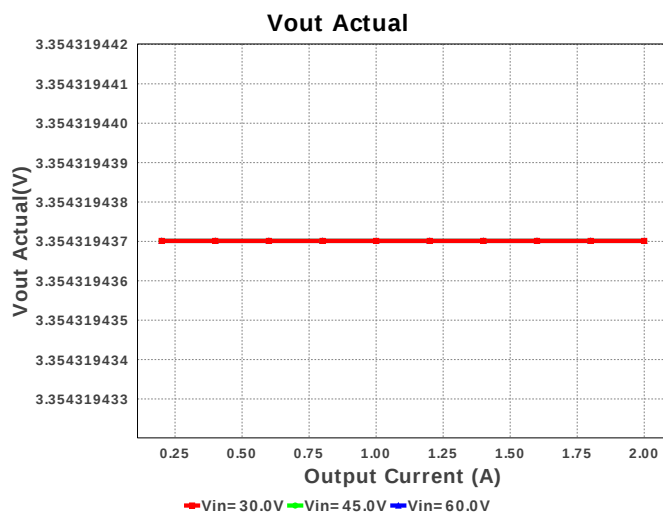
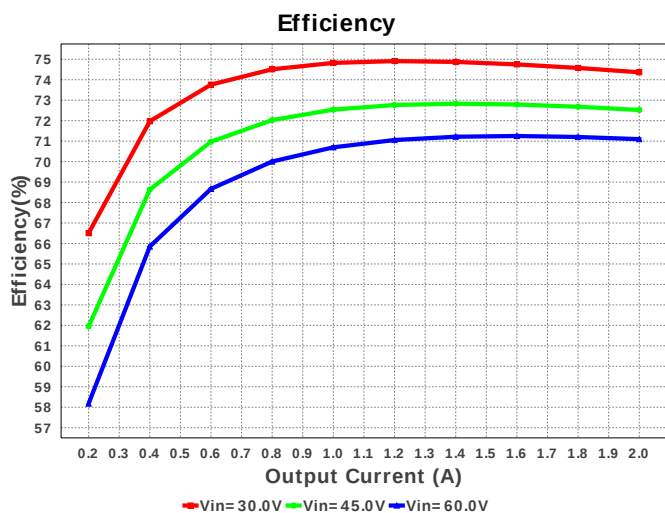


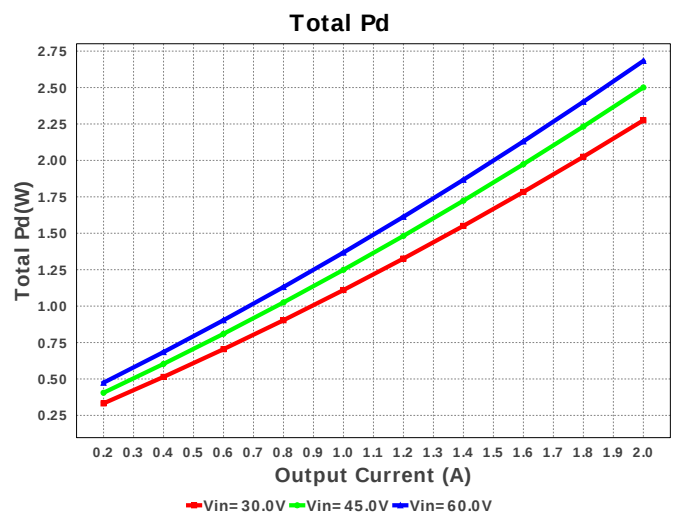
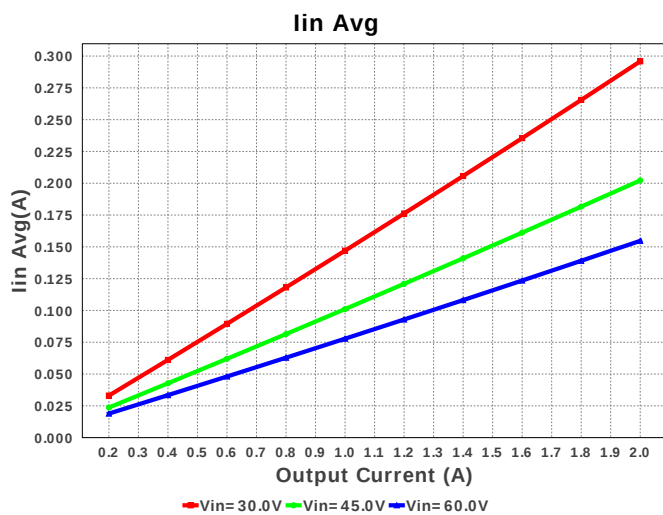
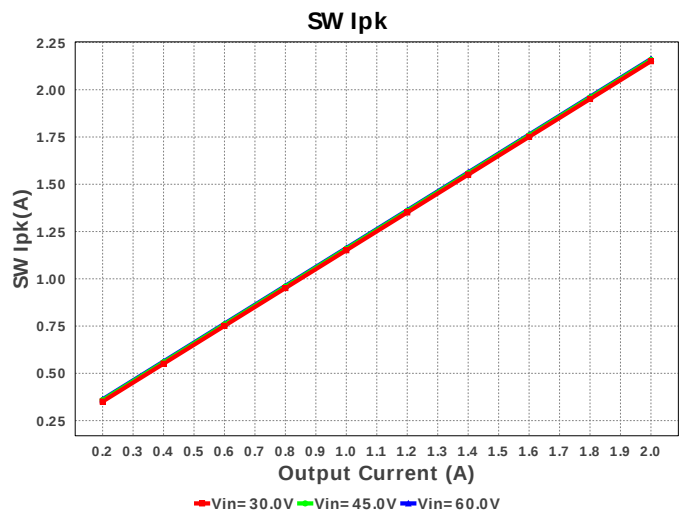
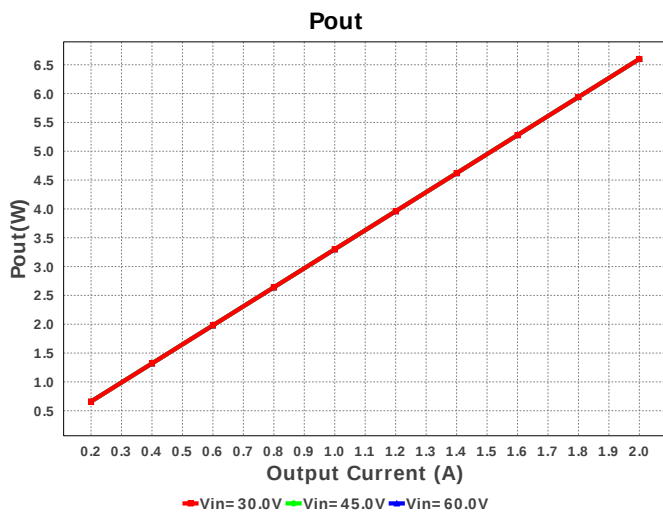
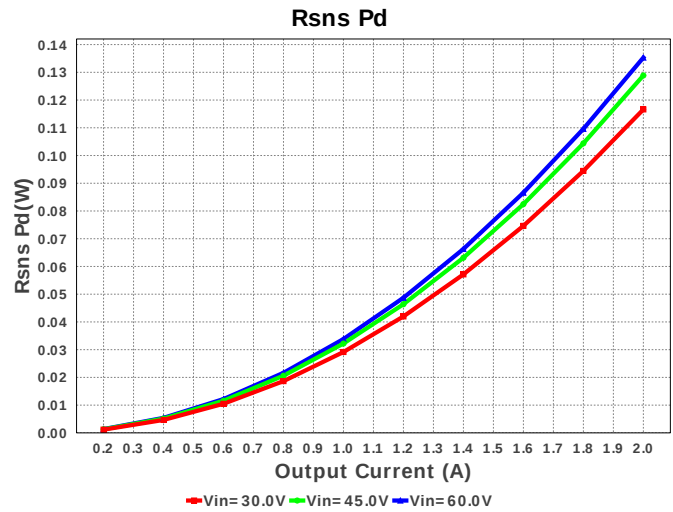
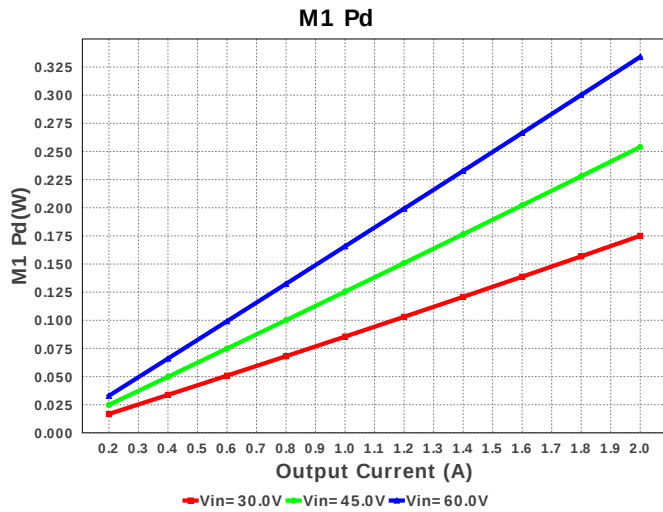


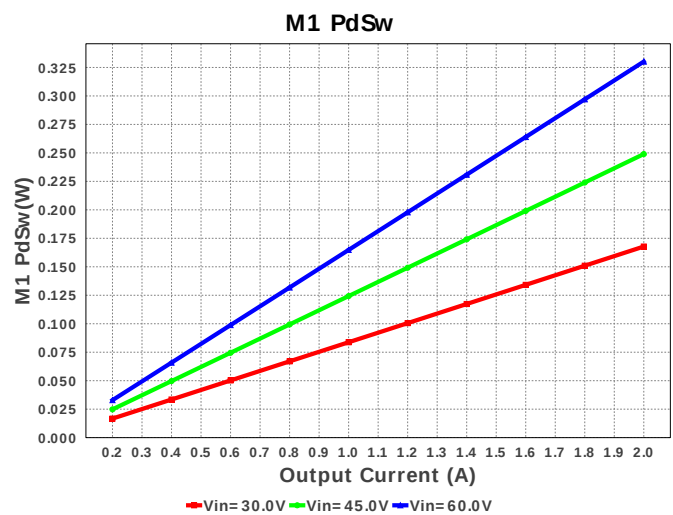
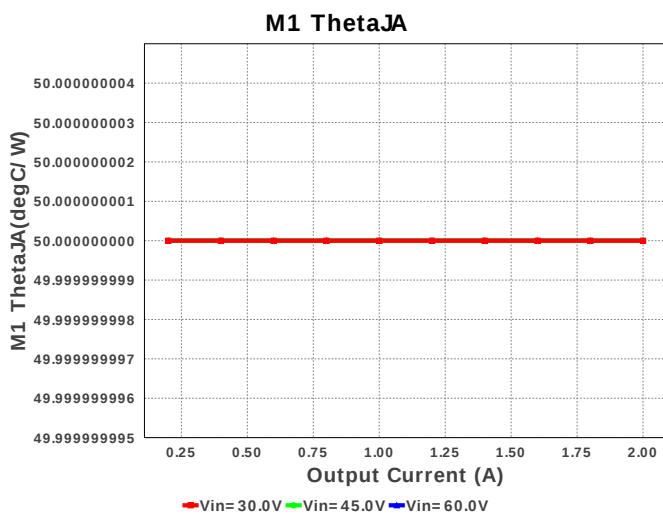
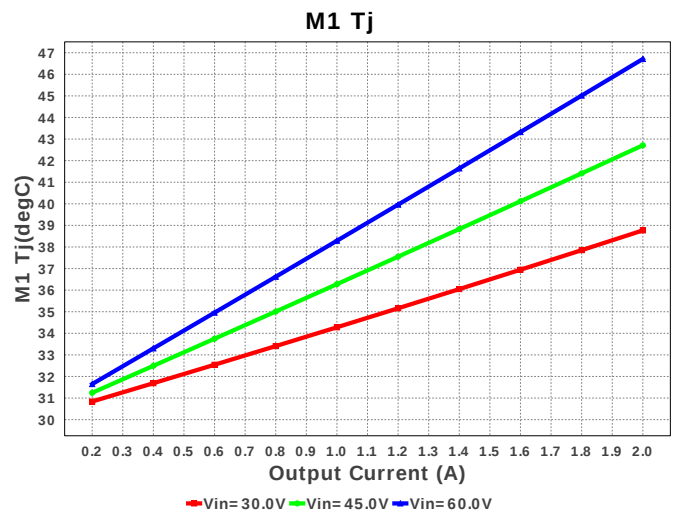
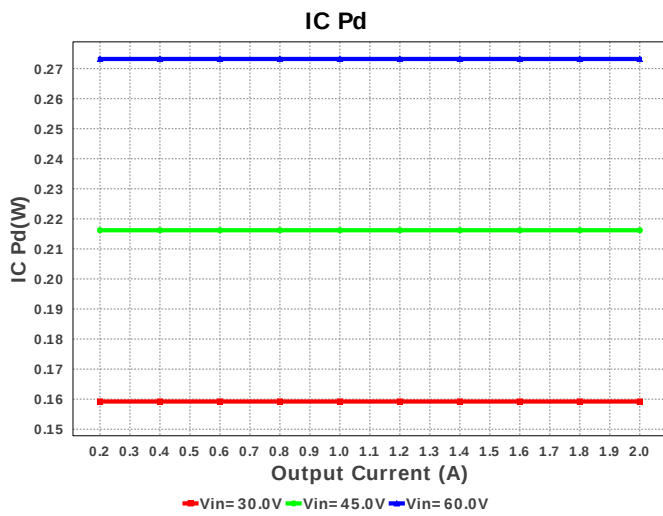
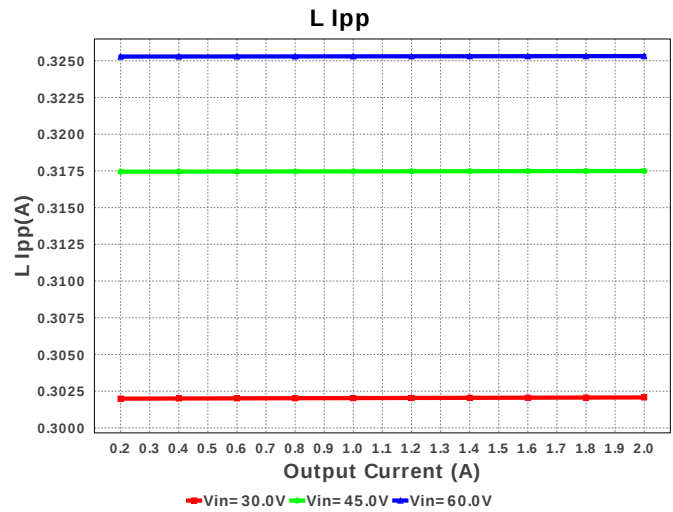
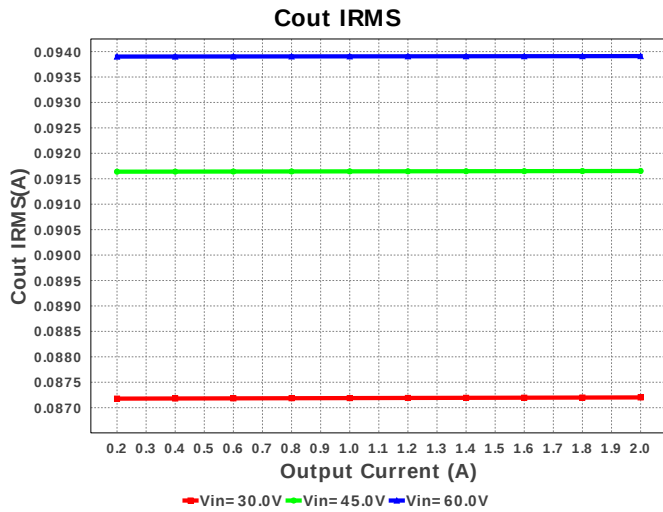
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Topology = Buck
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BOM Cost = \$3.32
BOM Count = 22
Total Pd = 2.68W

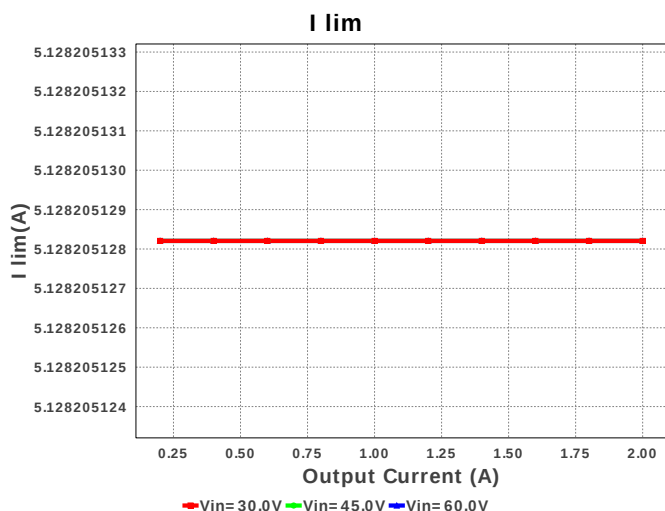
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
10.	Cvcc	Kemet	C0603C474K4RACTU Series= X7R	Cap= 470.0 nF VDC= 16.0 V IRMS= 0.0 A	1	\$0.02	 0603 5 mm ²
11.	D1	Vishay-Semiconductor	SS10PH10-M3/86A	VF@Io= 880.0 mV VRRM= 100.0 V	1	\$0.29	 TO-277A 56 mm ²
12.	L1	Bourns	SDR1307-270ML	L= 27.0 µH DCR= 60.0 mOhm	1	\$0.35	 SDR1307 227 mm ²
13.	M1	Texas Instruments	CSD19534Q5A	VdsMax= 100.0 V IdsMax= 50.0 Amps	1	\$0.38	 TRANS_NexFET_Q5A 55 mm ²
14.	Rcomp	Yageo America	RC0603FR-0736KL Series= ?	Res= 36.0 kOhm Power= 100.0 mW Tolerance= 1.0%	1	\$0.01	 0603 5 mm ²
15.	Rfbb	Vishay-Dale	CRCW04021K91FKED Series= CRCW..e3	Res= 1.91 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
16.	Rfbb	Vishay-Dale	CRCW04023K32FKED Series= CRCW..e3	Res= 3.32 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
17.	Rramp	Vishay-Dale	CRCW06031M00FKEA Series= CRCW..e3	Res= 1000.0 kOhm Power= 100.0 mW Tolerance= 1.0%	1	\$0.01	 0603 5 mm ²
18.	Rsns	Panasonic	ERJ-L14KF39MU Series= ERJ-L14	Res= 39.0 mOhm Power= 330.0 mW Tolerance= 1.0%	1	\$0.11	 1210 15 mm ²
19.	Rt	Vishay-Dale	CRCW060313K0FKEA Series= CRCW..e3	Res= 13.0 kOhm Power= 100.0 mW Tolerance= 1.0%	1	\$0.01	 0603 5 mm ²
20.	Ruv1	Panasonic	ERJ-6ENF2611V Series= ERJ-6E	Res= 2.61 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
21.	Ruv2	Panasonic	ERJ-6ENF4992V Series= ERJ-6E	Res= 49.9 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
22.	U1	Texas Instruments	LM5088MH-1/NOPB	Switcher	1	\$1.76	 MXA16A 59 mm ²











Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	505.774 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	94.25 mA	Current	Output capacitor RMS ripple current
3.	I lim	5.128 A	Current	Current limit threshold
4.	Iin Avg	154.72 mA	Current	Average input current
5.	L Ipp	326.49 mA	Current	Peak-to-peak inductor ripple current
6.	SW Ipk	2.163 A	Current	Peak switch current
7.	BOM Count	22	General	Total Design BOM count
8.	FootPrint	502.0 mm ²	General	Total Foot Print Area of BOM components
9.	Frequency	443.262 kHz	General	Switching frequency
10.	IC Tolerance	18.0 mV	General	IC Feedback Tolerance
11.	M1 ThetaJA	50.0 degC/W	General	MOSFET junction-to-ambient thermal resistance
12.	Mode	CCM	General	Conduction Mode
13.	Pout	6.6 W	General	Total output power
14.	Total BOM	\$3.32	General	Total BOM Cost
15.	D1 Tj	128.349 degC	Op_Point	D1 junction temperature
16.	Vout Actual	3.3 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
17.	Duty Cycle	6.867 %	Op_point	Duty cycle
18.	Efficiency	71.097 %	Op_point	Steady state efficiency
19.	IC Tj	40.929 degC	Op_point	IC junction temperature
20.	ICThetaJA	40.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
21.	IOUT_OP	2.0 A	Op_point	Iout operating point
22.	M1 Tj	46.71 degC	Op_point	M1 MOSFET junction temperature
23.	VIN_OP	60.0 V	Op_point	Vin operating point
24.	Vout p-p	920.709 μV	Op_point	Peak-to-peak output ripple voltage
25.	Cin Pd	1.364 mW	Power	Input capacitor power dissipation
26.	Cout Pd	43.394 μW	Power	Output capacitor power dissipation
27.	D1 Pd	1.639 W	Power	Diode1 power dissipation
28.	IC Pd	273.213 mW	Power	IC power dissipation
29.	L Pd	300.0 mW	Power	Inductor power dissipation
30.	M1 Pd	334.072 mW	Power	M1 MOSFET total power dissipation
31.	M1 PdCond	3.916 mW	Power	M1 MOSFET conduction losses
32.	M1 PdSw	330.155 mW	Power	M1 MOSFET switching losses
33.	Rsns Pd	135.311 mW	Power	Current Limit Sense Resistor Power Dissipation
34.	Total Pd	2.683 W	Power	Total Power Dissipation
35.	Vout Tolerance	2.795 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	2.0	Maximum Output Current
2.	VinMax	60.0	Maximum input voltage
3.	VinMin	30.0	Minimum input voltage
4.	Vout	3.3	Output Voltage
5.	base_pn	LM5088	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. **LM5088** Product Folder : <http://www.ti.com/product/LM5088> : contains the data sheet and other resources.

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