

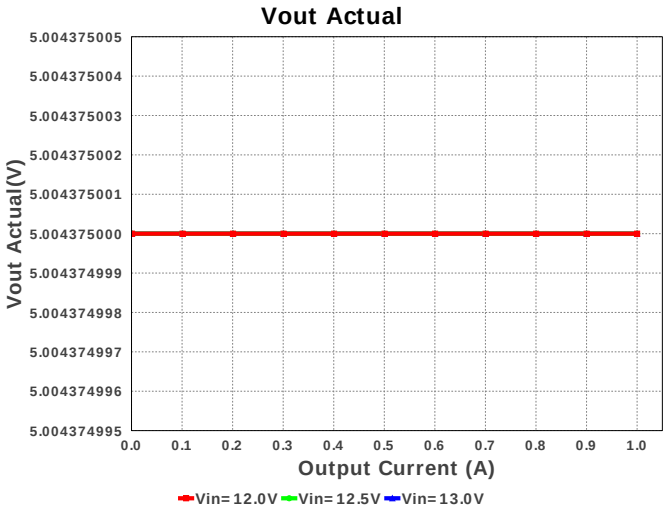
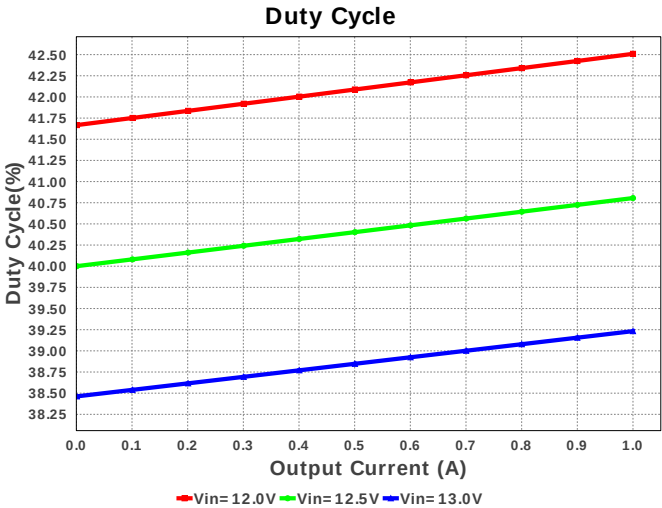
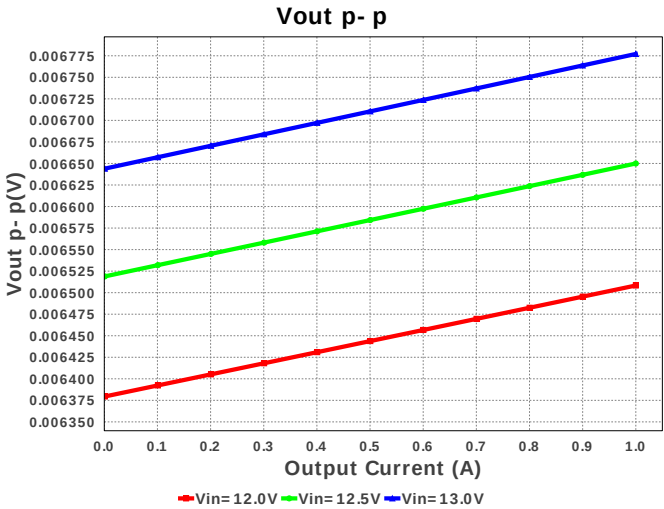
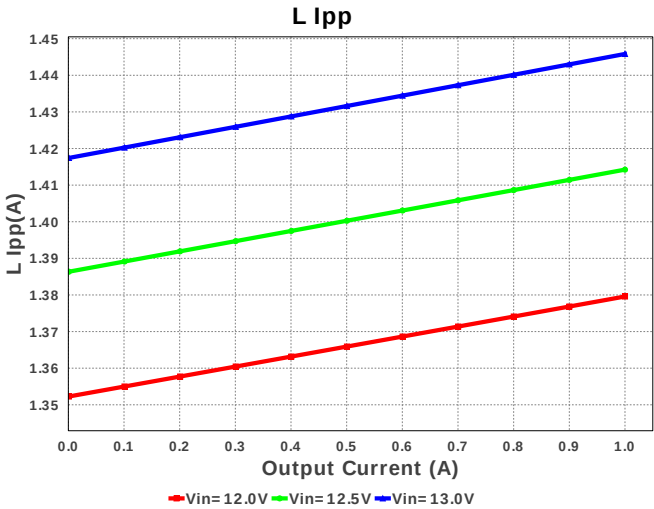


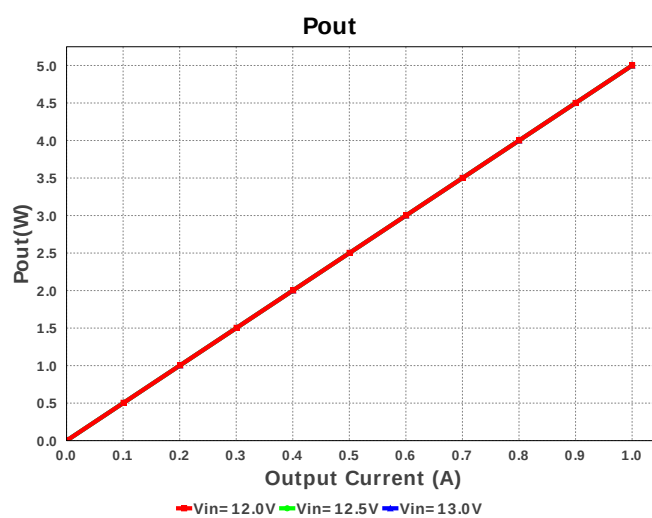
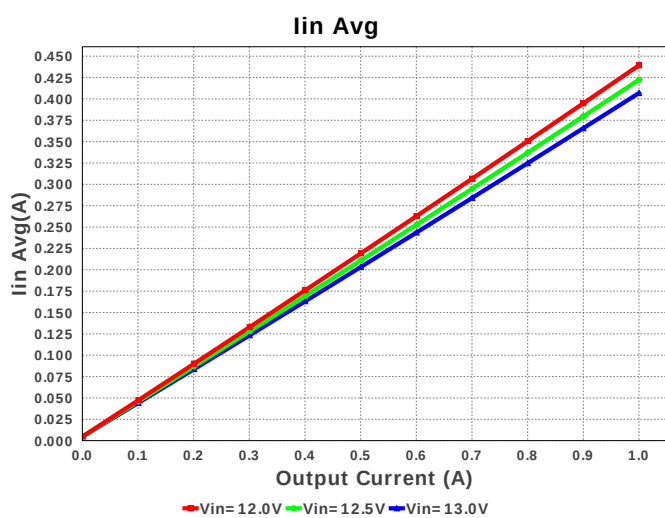
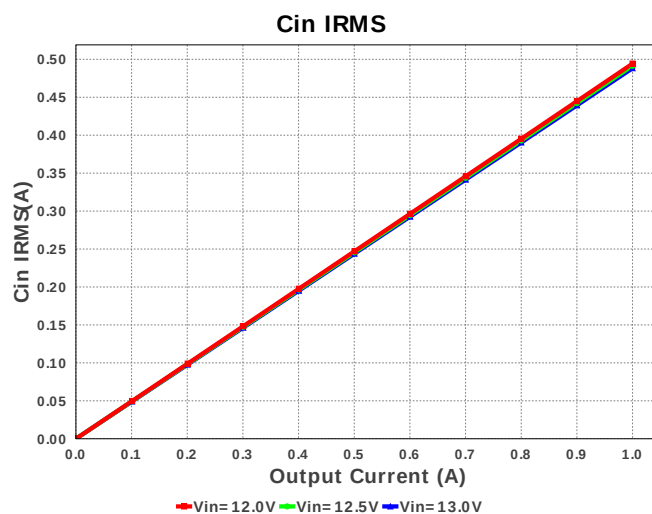
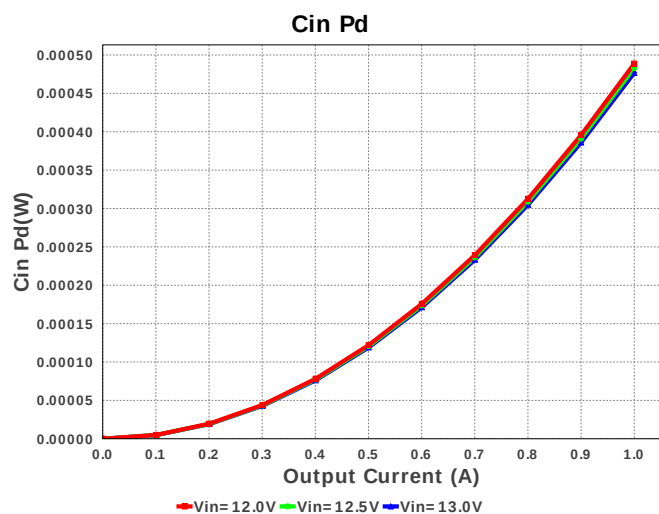
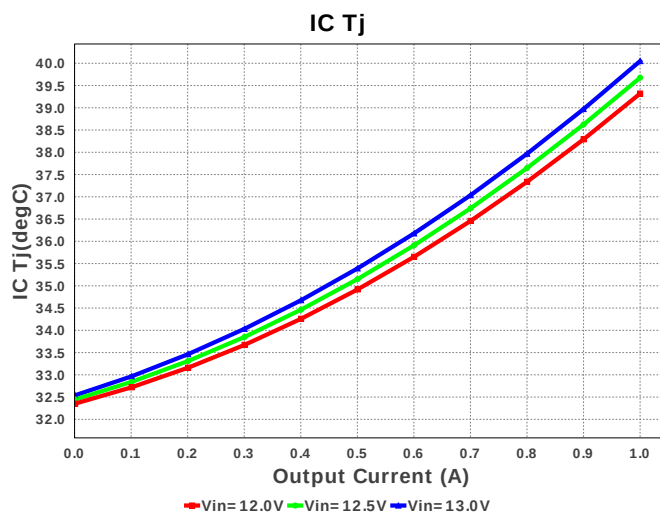
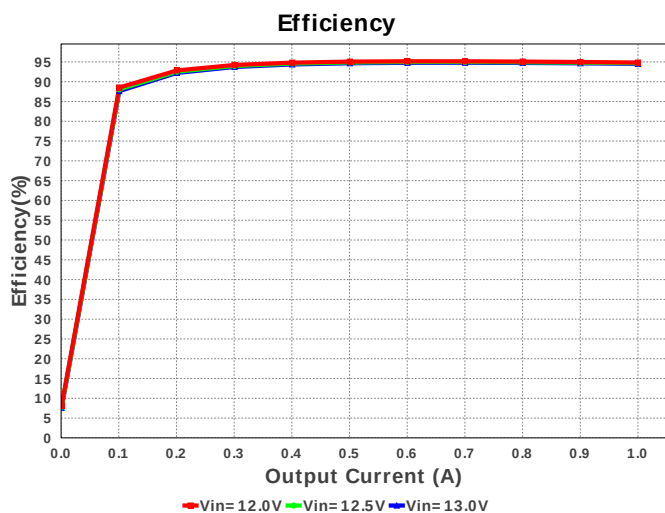
Device = TPS54327DDAR
Topology = Buck
Created = 7/15/16 9:27:45 PM
BOM Cost = \$1.39
BOM Count = 11
Total Pd = 0.29W

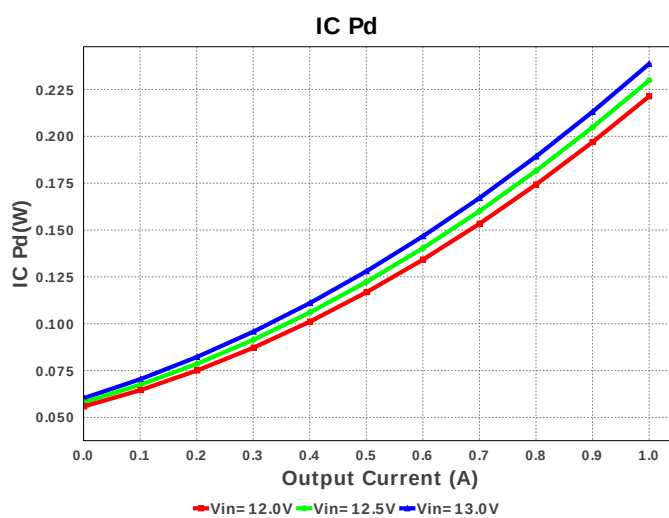
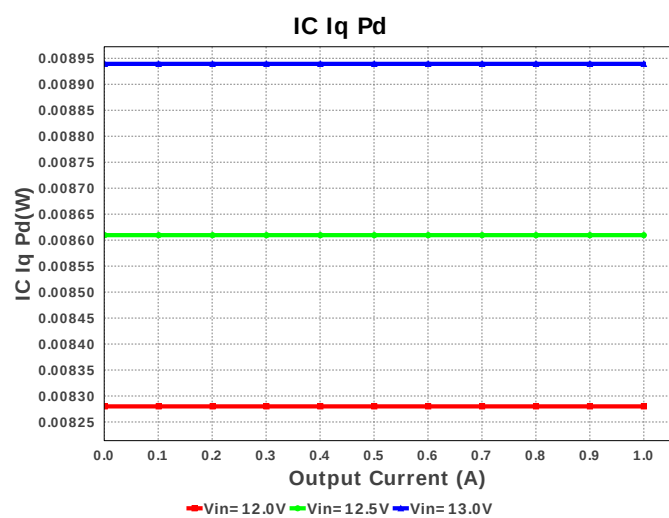
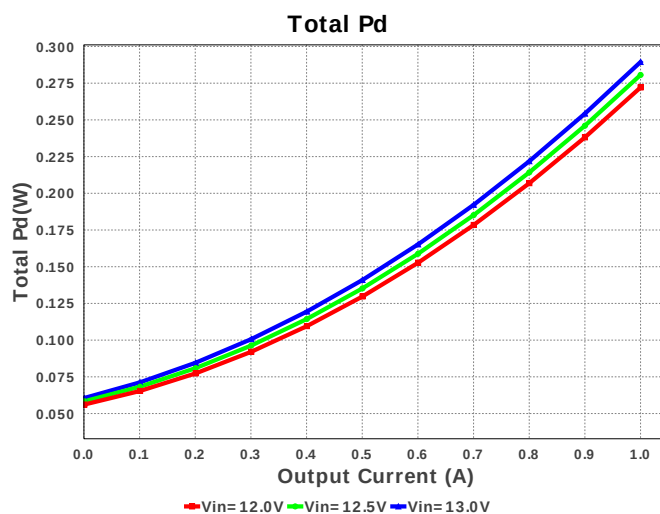
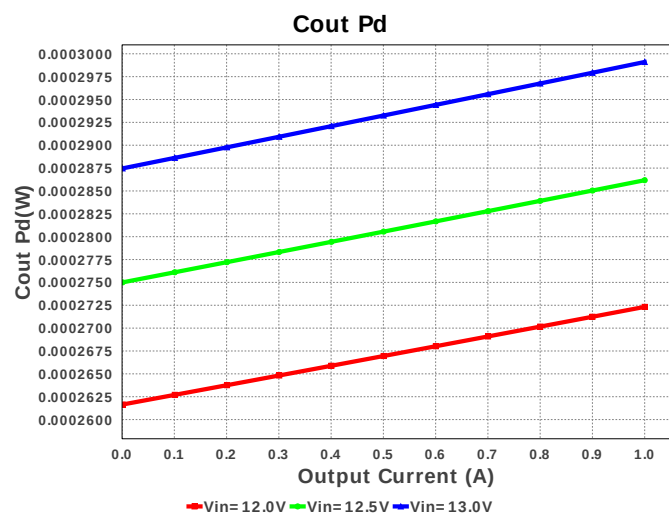
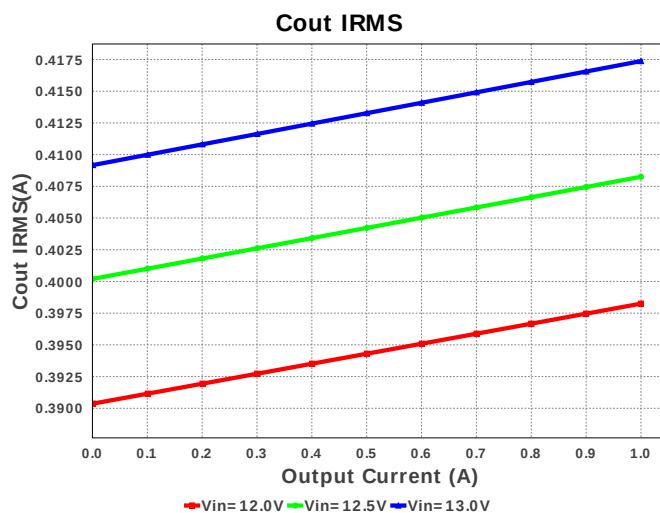
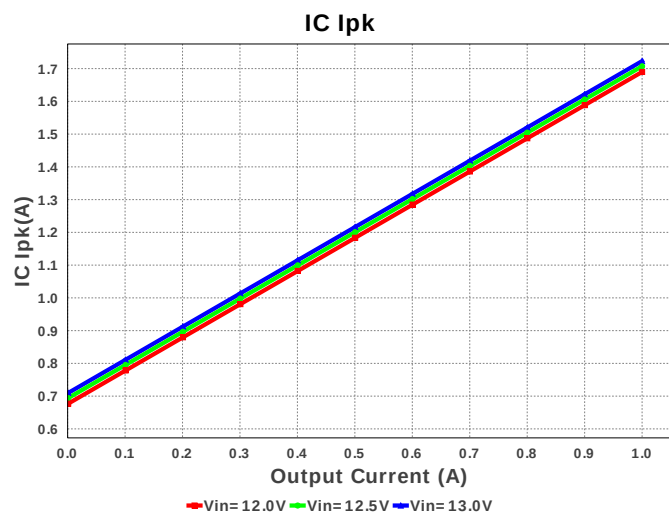
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
11.	U1	Texas Instruments	TPS54327DDAR	Switcher	1	\$0.73	

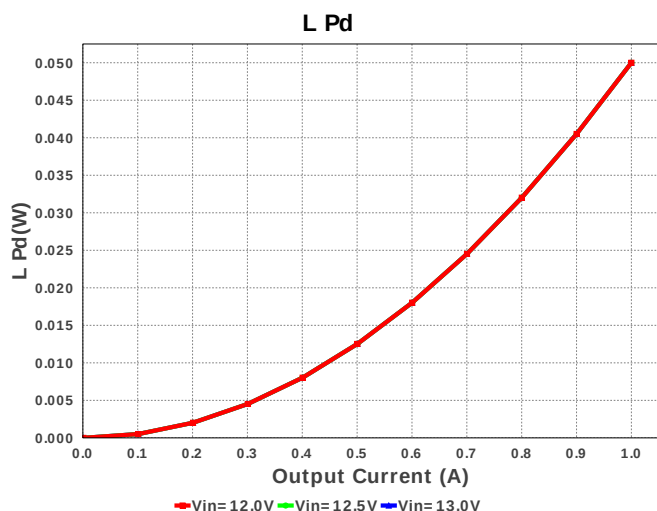


R-PDSO-G8 57 mm²









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	488.27 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	417.374 mA	Current	Output capacitor RMS ripple current
3.	IC Ipk	1.723 A	Current	Peak switch current in IC
4.	Iin Avg	406.88 mA	Current	Average input current
5.	L Ipp	1.446 A	Current	Peak-to-peak inductor ripple current
6.	BOM Count	11	General	Total Design BOM count
7.	FootPrint	176.0 mm ²	General	Total Foot Print Area of BOM components
8.	Frequency	657.826 kHz	General	Switching frequency
9.	Pout	5.0 W	General	Total output power
10.	Total BOM	\$1.39	General	Total BOM Cost
11.	Vout Actual	5.004 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
12.	Vout OP	5.0 V	Op_Point	Operational Output Voltage
13.	Duty Cycle	39.233 %	Op_point	Duty cycle
14.	Efficiency	94.528 %	Op_point	Steady state efficiency
15.	IC Tj	40.049 degC	Op_point	IC junction temperature
16.	ICThetaJA	42.1 degC/W	Op_point	IC junction-to-ambient thermal resistance
17.	IOUT_OP	1.0 A	Op_point	Iout operating point
18.	VIN_OP	13.0 V	Op_point	Vin operating point
19.	Vout p-p	6.777 mV	Op_point	Peak-to-peak output ripple voltage
20.	Cin Pd	476.814 μW	Power	Input capacitor power dissipation
21.	Cout Pd	299.103 μW	Power	Output capacitor power dissipation
22.	IC Iq Pd	8.939 mW	Power	IC Iq Pd
23.	IC Pd	238.69 mW	Power	IC power dissipation
24.	L Pd	50.0 mW	Power	Inductor power dissipation
25.	Total Pd	289.438 mW	Power	Total Power Dissipation
26.	Vout Tolerance	3.573 %		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	13.0	Maximum input voltage
3.	VinMin	12.0	Minimum input voltage
4.	Vout	5.0	Output Voltage
5.	base_pn	TPS54327	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. **TPS54327** Product Folder : <http://www.ti.com/product/TPS54327> : contains the data sheet and other resources.

Texas Instruments' WEBENCH simulation tools attempt to recreate the performance of a substantially equivalent physical implementation of the design. Simulations are created using Texas Instruments' published specifications as well as the published specifications of other device manufacturers. While Texas Instruments does update this information periodically, this information may not be current at the time the simulation is built. Texas Instruments does not warrant the accuracy or completeness of the specifications or any information contained therein. Texas Instruments does not warrant that any designs or recommended parts will meet the specifications you entered, will be suitable for your application or fit for any particular purpose, or will operate as shown in the simulation in a physical implementation. Texas Instruments does not warrant that the designs are production worthy.

You should completely validate and test your design implementation to confirm the system functionality for your application prior to production.

Use of Texas Instruments' WEBENCH simulation tools is subject to [Texas Instruments' Site Terms and Conditions of Use](#). Prototype boards based on WEBENCH created designs are provided AS IS without warranty of any kind for evaluation and testing purposes and are subject to the terms of the [Evaluation License Agreement](#).