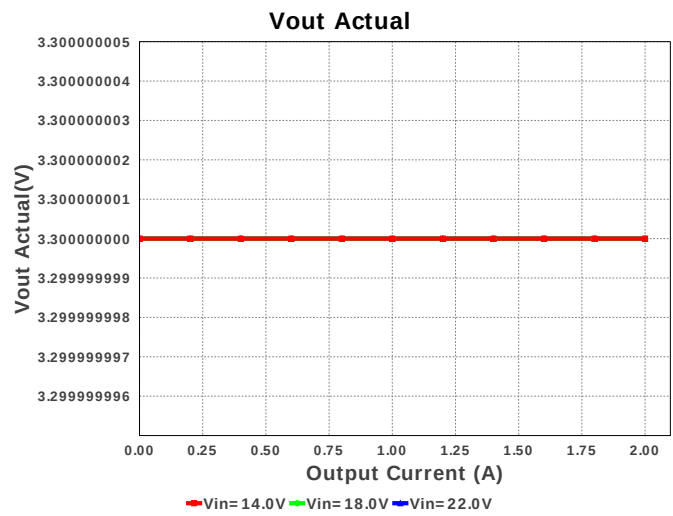
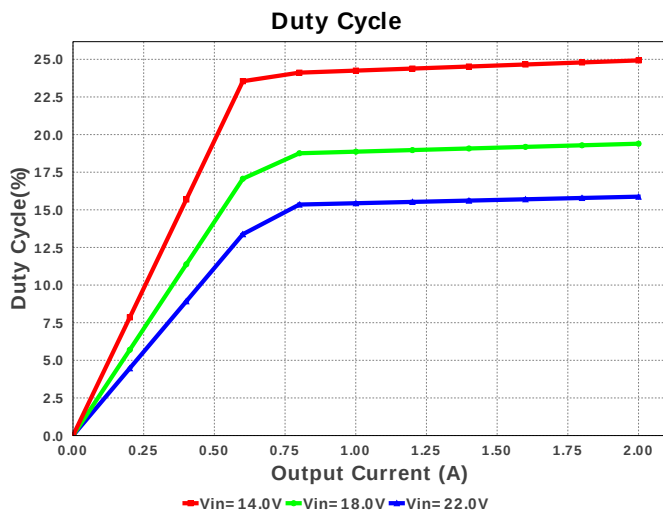
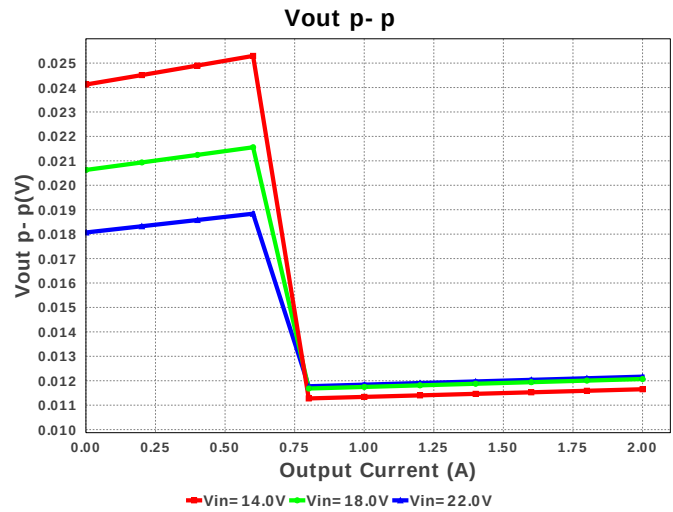
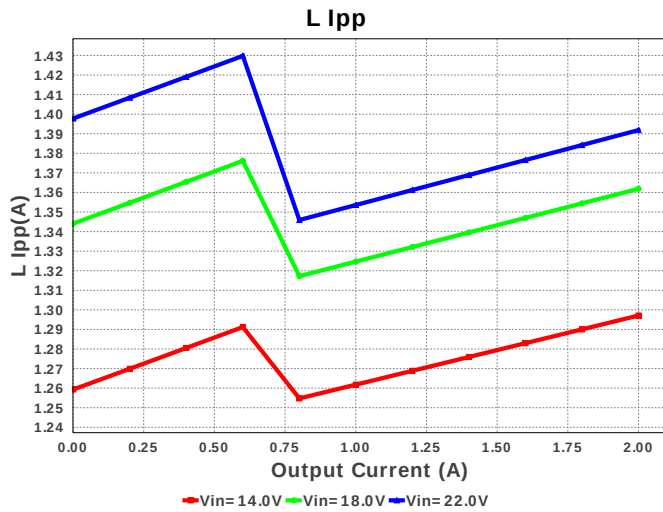
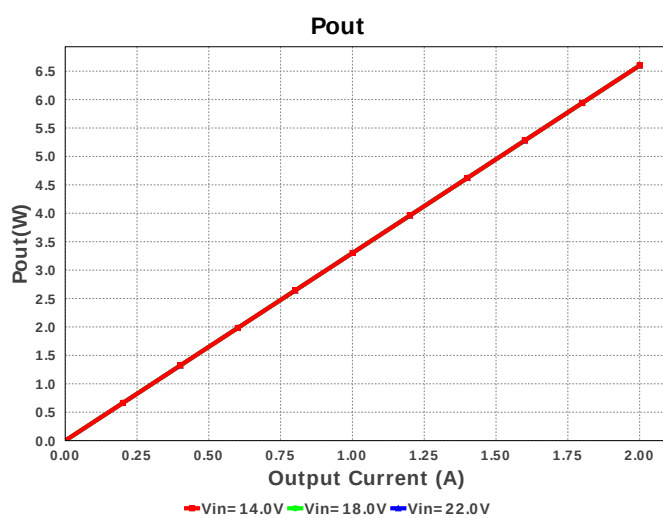
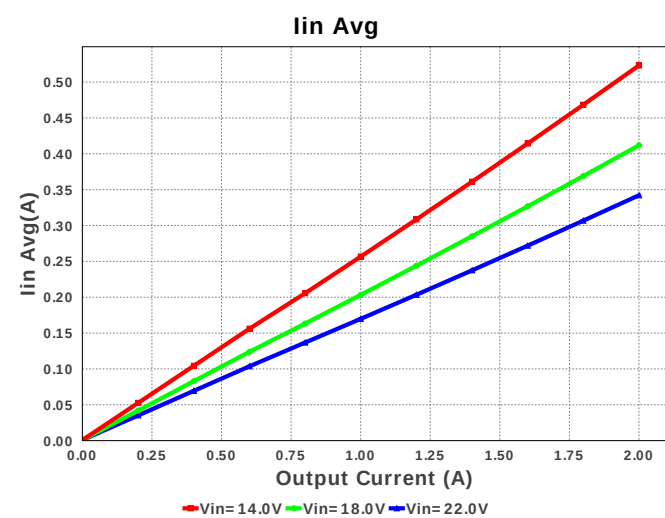
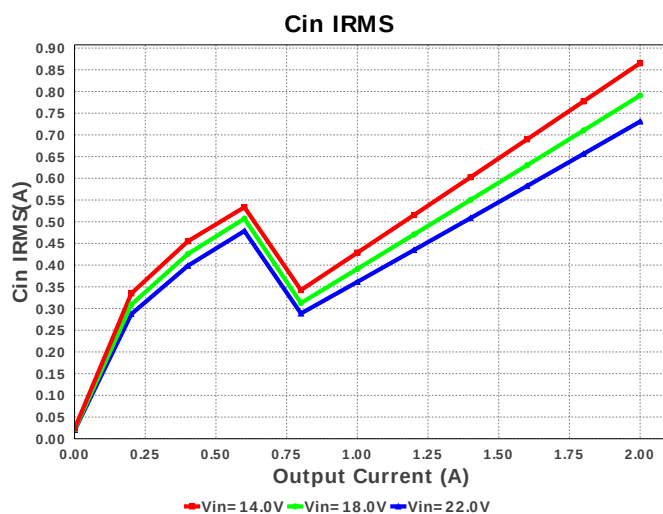
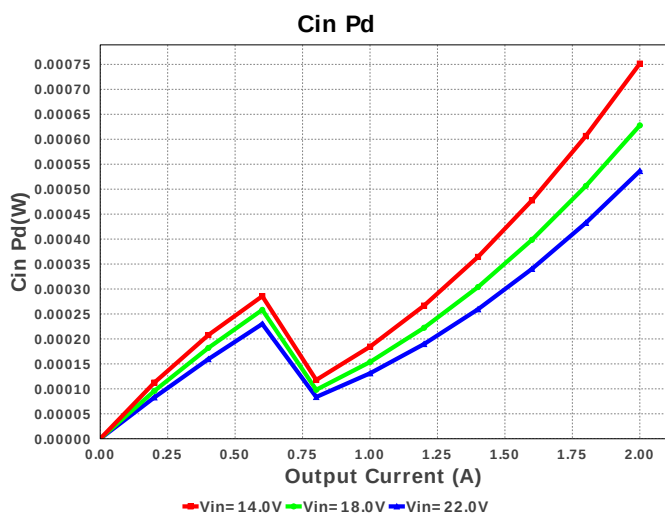
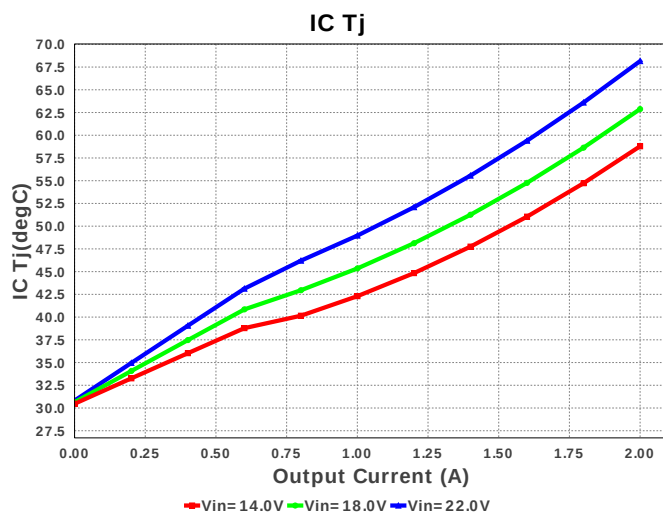
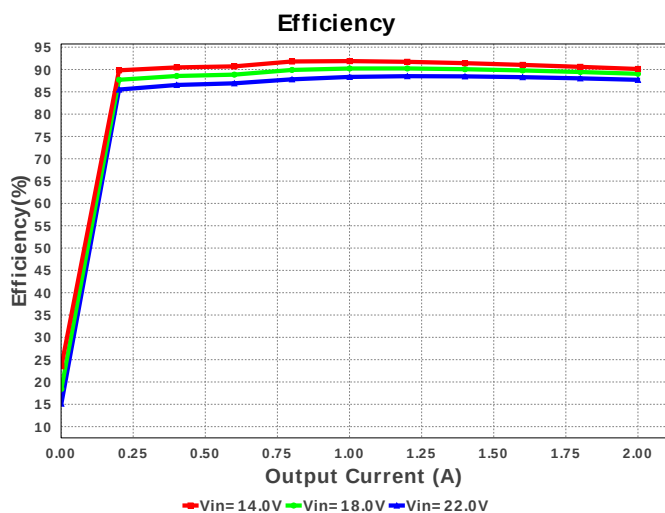
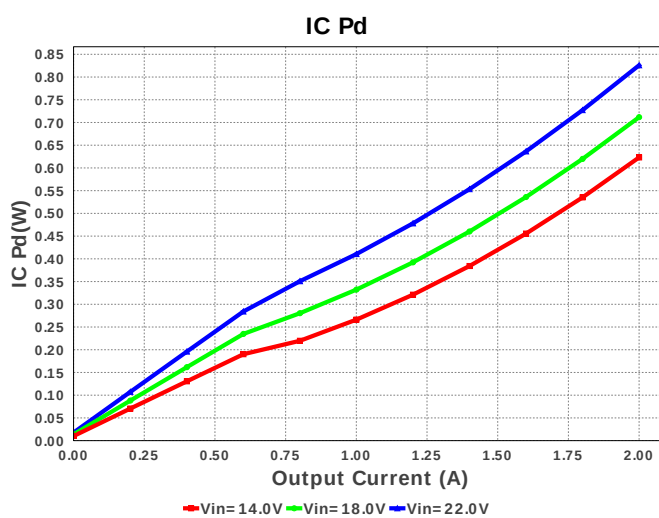
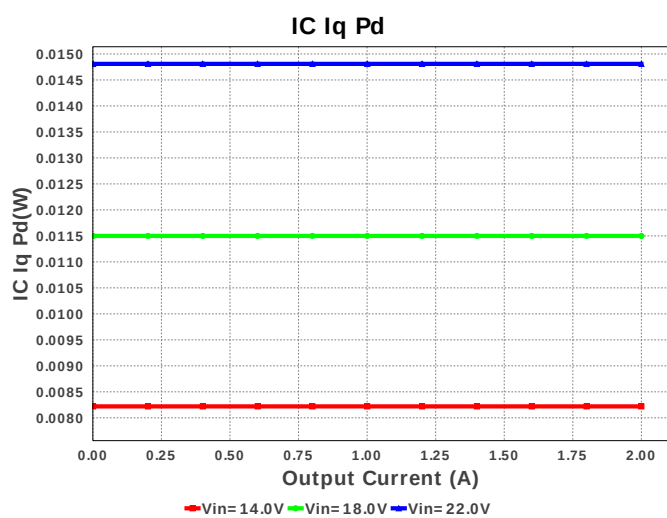
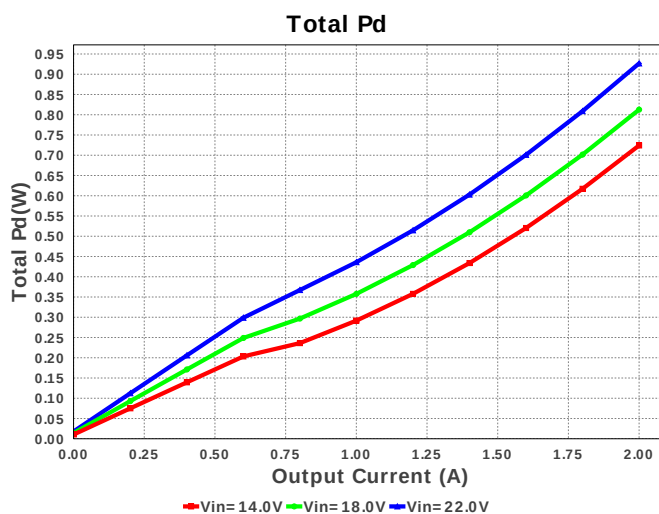
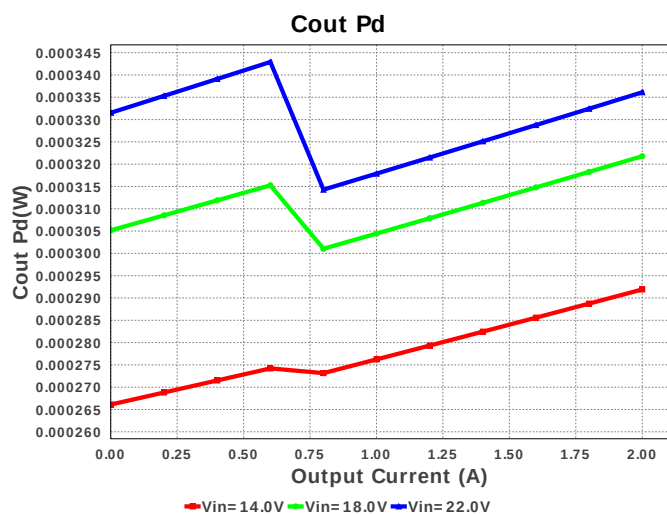
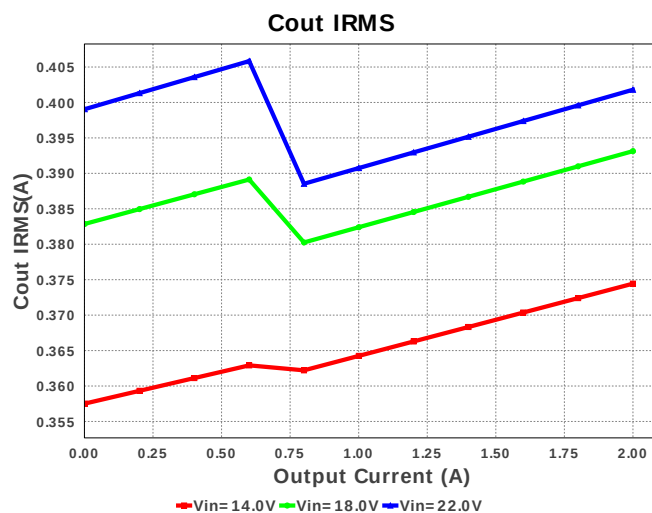
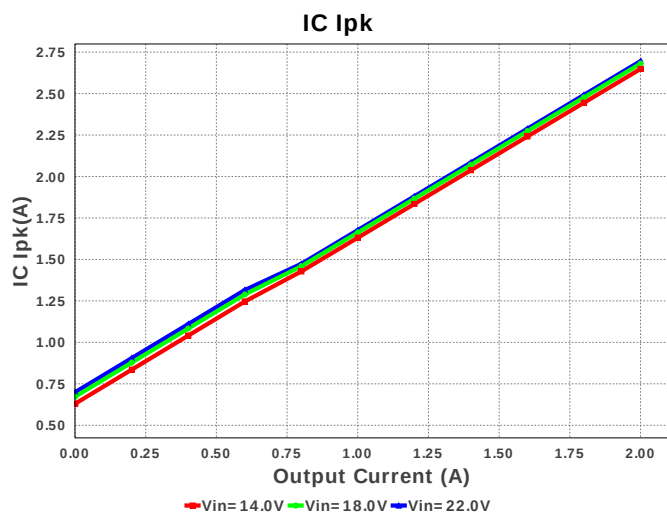


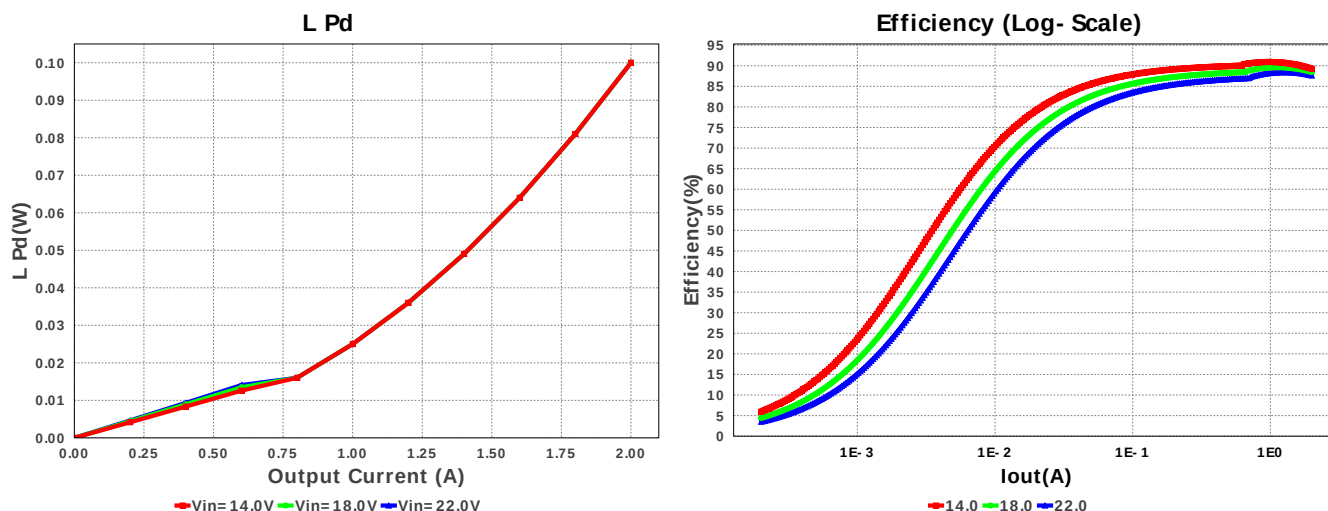


#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
11.	U1	Texas Instruments	TPS54239EDDAR	Switcher	1	\$0.75	 DDA0008E 57 mm ²









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	730.882 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	401.796 mA	Current	Output capacitor RMS ripple current
3.	IC Ipk	2.696 A	Current	Peak switch current in IC
4.	Iin Avg	342.12 mA	Current	Average input current
5.	L Ipp	1.392 A	Current	Peak-to-peak inductor ripple current
6.	BOM Count	12	General	Total Design BOM count
7.	FootPrint	209.0 mm ²	General	Total Foot Print Area of BOM components
8.	Frequency	646.308 kHz	General	Switching frequency
9.	Mode	CCM	General	Conduction Mode
10.	Pout	6.6 W	General	Total output power
11.	Total BOM	\$2.03	General	Total BOM Cost
12.	Vout Actual	3.3 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
13.	Vout OP	3.3 V	Op_Point	Operational Output Voltage
14.	Duty Cycle	15.875 %	Op_point	Duty cycle
15.	Efficiency	87.687 %	Op_point	Steady state efficiency
16.	IC Tj	68.155 degC	Op_point	IC junction temperature
17.	ICThetaJA	46.2 degC/W	Op_point	IC junction-to-ambient thermal resistance
18.	IOUT_OP	2.0 A	Op_point	Iout operating point
19.	VIN_OP	22.0 V	Op_point	Vin operating point
20.	Vout p-p	12.167 mV	Op_point	Peak-to-peak output ripple voltage
21.	Cin Pd	536.325 μW	Power	Input capacitor power dissipation
22.	Cout Pd	336.119 μW	Power	Output capacitor power dissipation
23.	IC Iq Pd	14.809 mW	Power	IC Iq Pd
24.	IC Pd	825.872 mW	Power	IC power dissipation
25.	L Pd	100.0 mW	Power	Inductor power dissipation
26.	Total Pd	926.755 mW	Power	Total Power Dissipation
27.	Vout Tolerance	3.41 %		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	22.0	Maximum input voltage
3.	VinMin	14.0	Minimum input voltage
4.	Vout	3.3	Output Voltage
5.	base_pn	TPS54239E	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. **TPS54239E** Product Folder : <http://www.ti.com/product/TPS54239E> : contains the data sheet and other resources.

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