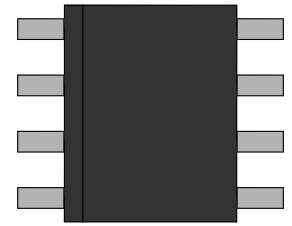


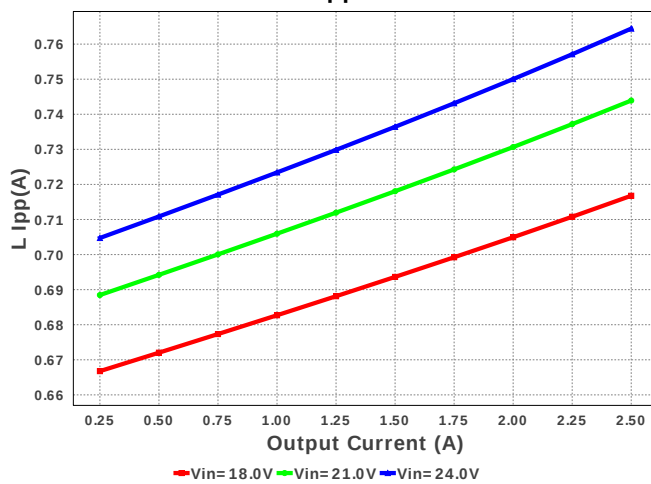


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Topology = Buck
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BOM Cost = \$2.01
BOM Count = 13
Total Pd = 1.94W

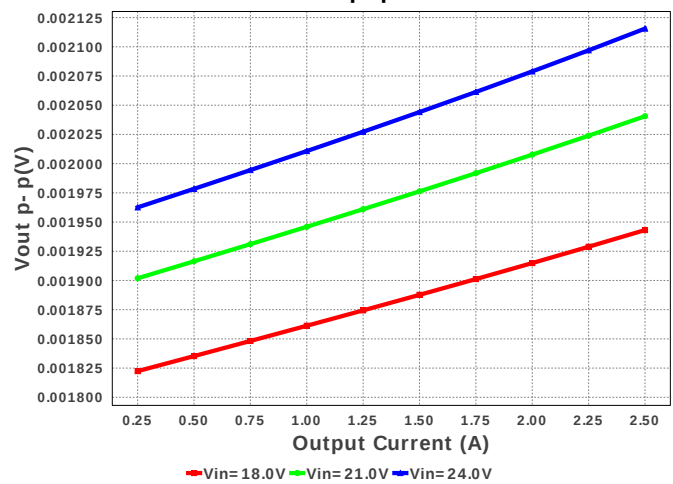
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
11.	Rt	Vishay-Dale	CRCW040295K3FKED Series= CRCW..e3	Res= 95.3 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
12.	U1	Texas Instruments	TPS54335ADDAR	Switcher	1	\$0.90	

R-PDSO-G8 55 mm²

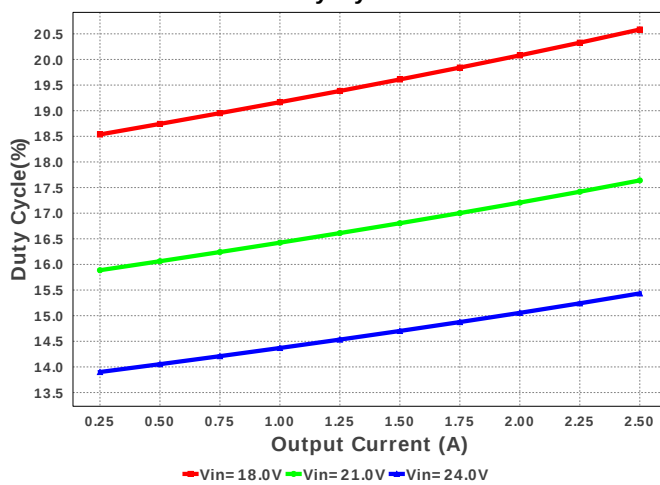
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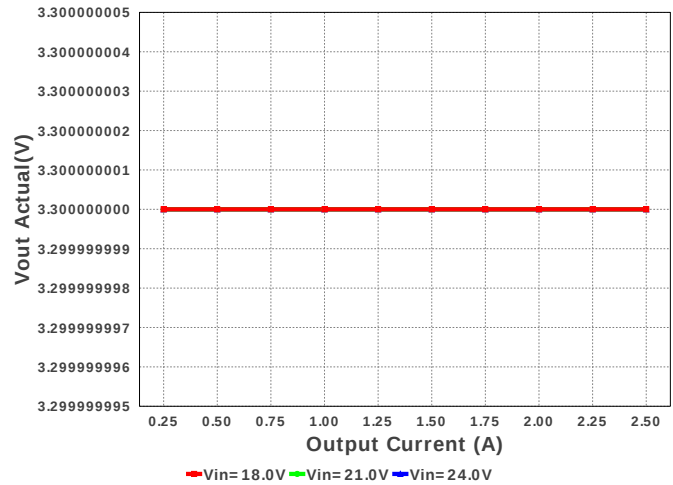
Vout p- p

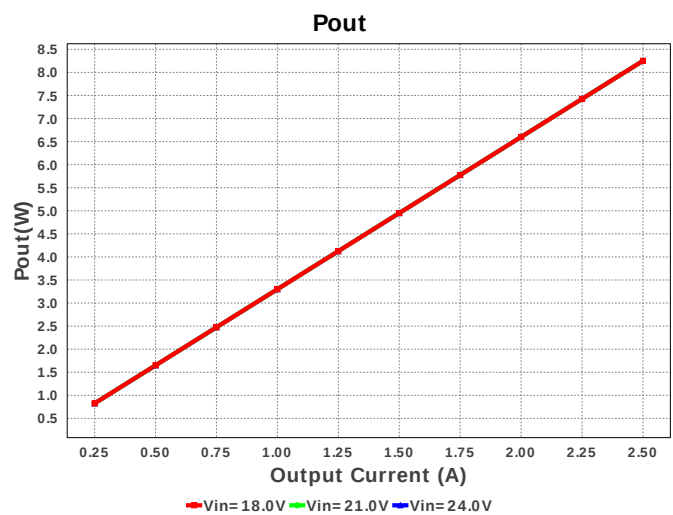
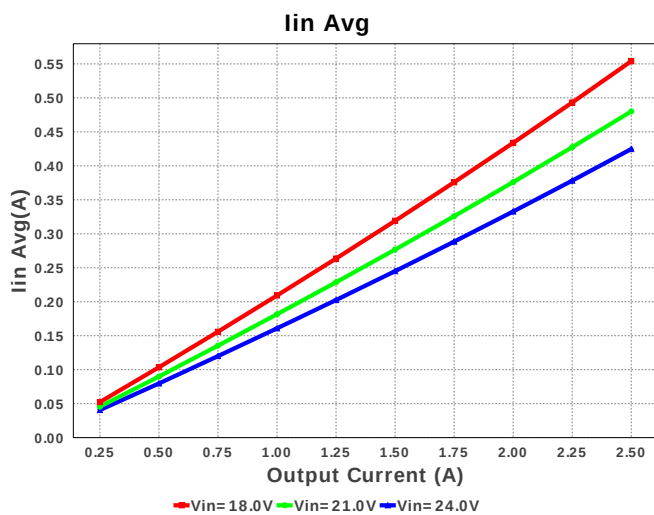
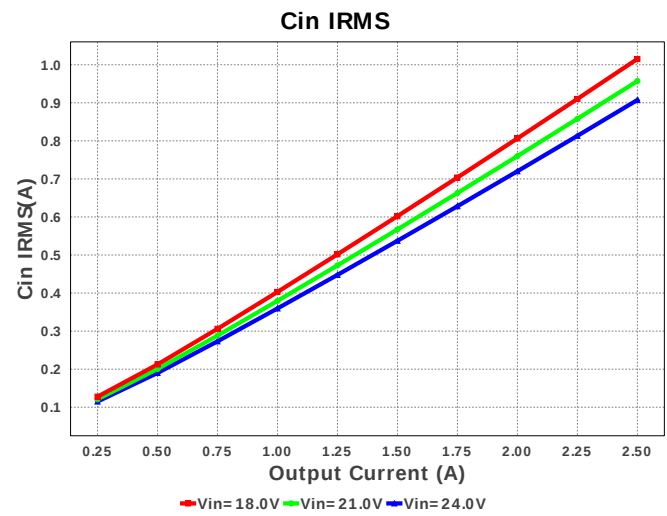
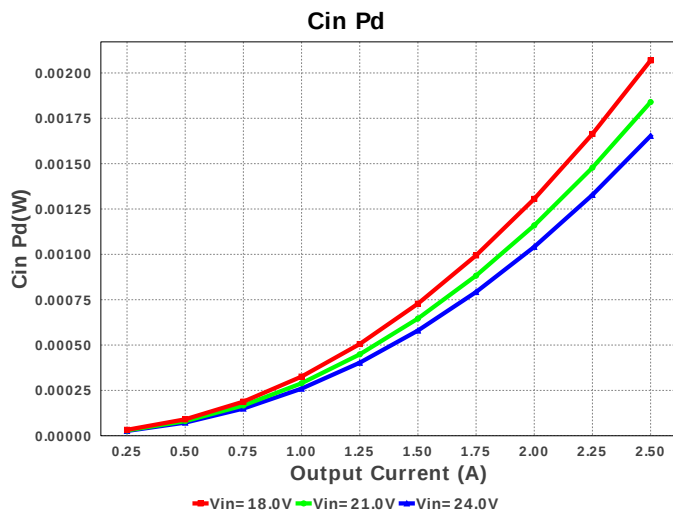
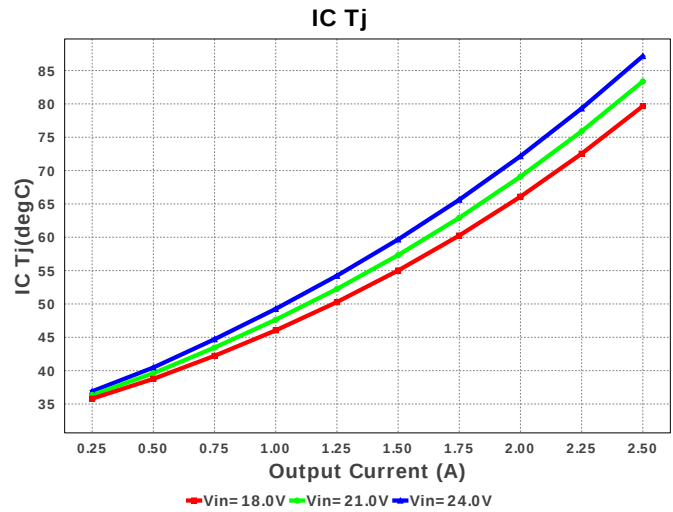
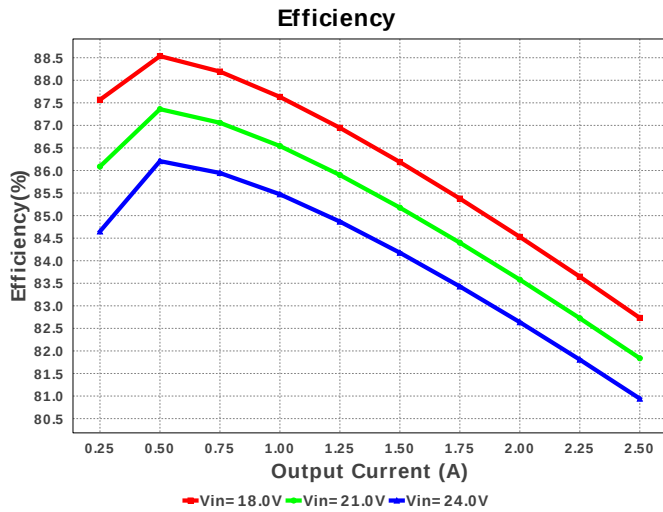


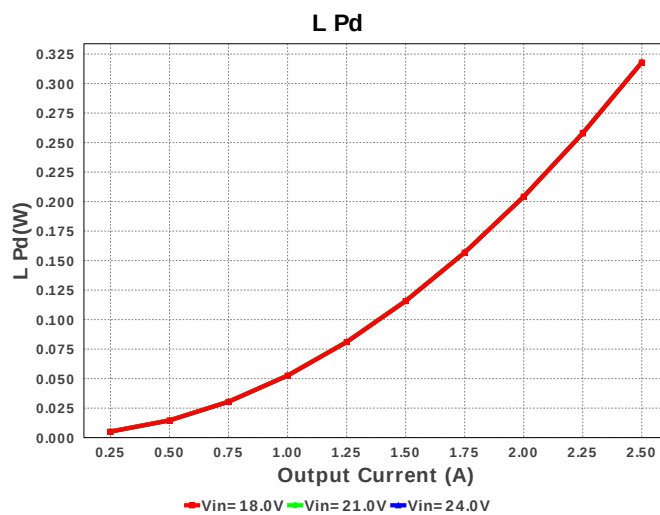
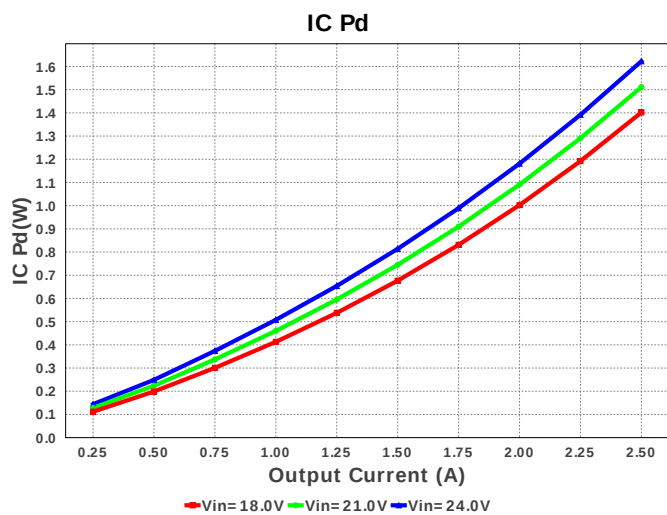
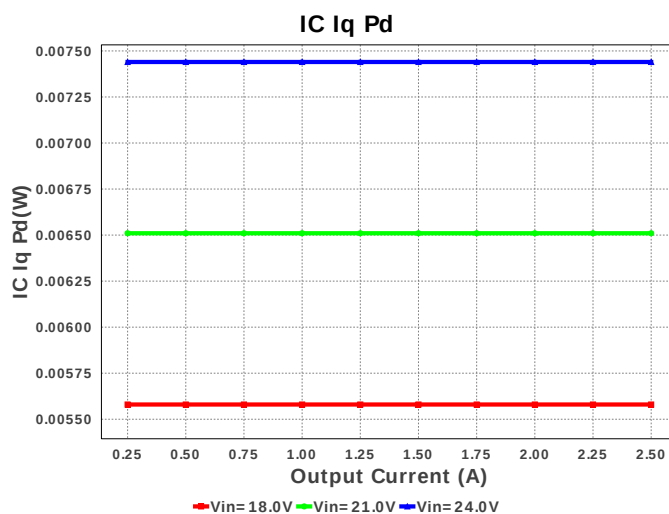
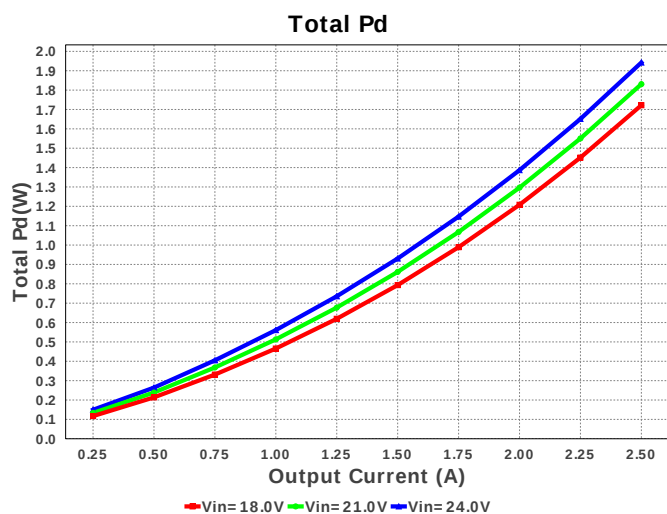
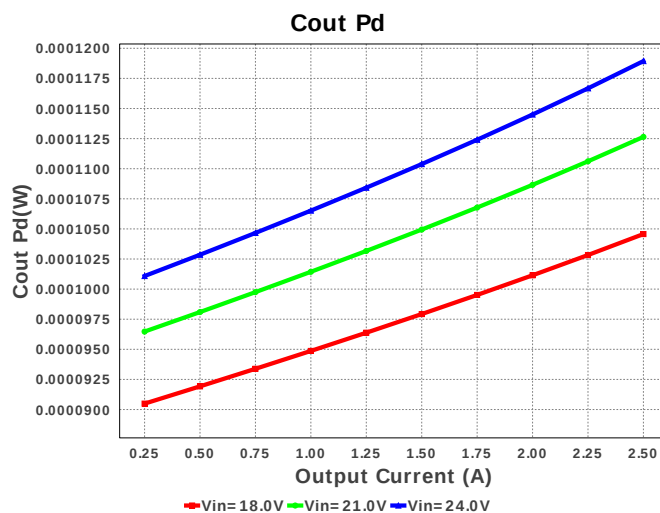
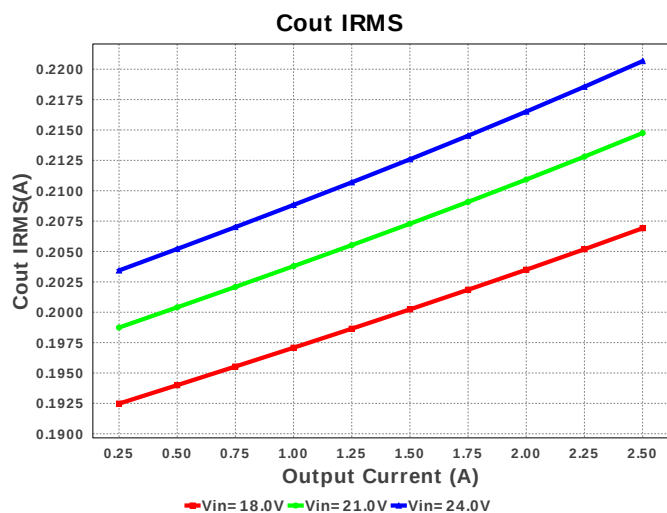
Duty Cycle

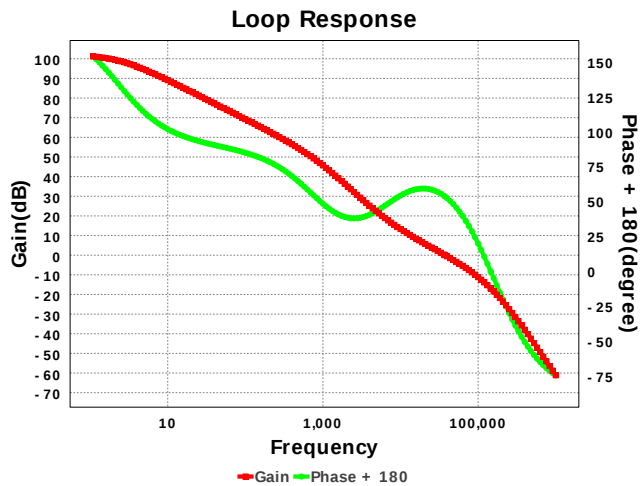


Vout Actual









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	907.356 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	220.669 mA	Current	Output capacitor RMS ripple current
3.	Iin Avg	424.68 mA	Current	Average input current
4.	L Ipp	764.42 mA	Current	Peak-to-peak inductor ripple current
5.	BOM Count	13	General	Total Design BOM count
6.	FootPrint	217.0 mm ²	General	Total Foot Print Area of BOM components
7.	Frequency	496.814 kHz	General	Switching frequency
8.	IC Tolerance	12.0 mV	General	IC Feedback Tolerance
9.	Mode	CCM	General	Conduction Mode
10.	Pout	8.25 W	General	Total output power
11.	Total BOM	\$2.01	General	Total BOM Cost
12.	ICThetaJA Effective	34.0 degC/W	Op_Point	Effective IC Junction-to-Ambient Thermal Resistance
13.	Low Freq Gain	101.187 dB	Op_Point	Gain at 10Hz
14.	Vout Actual	3.3 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
15.	Vout OP	3.3 V	Op_Point	Operational Output Voltage
16.	Cross Freq	37.588 kHz	Op_point	Bode plot crossover frequency
17.	Duty Cycle	15.435 %	Op_point	Duty cycle
18.	Efficiency	80.943 %	Op_point	Steady state efficiency
19.	Gain Marg	-17.08 dB	Op_point	Bode Plot Gain Margin
20.	IC Tj	87.164 degC	Op_point	IC junction temperature
21.	IOUT_OP	2.5 A	Op_point	Iout operating point
22.	Phase Marg	54.058 deg	Op_point	Bode Plot Phase Margin
23.	VIN_OP	24.0 V	Op_point	Vin operating point
24.	Vout p-p	2.116 mV	Op_point	Peak-to-peak output ripple voltage
25.	Cin Pd	1.653 mW	Power	Input capacitor power dissipation
26.	Cout Pd	118.937 μ W	Power	Output capacitor power dissipation
27.	IC Iq Pd	7.44 mW	Power	IC Iq Pd
28.	IC Pd	1.622 W	Power	IC power dissipation
29.	L Pd	318.084 mW	Power	Inductor power dissipation
30.	Total Pd	1.942 W	Power	Total Power Dissipation
31.	Vout Tolerance	2.347 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	2.5	Maximum Output Current
2.	VinMax	24.0	Maximum input voltage
3.	VinMin	18.0	Minimum input voltage
4.	Vout	3.3	Output Voltage
5.	base_pn	TPS54335A	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	32.0	Ambient temperature

Design Assistance

1. **TPS54335A** Product Folder : <http://www.ti.com/product/TPS54335A> : contains the data sheet and other resources.

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