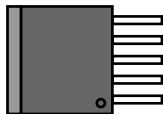
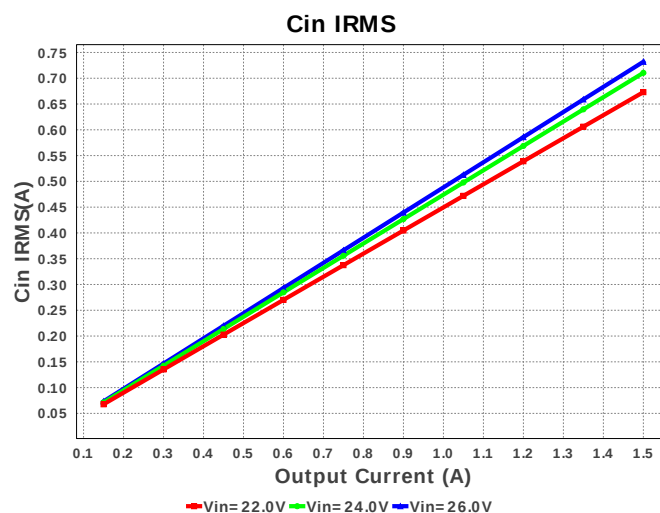
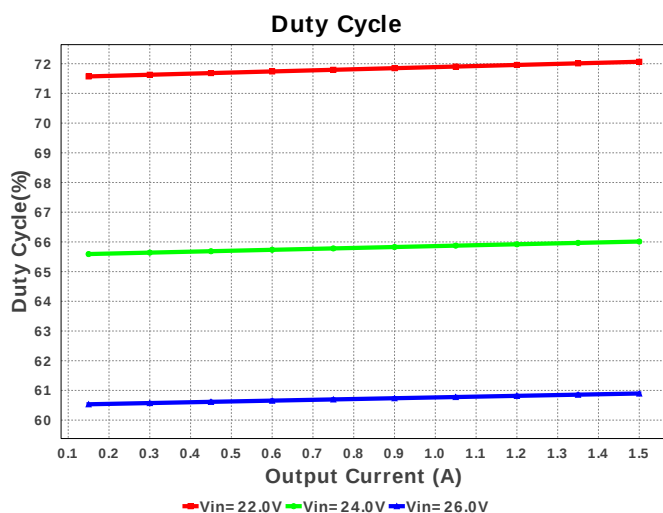
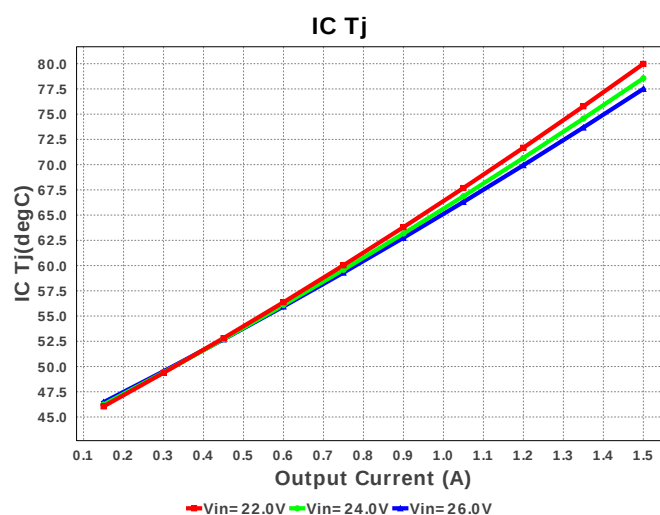
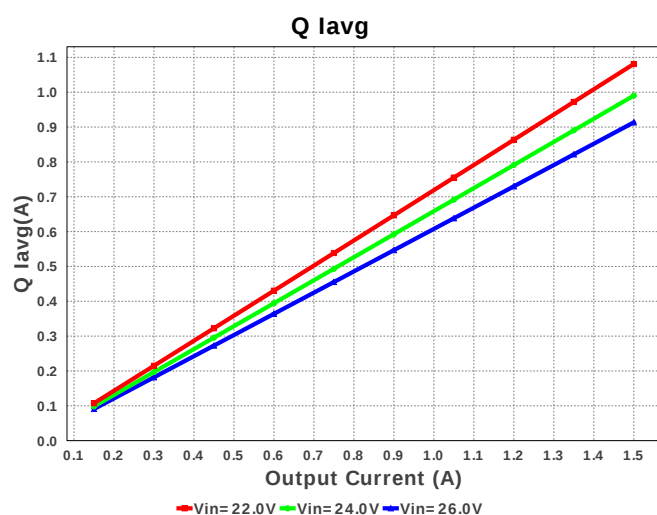
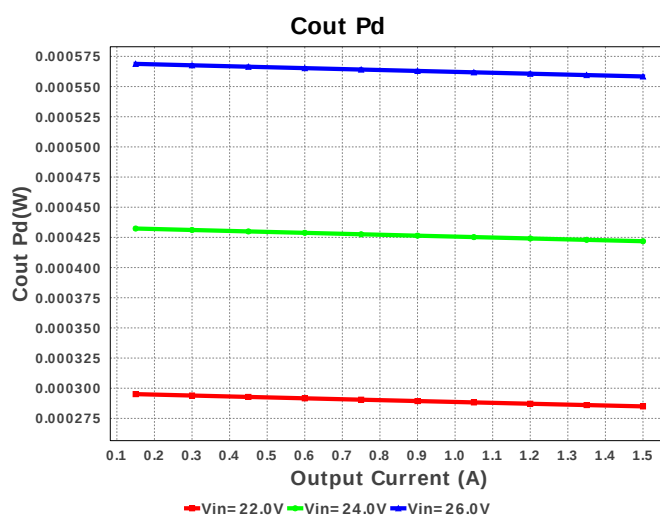
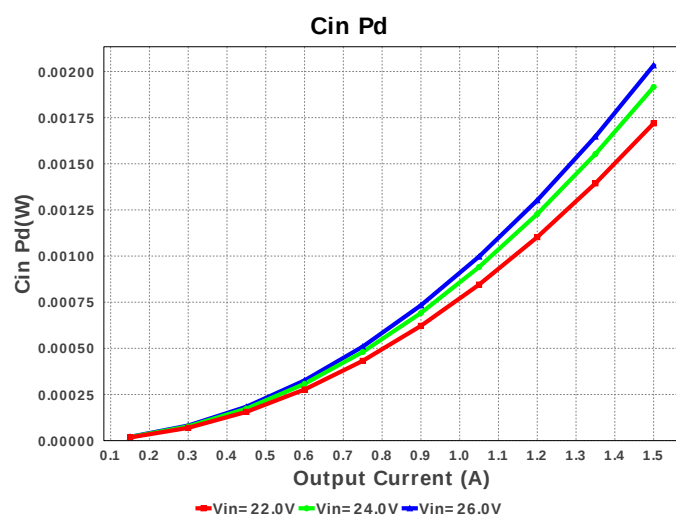
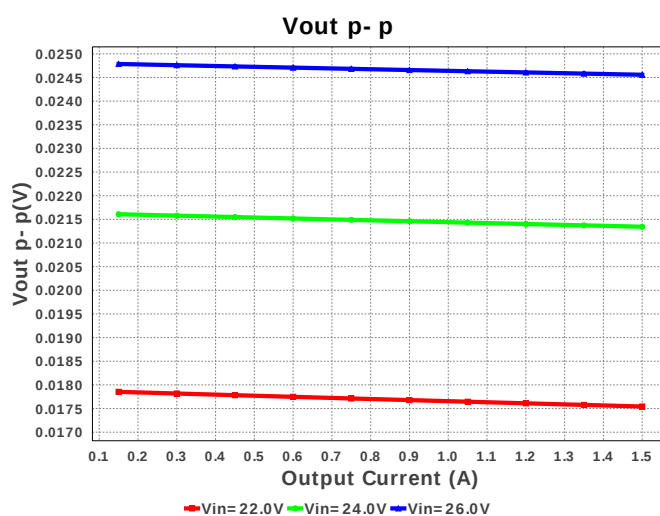
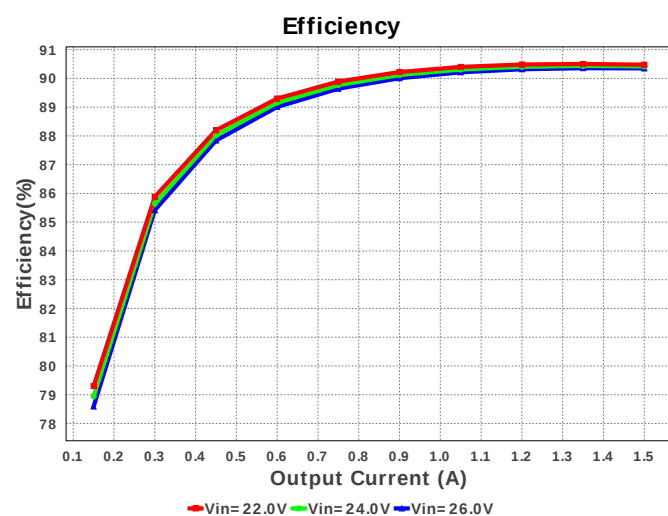
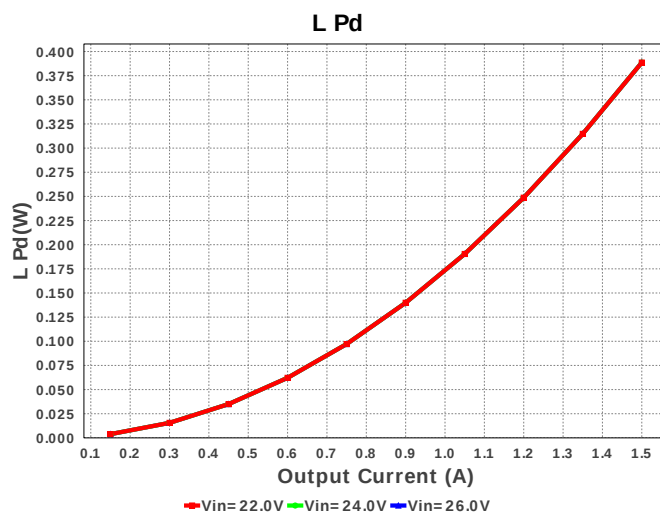
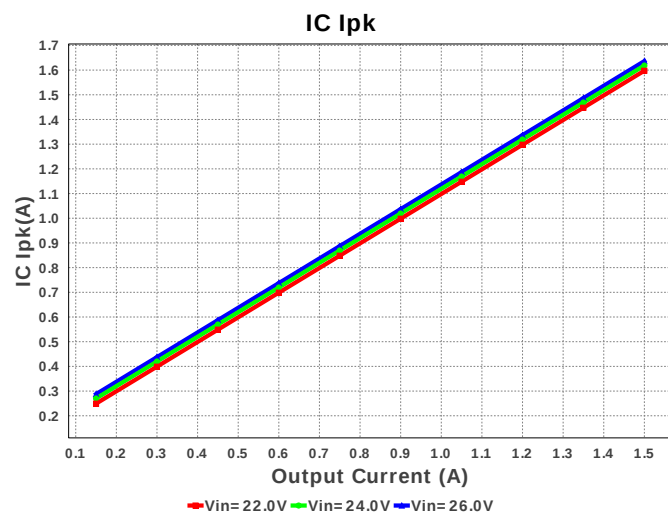


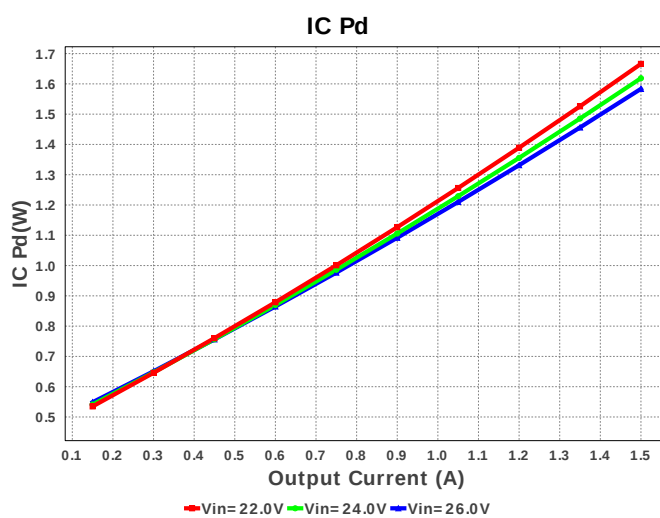
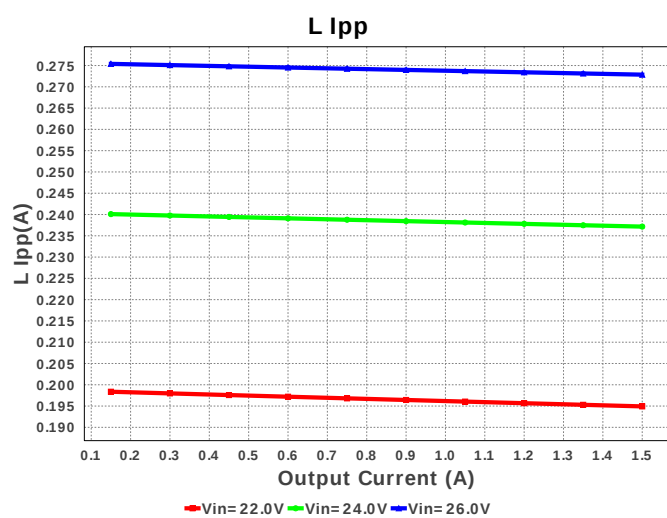
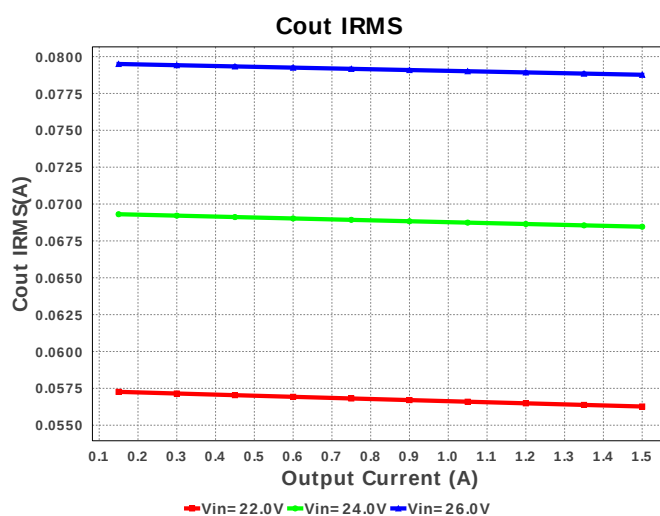
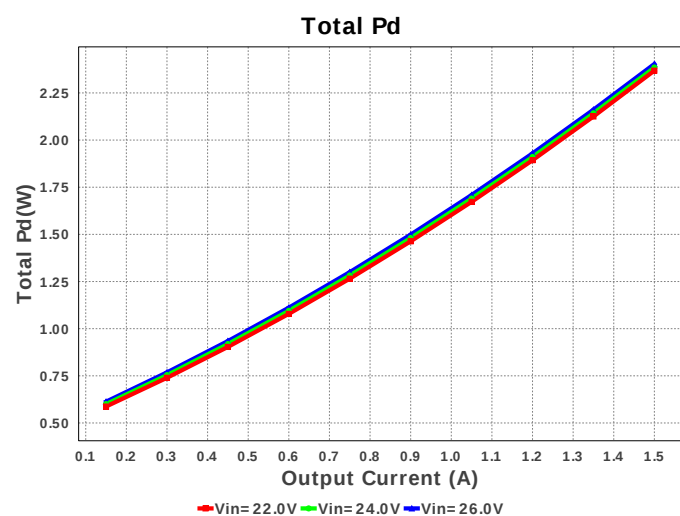
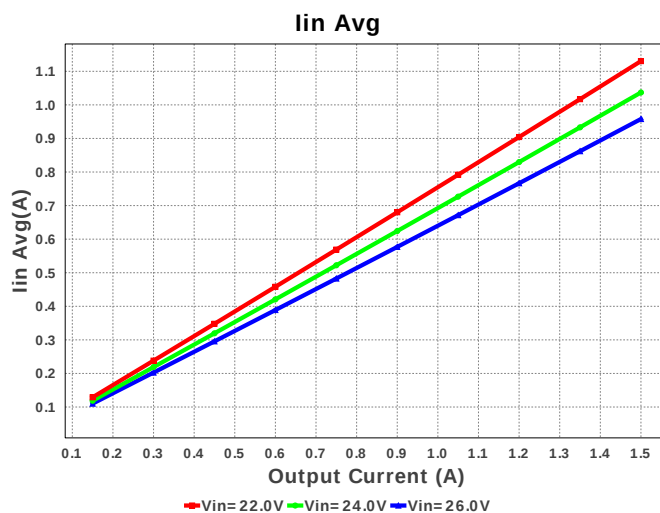
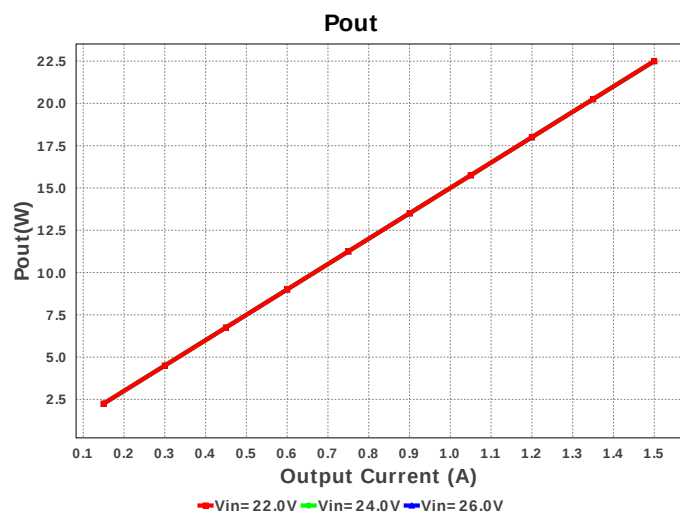


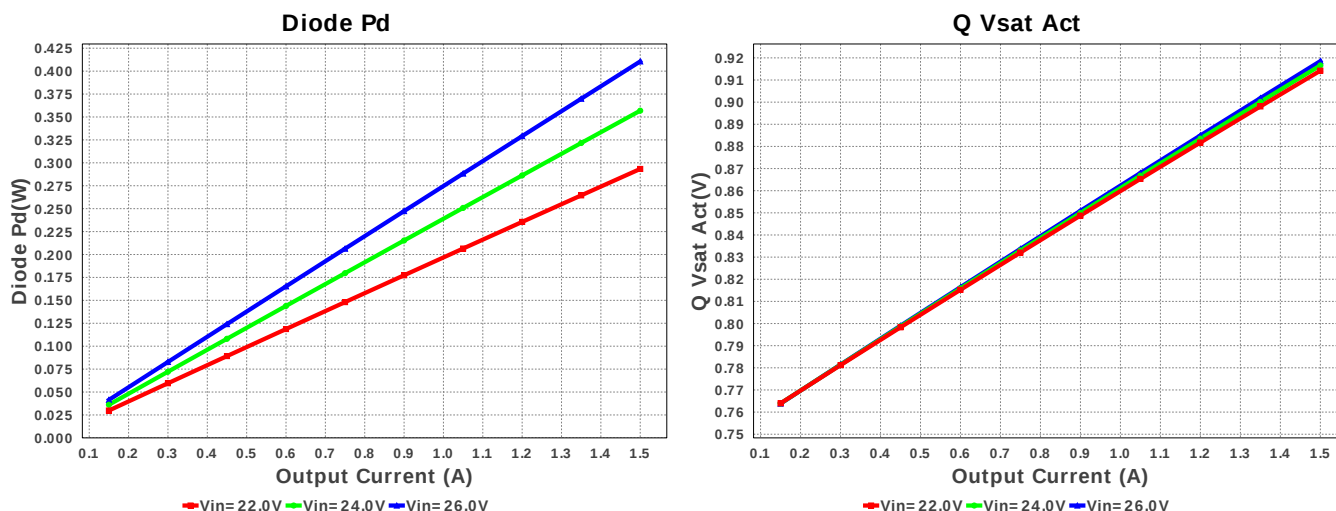
Device = LM2596SX-ADJ/NOPB
Topology = Buck
Created = 2017-08-21 08:18:17.907
BOM Cost = \$3.19
BOM Count = 8
Total Pd = 2.4W

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
6.	Rfb1	Vishay-Dale	CRCW04021K00FKED Series= CRCW..e3	Res= 1000.0 Ohm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm²
7.	Rfb2	Vishay-Dale	CRCW040211K3FKED Series= CRCW..e3	Res= 11.3 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm²
8.	U1	Texas Instruments	LM2596SX-ADJ/NOPB	Switcher	1	\$1.80	 TS5B 199 mm²









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	731.973 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	78.767 mA	Current	Output capacitor RMS ripple current
3.	IC Ipk	1.636 A	Current	Peak switch current in IC
4.	Iin Avg	957.83 mA	Current	Average input current
5.	L Ipp	272.86 mA	Current	Peak-to-peak inductor ripple current
6.	Q Iavg	913.447 mA	Current	Q Iavg
7.	BOM Count	8	General	Total Design BOM count
8.	FootPrint	594.0 mm ²	General	Total Foot Print Area of BOM components
9.	Frequency	150.0 kHz	General	Switching frequency
10.	IC Tolerance	0.0 V	General	IC Feedback Tolerance
11.	Mode	CCM	General	Conduction Mode
12.	Pout	22.5 W	General	Total output power
13.	Q Vsat Act	918.54 mV	General	Q Vsat
14.	Total BOM	\$3.19	General	Total BOM Cost
15.	Vout Actual	15.129 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
16.	Cross Freq	7.586 kHz	Op_point	Bode plot crossover frequency
17.	Duty Cycle	60.896 %	Op_point	Duty cycle
18.	Efficiency	90.349 %	Op_point	Steady state efficiency
19.	IC Tj	77.506 degC	Op_point	IC junction temperature
20.	ICThetaJA	30.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
21.	IOUT_OP	1.5 A	Op_point	Iout operating point
22.	Phase Marg	60.558 deg	Op_point	Bode Plot Phase Margin
23.	VIN_OP	26.0 V	Op_point	Vin operating point
24.	Vout p-p	24.557 mV	Op_point	Peak-to-peak output ripple voltage
25.	Cin Pd	2.033 mW	Power	Input capacitor power dissipation
26.	Cout Pd	558.377 μW	Power	Output capacitor power dissipation
27.	Diode Pd	410.587 mW	Power	Diode power dissipation
28.	IC Pd	1.584 W	Power	IC power dissipation
29.	L Pd	388.575 mW	Power	Inductor power dissipation
30.	Total Pd	2.403 W	Power	Total Power Dissipation
31.	Vout Tolerance	1.856 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	1.5	Maximum Output Current
2.	VinMax	26.0	Maximum input voltage
3.	VinMin	22.0	Minimum input voltage
4.	Vout	15.0	Output Voltage
5.	base_pn	LM2596	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. **LM2596** Product Folder : <http://www.ti.com/product/LM2596> : contains the data sheet and other resources.

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