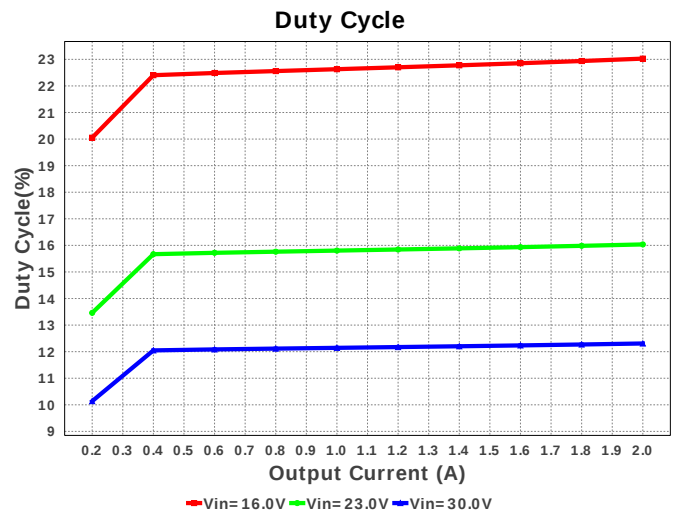
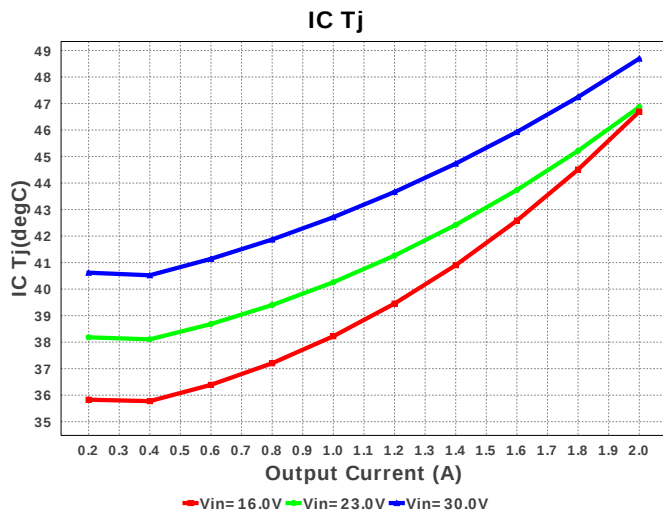


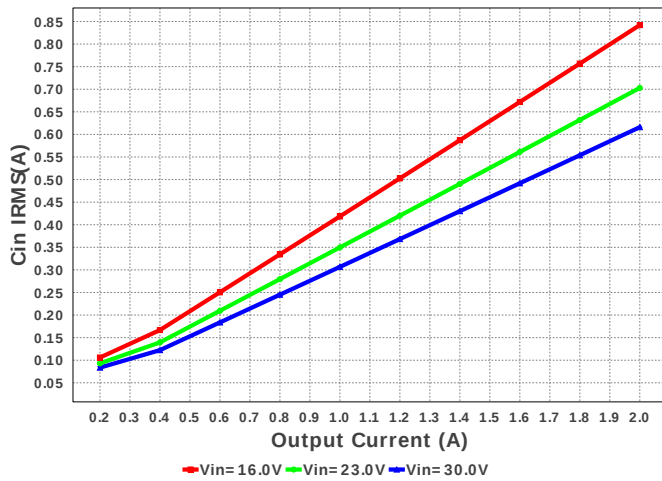


Device = LM25005MHX/NOPB
Topology = Buck
Created = 8/12/16 12:40:18 AM
BOM Cost = \$2.12
BOM Count = 15
Total Pd = 1.32W

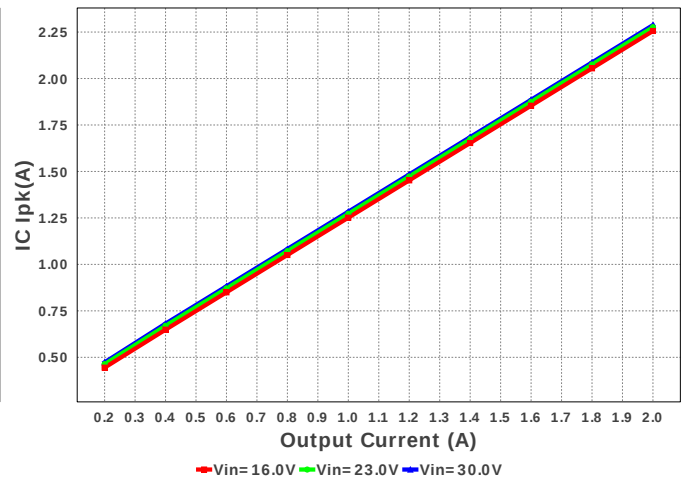
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
10.	L1	Bourns	SRU1038-100Y	L= 10.0 μ H DCR= 25.0 mOhm	1	\$0.33	 SRU1038 144 mm ²
11.	Rcomp	Panasonic	ERJ-6ENF1742V Series= ERJ-6E	Res= 17.4 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
12.	Rfb1	Panasonic	ERJ-6ENF1001V Series= ERJ-6E	Res= 1000.0 Ohm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
13.	Rfb2	Panasonic	ERJ-6ENF1691V Series= ERJ-6E	Res= 1.69 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
14.	Rt	Panasonic	ERJ-6ENF8661V Series= ERJ-6E	Res= 8.66 kOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	 0805 7 mm ²
15.	U1	Texas Instruments	LM25005MHX/NOPB	Switcher	1	\$1.40	 MXA20A 71 mm ²



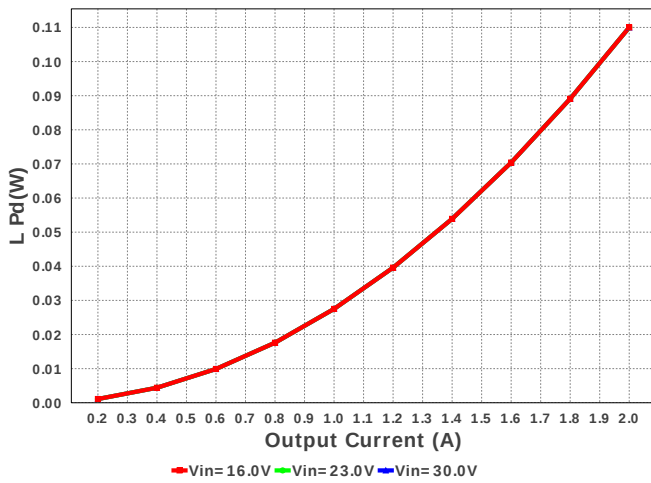
Cin IRMS



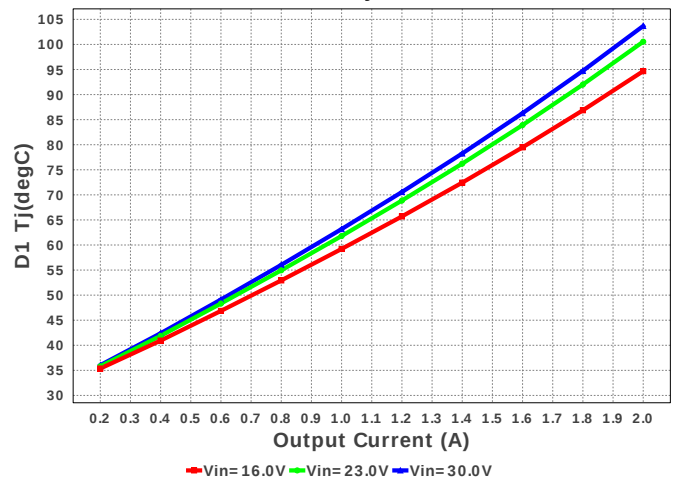
IC Ipk



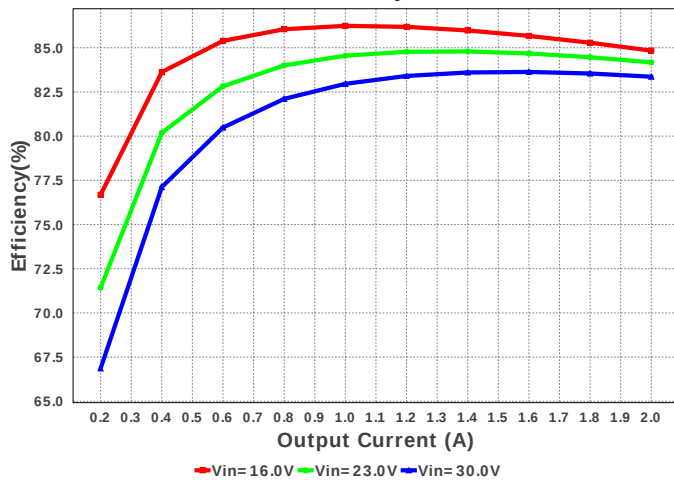
L Pd



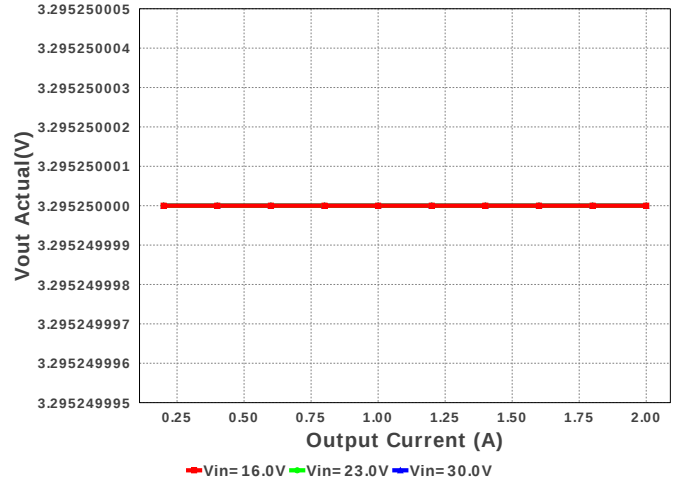
D1 Tj

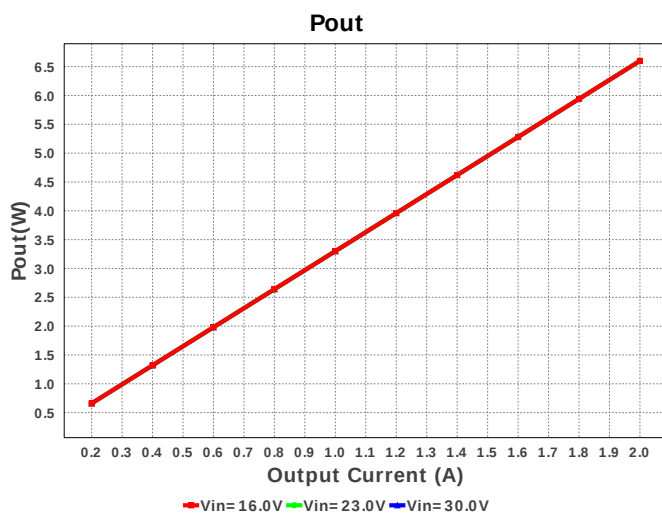
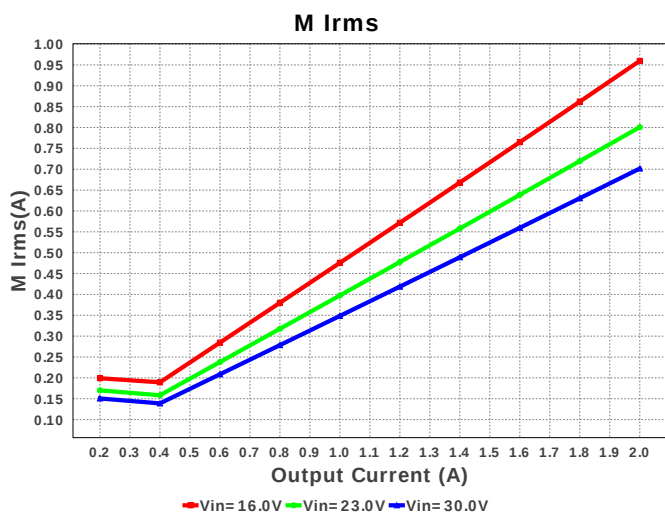
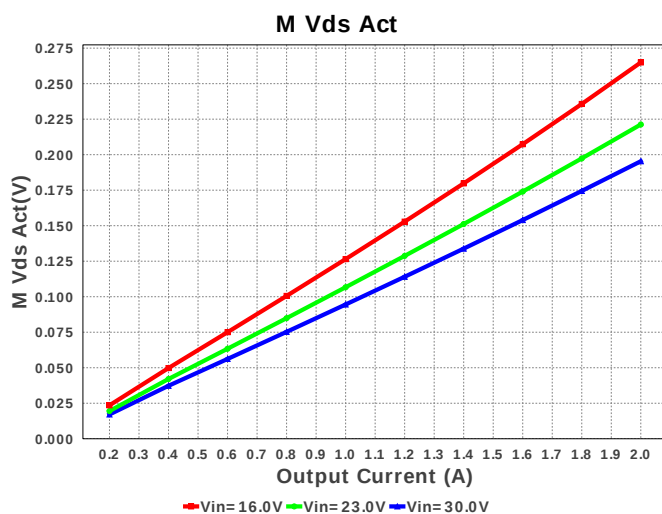
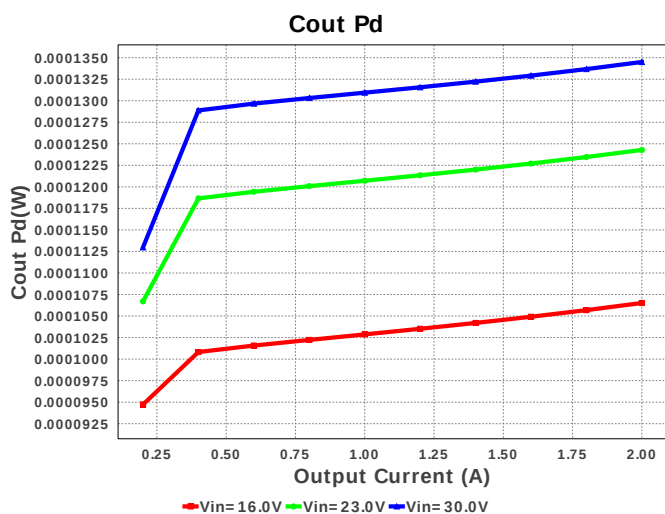
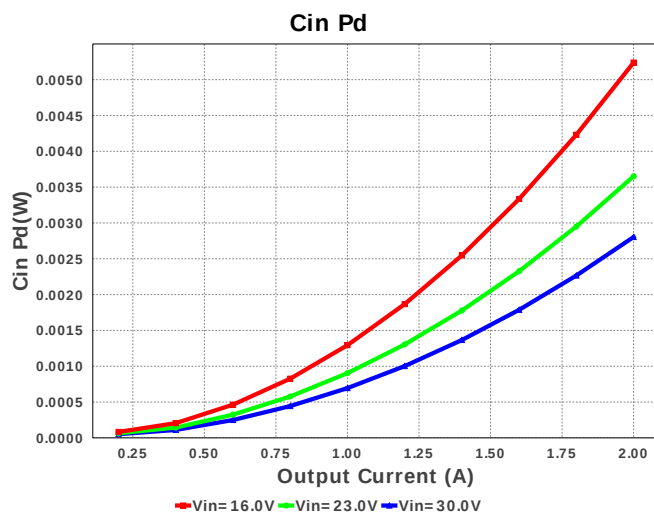
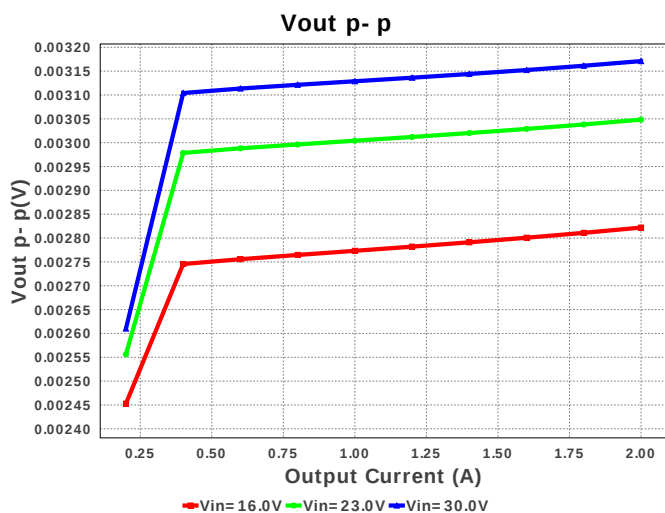


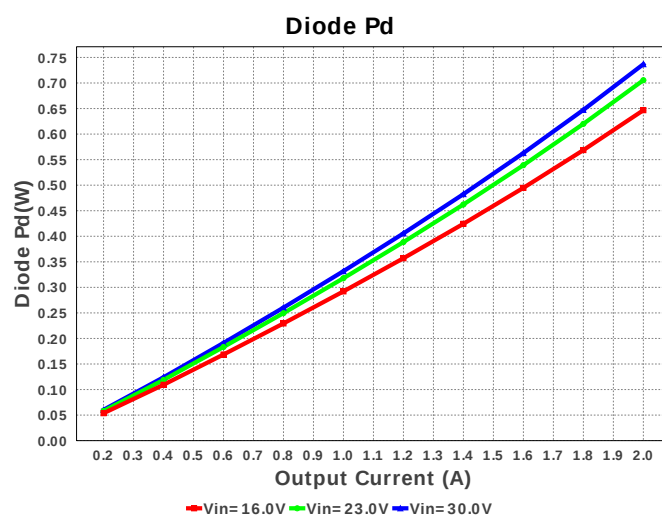
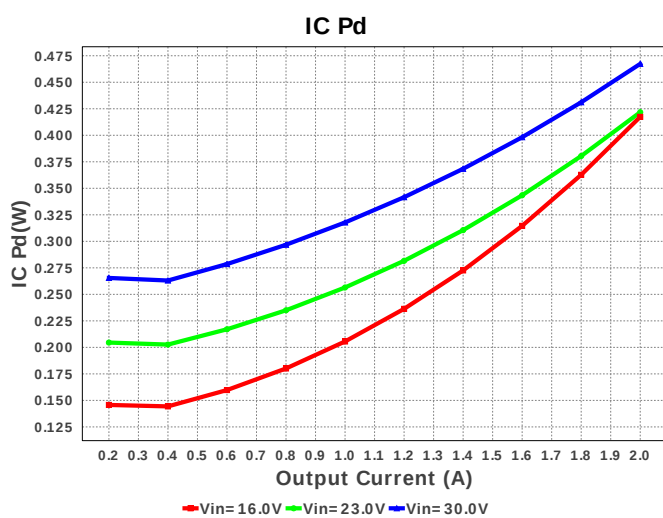
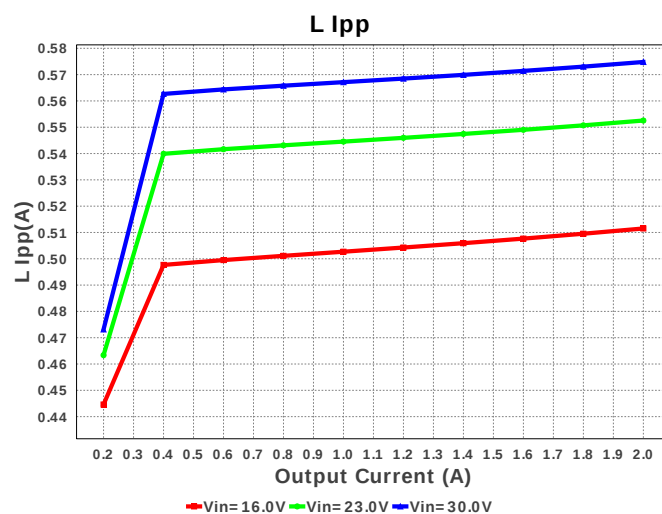
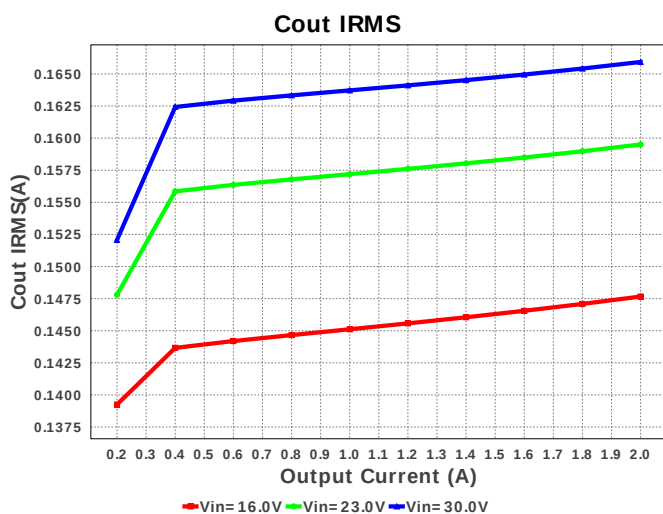
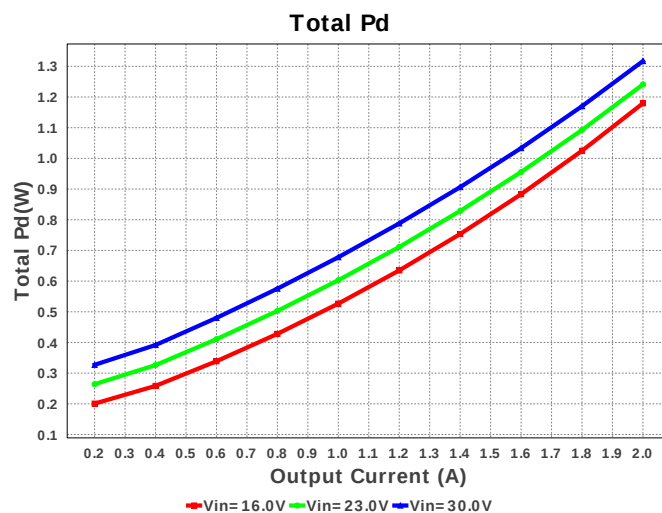
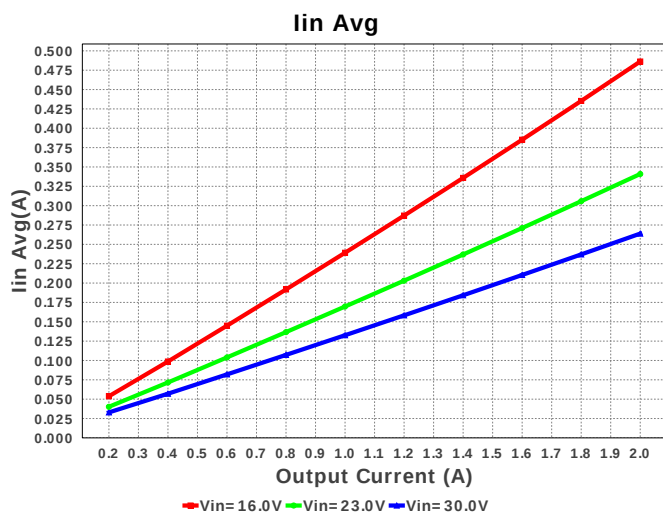
Efficiency



Vout Actual







Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	615.989 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	165.931 mA	Current	Output capacitor RMS ripple current
3.	IC Ipk	2.286 A	Current	Peak switch current in IC
4.	Iin Avg	263.9 mA	Current	Average input current
5.	L Ipp	574.8 mA	Current	Peak-to-peak inductor ripple current
6.	M1 Irms	701.659 mA	Current	Q lavg
7.	BOM Count	15	General	Total Design BOM count
8.	FootPrint	334.0 mm ²	General	Total Foot Print Area of BOM components
9.	Frequency	571.723 kHz	General	Switching frequency
10.	IC Tolerance	18.0 mV	General	IC Feedback Tolerance
11.	M Vds Act	195.365 mV	General	Voltage drop across the MosFET

#	Name	Value	Category	Description
12.	Mode	CCM	General	Conduction Mode
13.	Pout	6.6 W	General	Total output power
14.	Total BOM	\$2.12	General	Total BOM Cost
15.	D1 Tj	103.68 degC	Op_Point	D1 junction temperature
16.	Vout Actual	3.295 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
17.	Vout OP	3.3 V	Op_Point	Operational Output Voltage
18.	Duty Cycle	12.308 %	Op_point	Duty cycle
19.	Efficiency	83.364 %	Op_point	Steady state efficiency
20.	IC Tj	48.694 degC	Op_point	IC junction temperature
21.	ICThetaJA	40.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
22.	IOUT_OP	2.0 A	Op_point	Iout operating point
23.	VIN_OP	30.0 V	Op_point	Vin operating point
24.	Vout p-p	3.171 mV	Op_point	Peak-to-peak output ripple voltage
25.	Cin Pd	2.804 mW	Power	Input capacitor power dissipation
26.	Cout Pd	134.5 μ W	Power	Output capacitor power dissipation
27.	Diode Pd	736.799 mW	Power	Diode power dissipation
28.	IC Pd	467.339 mW	Power	IC power dissipation
29.	L Pd	110.0 mW	Power	Inductor power dissipation
30.	Total Pd	1.317 W	Power	Total Power Dissipation
31.	Vout Tolerance	2.757 %		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	30.0	Maximum input voltage
3.	VinMin	16.0	Minimum input voltage
4.	Vout	3.3	Output Voltage
5.	base_pn	LM25005	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. **LM25005 Product Folder** : <http://www.ti.com/product/LM25005> : contains the data sheet and other resources.

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