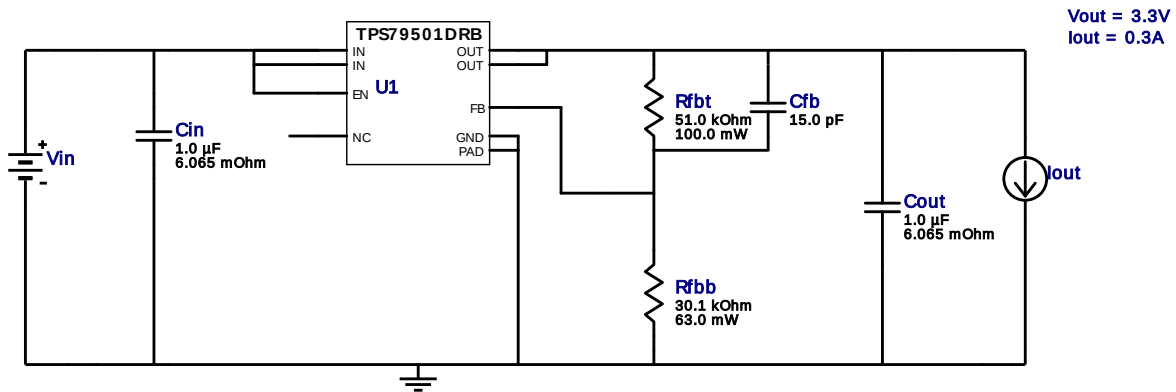


WEBENCH® Design Report

Design : 1228111/899 TPS79501DRBR
TPS79501DRBR 4.5V-5.2V to 3.30V @ 0.3A



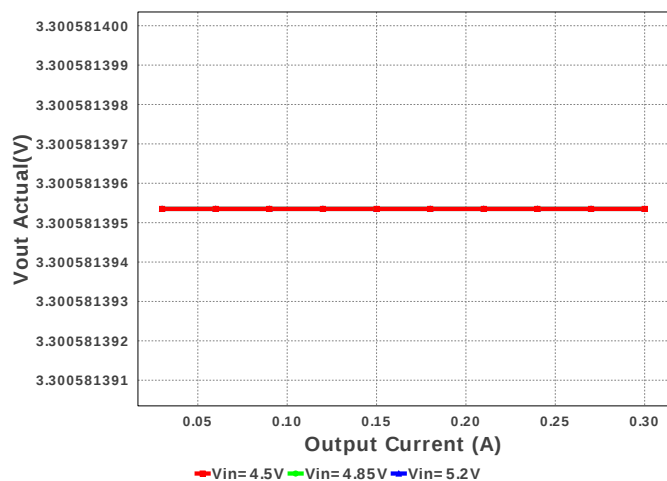
My Comments

No comments

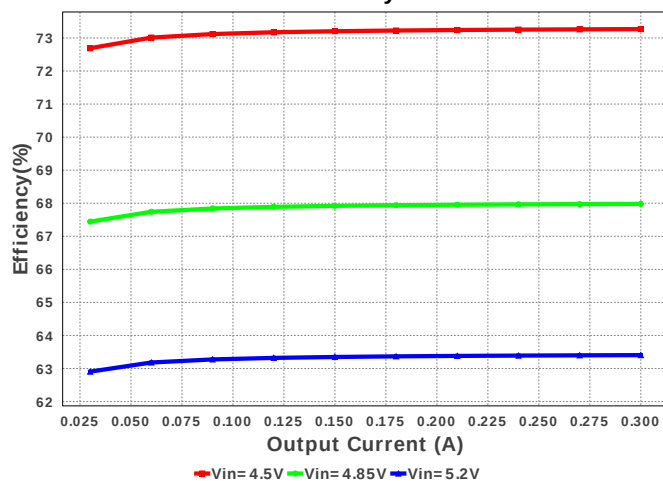
Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cfb	Yageo America	CC0201JRNPO8BN150 Series= C0G/NP0	Cap= 15.0 pF VDC= 5.0 V IRMS= 0.0 A	1	\$0.01	0201 2 mm ²
2.	Cin	MuRata	GRM188R60J105KA01D Series= X5R	Cap= 1.0 uF ESR= 6.065 mOhm VDC= 6.3 V IRMS= 1.36934 A	1	\$0.01	0603 5 mm ²
3.	Cout	MuRata	GRM188R60J105KA01D Series= X5R	Cap= 1.0 uF ESR= 6.065 mOhm VDC= 6.3 V IRMS= 1.36934 A	1	\$0.01	0603 5 mm ²
4.	Rfbb	Vishay-Dale	CRCW040230K1FKED Series= CRCW..e3	Res= 30.1 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
5.	Rfbb	Yageo America	RC0603FR-0751KL Series= ?	Res= 51.0 kOhm Power= 100.0 mW Tolerance= 1.0%	1	\$0.01	0603 5 mm ²
6.	U1	Texas Instruments	TPS79501DRBR	Switcher	1	\$1.00	DRB0008B 16 mm ²

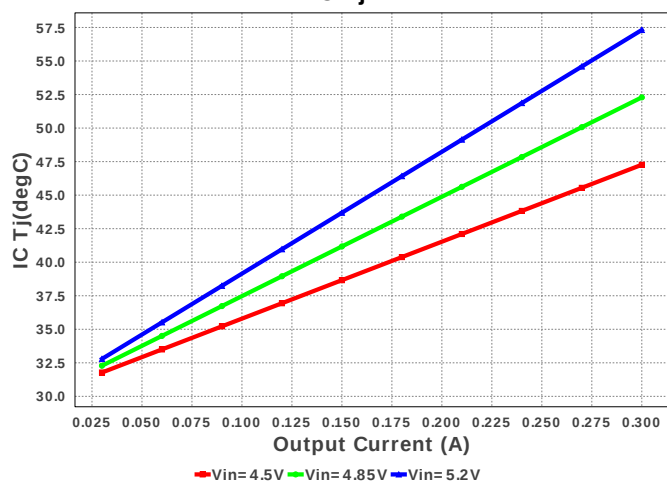
Vout Actual



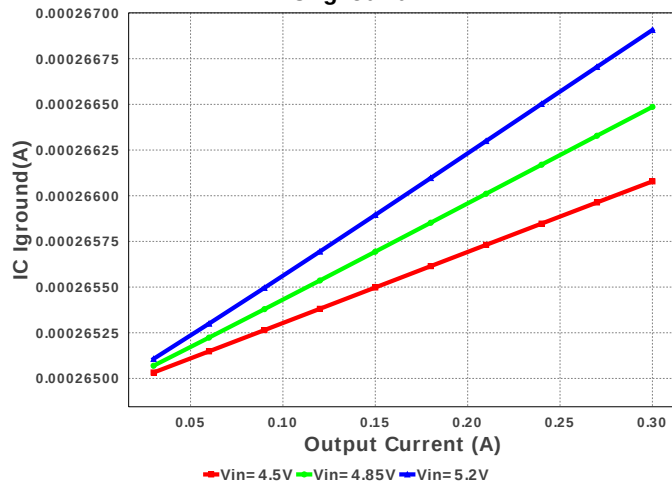
Efficiency



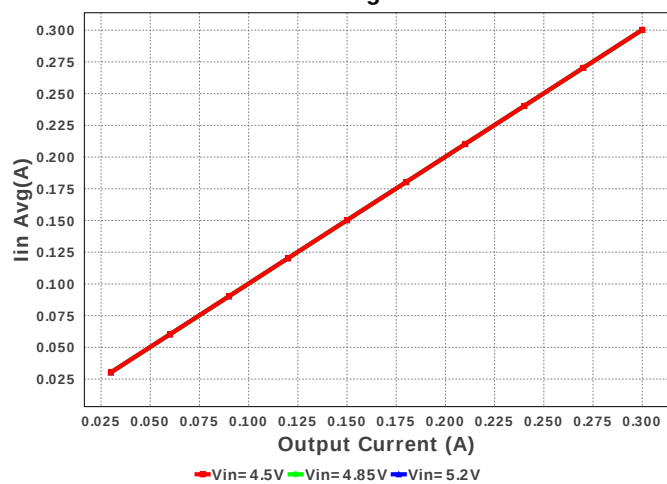
IC Tj



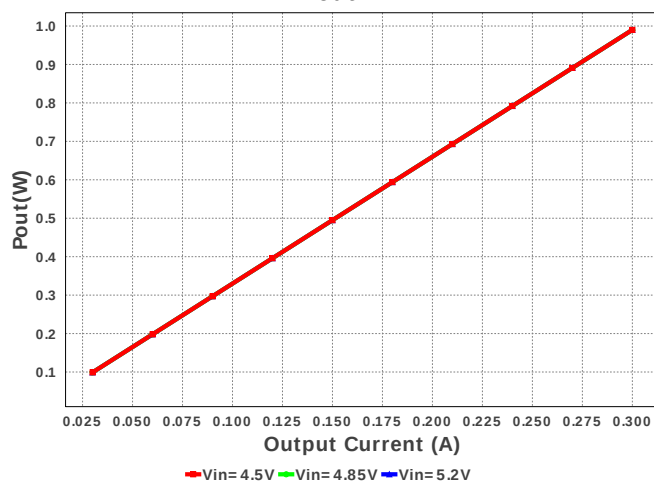
IC Ignd

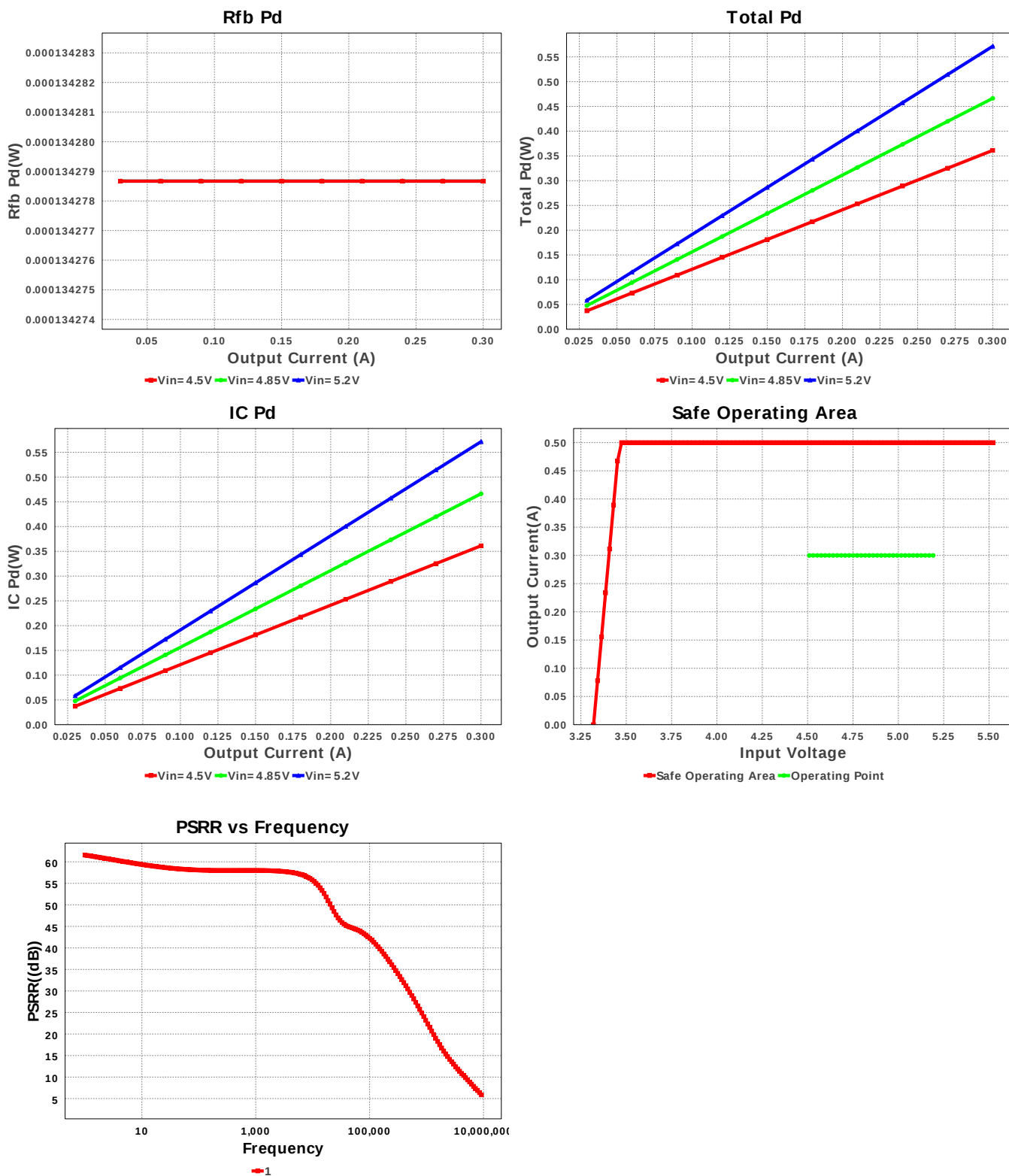


Iin Avg



Pout





Operating Values

#	Name	Value	Category	Description
1.	IC Iground	266.907 μ A	Current	IC ground current
2.	Iin Avg	300.27 mA	Current	Average input current
3.	BOM Count	6	General	Total Design BOM count
4.	FootPrint	35.0 mm ²	General	Total Foot Print Area of BOM components
5.	IC Tolerance	25.0 mV	General	IC Feedback Tolerance
6.	Output Noise RMS	50.6 μ V	General	Noise RMS
7.	Pout	990.174 mW	General	Total output power
8.	Total BOM	\$1.05	General	Total BOM Cost
9.	Vin p-p	52.0 mV	Op_Point	Input Source ripple voltage
10.	Vout Actual	3.301 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
11.	Vout OP	3.301 V	Op_Point	Operational Output Voltage

#	Name	Value	Category	Description
12.	Efficiency	63.397 %	Op_point	Steady state efficiency
13.	IC Tj	57.312 degC	Op_point	IC junction temperature
14.	ICThetaJA	47.8 degC/W	Op_point	IC junction-to-ambient thermal resistance
15.	IOUT_OP	300.0 mA	Op_point	Iout operating point
16.	Input Ripple Frequency	100.0 kHz	Op_point	Input Source Ripple Frequency for PSRR Calculation
17.	PSRR est.	-42.276 dB	Op_point	Power Supply Rejection Ratio estimated
18.	VIN_OP	5.2 V	Op_point	Vin operating point
19.	Vout p-p	400.111 μ V	Op_point	Peak-to-peak output ripple voltage
20.	IC Pd	571.388 mW	Power	IC power dissipation
21.	Rfb Pd	134.279 μ W	Power	Rfb Power Dissipation
22.	Total Pd	571.388 mW	Power	Total Power Dissipation
23.	Vout Tolerance	3.337 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	300.0 m	Maximum Output Current
2.	VinMax	5.2	Maximum input voltage
3.	VinMin	4.5	Minimum input voltage
4.	Vout	3.3	Output Voltage
5.	base_pn	TPS79501	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

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- TPS79501** Product Folder : <http://www.ti.com/product/TPS795> : contains the data sheet and other resources.

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