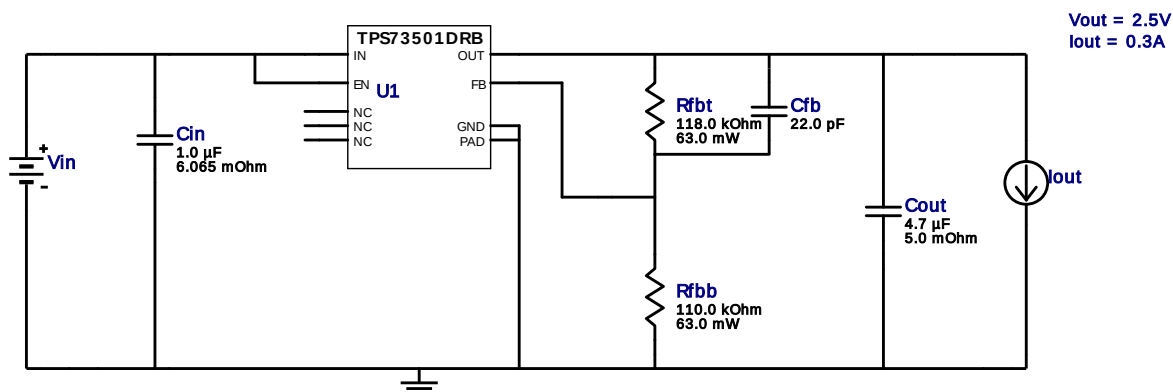


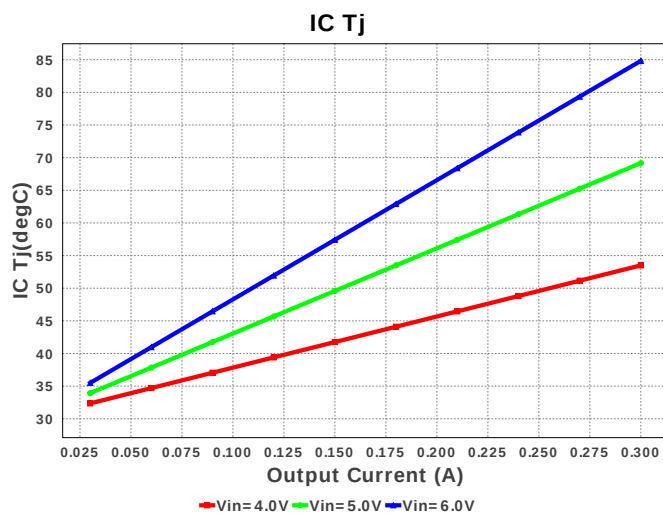
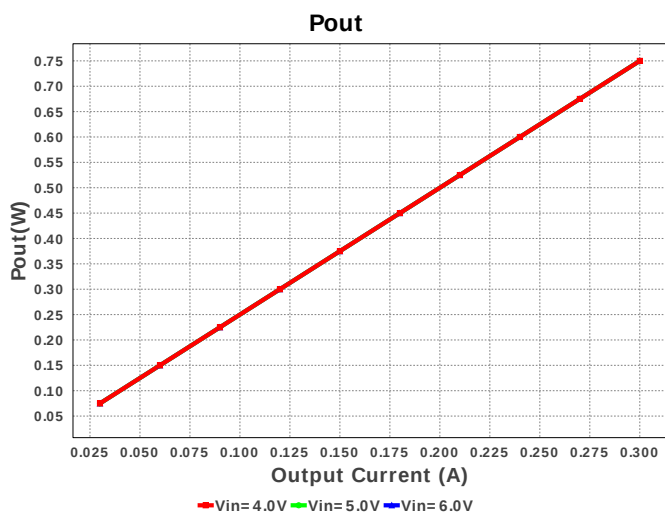
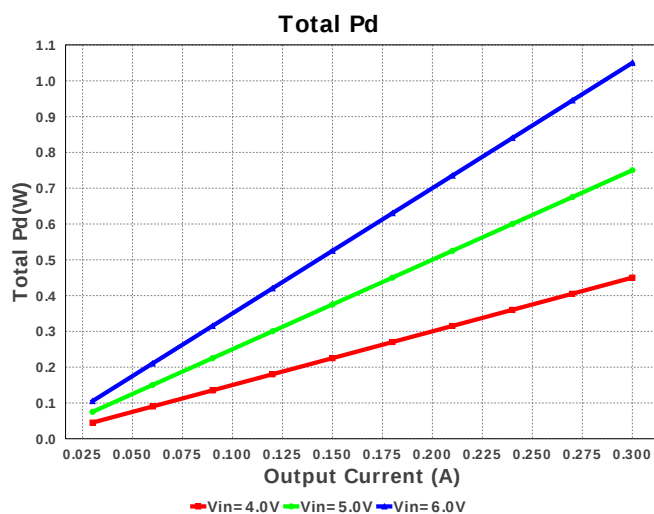
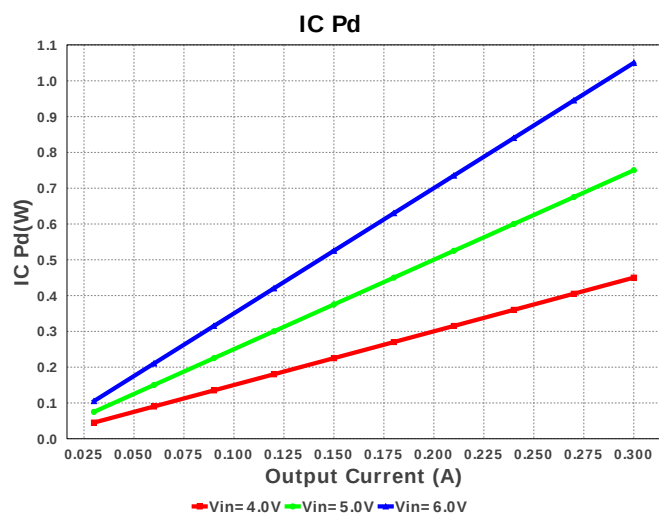
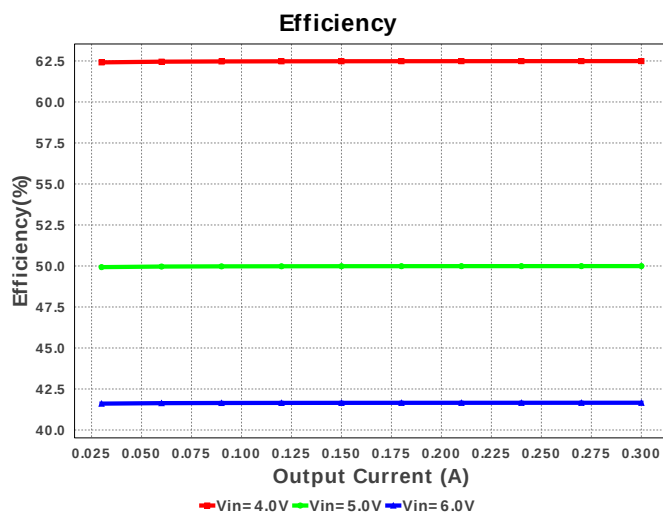
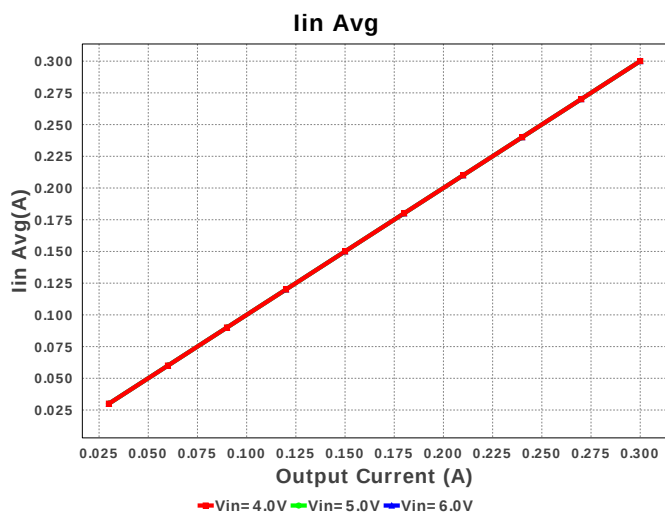
WEBENCH® Design Report

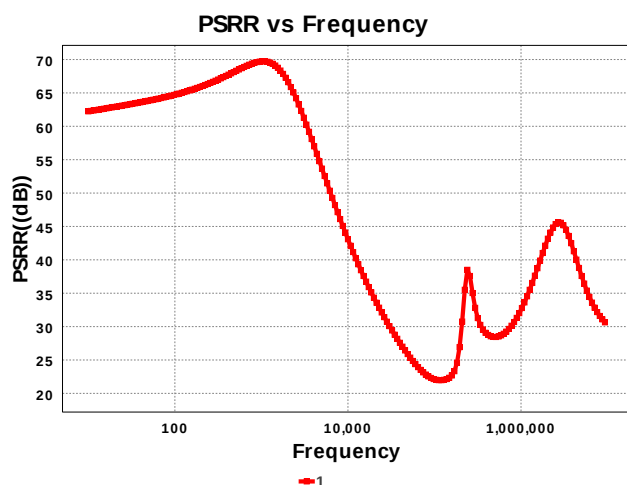
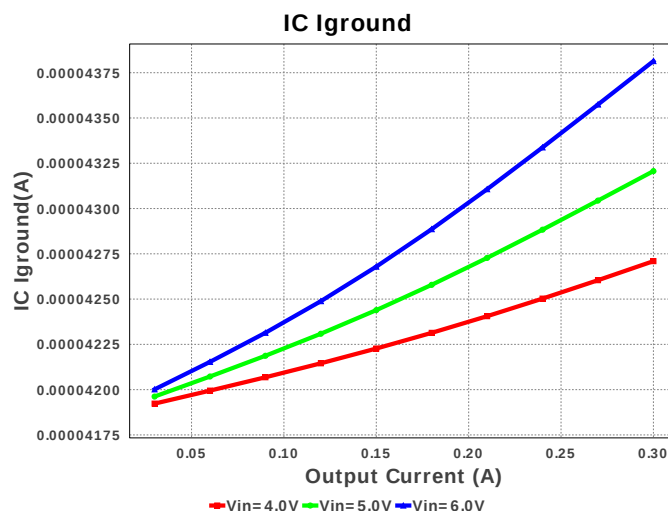
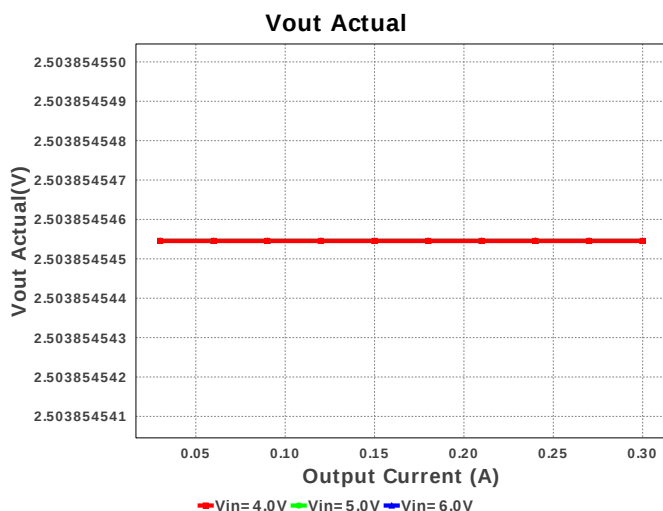
Design : 4769495/6 TPS73501DRBR
TPS73501DRBR 4.0V-6.0V to 2.50V @ 0.3A



Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cfb	Kemet	C0201C220J3GACTU Series= C0G/NP0	Cap= 22.0 pF VDC= 5.0 V IRMS= 0.0 A	1	\$0.01	0201 2 mm ²
2.	Cin	MuRata	GRM188R61A105KA61D Series= X5R	Cap= 1.0 uF ESR= 6.065 mOhm VDC= 10.0 V IRMS= 1.30675 A	1	\$0.01	0603 5 mm ²
3.	Cout	MuRata	GRM188R60J475KE19D Series= X5R	Cap= 4.7 uF ESR= 5.0 mOhm VDC= 6.3 V IRMS= 2.0 A	1	\$0.01	0603 5 mm ²
4.	Rfbb	Vishay-Dale	CRCW0402110KFKED Series= CRCW..e3	Res= 110.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
5.	Rfbt	Vishay-Dale	CRCW0402118KFKED Series= CRCW..e3	Res= 118.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
6.	U1	Texas Instruments	TPS73501DRBR	Switcher	1	\$0.49	DRB0008A 16 mm ²





Operating Values

#	Name	Value	Category	Description
1.	IC Igroud	43.814 μ A	Current	IC ground current
2.	Iin Avg	300.04 mA	Current	Average input current
3.	BOM Count	6	General	Total Design BOM count
4.	FootPrint	33.0 mm ²	General	Total Foot Print Area of BOM components
5.	IC Tolerance	36.2 mV	General	IC Feedback Tolerance
6.	Output Noise RMS	237.5 μ V	General	Noise RMS
7.	Pout	750.0 mW	General	Total output power
8.	Total BOM	\$0.54	General	Total BOM Cost
9.	Vin p-p	60.0 mV	Op_Point	Input Source ripple voltage
10.	Vout Actual	2.504 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
11.	Vout OP	2.5 V	Op_Point	Operational Output Voltage
12.	Efficiency	41.659 %	Op_point	Steady state efficiency
13.	IC Tj	84.824 degC	Op_point	IC junction temperature
14.	ICThetaJA	52.2 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.	-22.101 dB	Op_point	Power Supply Rejection Ratio estimated
18.	VIN_OP	6.0 V	Op_point	Vin operating point
19.	Vout p-p	4.711 mV	Op_point	Peak-to-peak output ripple voltage
20.	IC Pd	1.05 W	Power	IC power dissipation
21.	Total Pd	1.05 W	Power	Total Power Dissipation
22.	Vout Tolerance	4.074 %		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	6.0	Maximum input voltage
3.	VinMin	4.0	Minimum input voltage
4.	Vout	2.5	Output Voltage

#	Name	Value	Description
5.	base_pn	TPS73501	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

- 1.
2. **TPS73501** Product Folder : <http://www.ti.com/product/TPS735> : contains the data sheet and other resources.

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