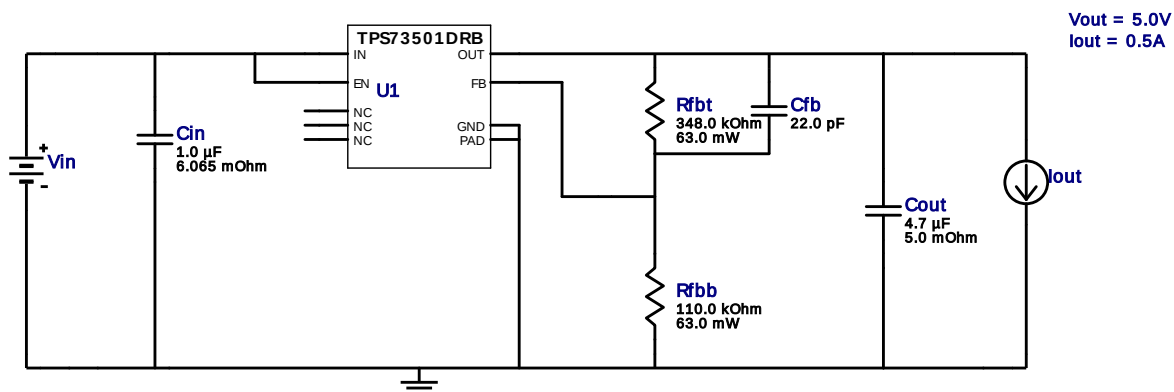


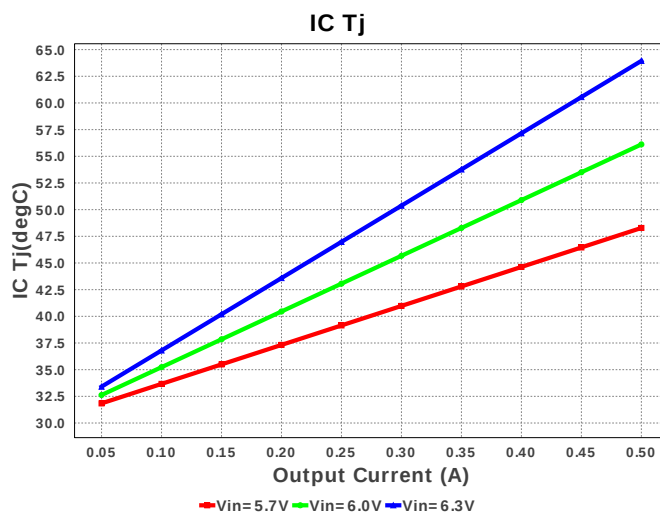
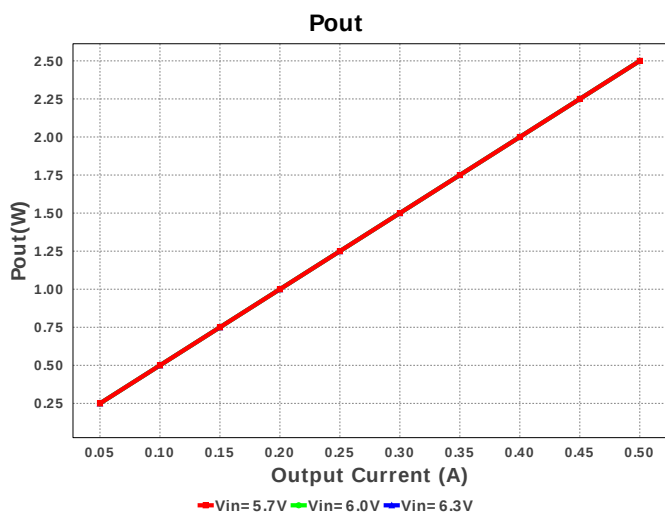
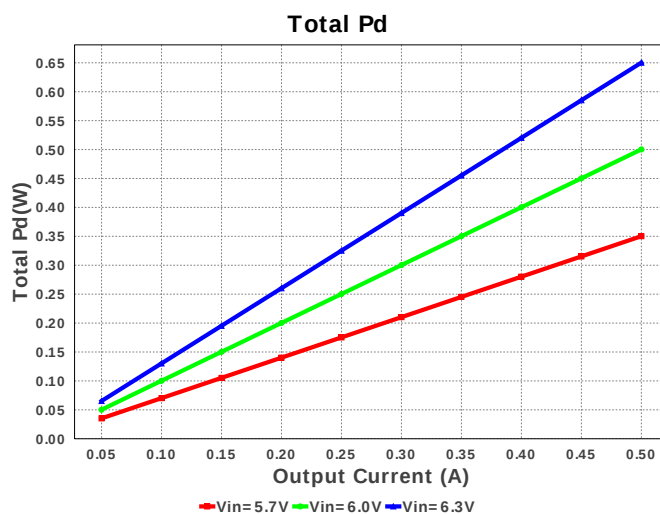
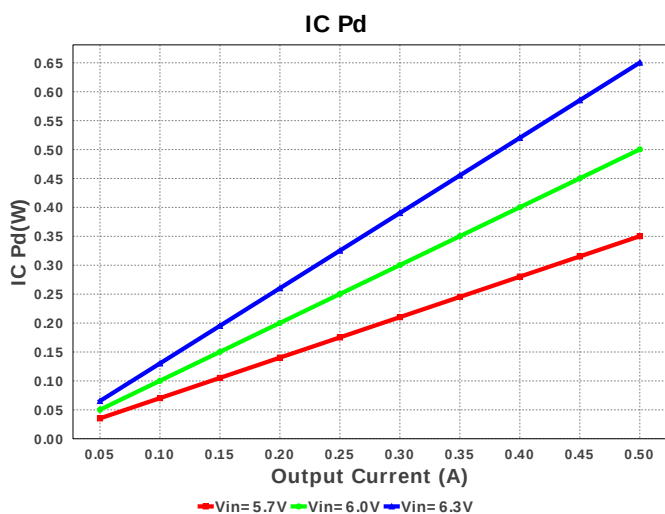
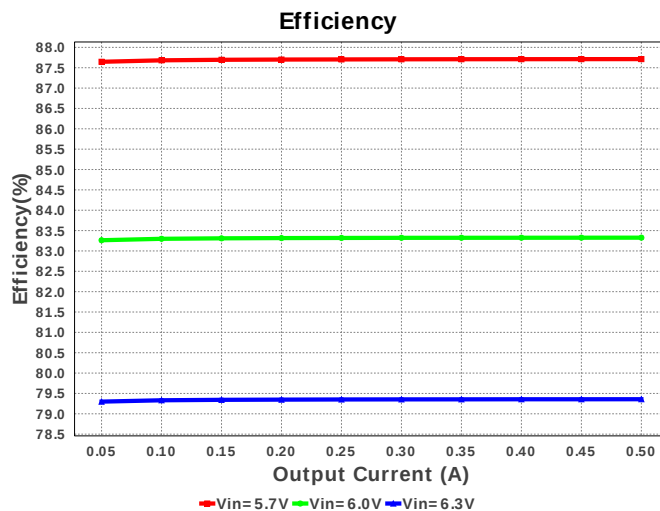
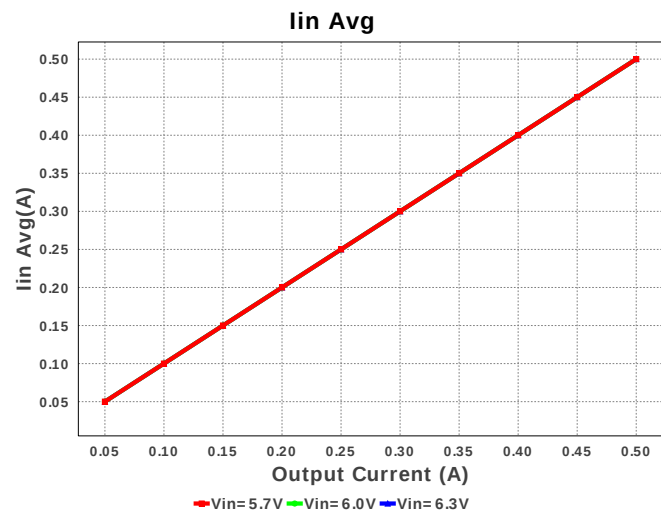
WEBENCH® Design Report

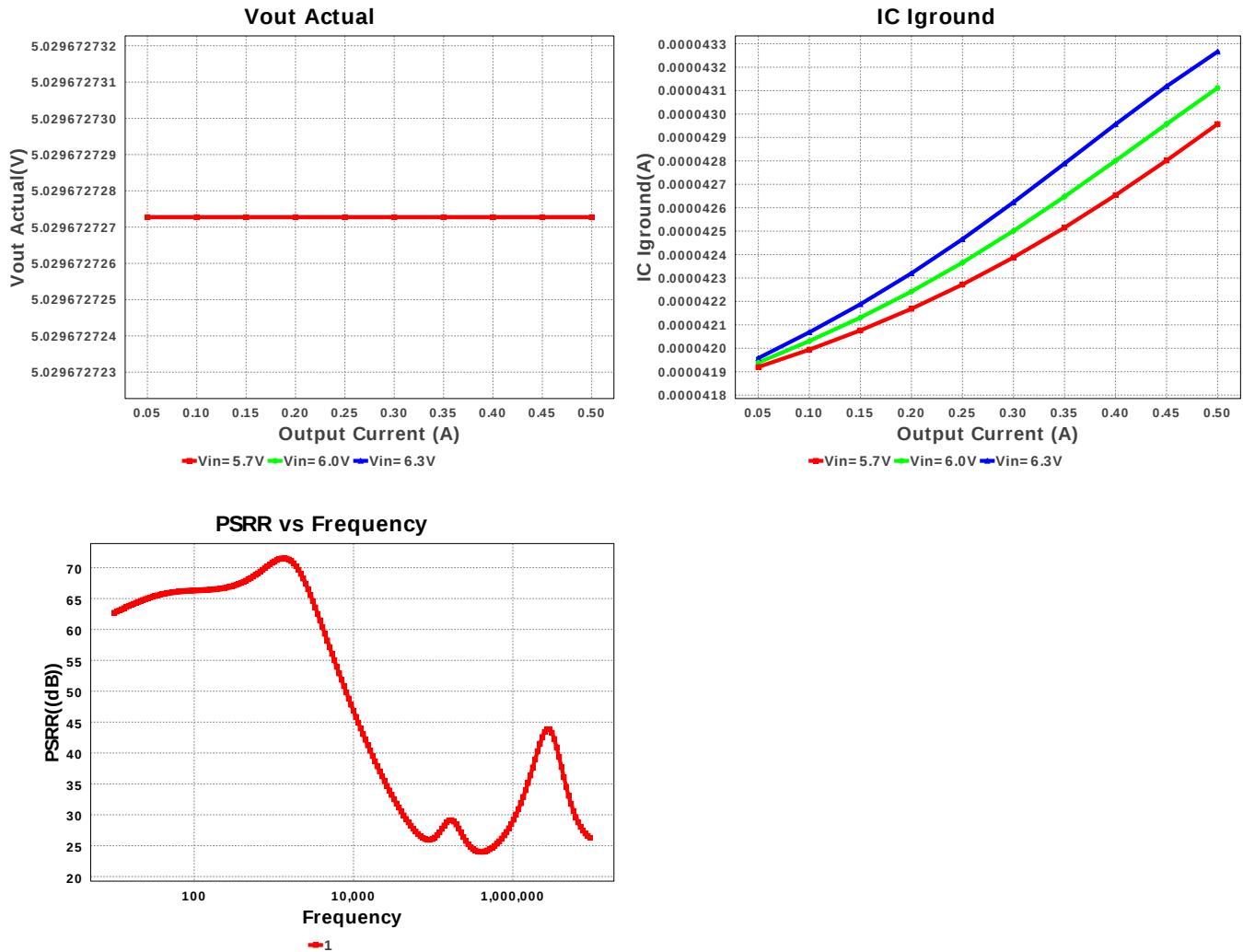
Design : 4737126/8 TPS73501DRBR
TPS73501DRBR 5.7V-6.3V to 5.00V @ 0.5A



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	CRCW0402348KFKED Series= CRCW..e3	Res= 348.0 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 Iground	43.266 μ A	Current	IC ground current
2.	Iin Avg	500.04 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	475.0 μ V	General	Noise RMS
7.	Pout	2.5 W	General	Total output power
8.	Total BOM	\$0.54	General	Total BOM Cost
9.	Vin p-p	63.0 mV	Op_Point	Input Source ripple voltage
10.	Vout Actual	5.03 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
11.	Vout OP	5.0 V	Op_Point	Operational Output Voltage
12.	Efficiency	79.356 %	Op_point	Steady state efficiency
13.	IC Tj	63.944 degC	Op_point	IC junction temperature
14.	ICThetaJA	52.2 degC/W	Op_point	IC junction-to-ambient thermal resistance
15.	IOUT_OP	500.0 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.	-26.143 dB	Op_point	Power Supply Rejection Ratio, estimated
18.	VIN_OP	6.3 V	Op_point	Vin operating point
19.	Vout p-p	3.106 mV	Op_point	Peak-to-peak output ripple voltage
20.	IC Pd	650.273 mW	Power	IC power dissipation
21.	Total Pd	650.273 mW	Power	Total Power Dissipation
22.	Vout Tolerance	4.578 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	500.0 m	Maximum Output Current
2.	SoftStart	0.293 ms	Soft Start Time (ms)
3.	VinMax	6.3	Maximum input voltage
4.	VinMin	5.7	Minimum input voltage

#	Name	Value	Description
5.	Vout	5.0	Output Voltage
6.	base_pn	TPS73501	Texas Instruments Base Part Number
7.	source	DC	Input Source Type
8.	ta	30.0	Ambient temperature

Design Assistance

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

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