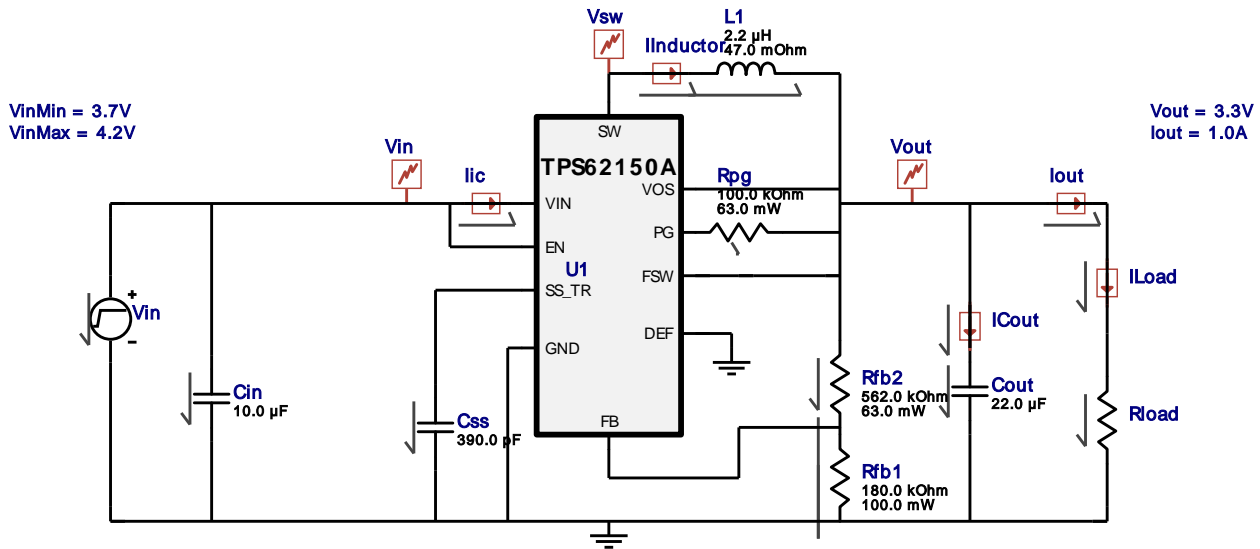
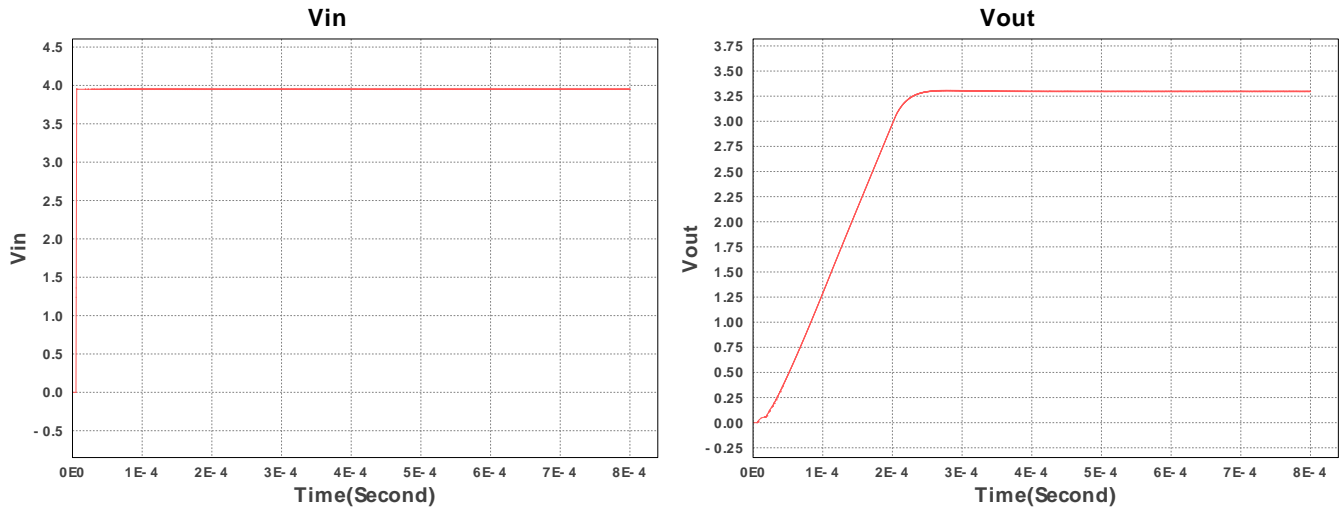


WEBENCH® Electrical Simulation Report

Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cin	Samsung Electro-Mechanics	CL10A106MQ8NUNC Series= X5R	Cap= 10.0 μ F VDC= 6.3 V IRMS= 0.0 A	1	\$0.02	0603 5 mm ²
2.	Cout	Taiyo Yuden	JMK212BJ226MG-T Series= X5R	Cap= 22.0 μ F VDC= 6.3 V IRMS= 0.0 A	1	\$0.06	0805 7 mm ²
3.	Css	MuRata	GRM033R71C391KA01D Series= X7R	Cap= 390.0 pF VDC= 16.0 V IRMS= 0.0 A	1	\$0.01	0201 2 mm ²
4.	L1	Bourns	SDR0403-2R2ML	L= 2.2 μ H DCR= 47.0 mOhm	1	\$0.18	SDR0403 28 mm ²
5.	Rfb1	Susumu Co Ltd	RR1220P-184-D Series= 264	Res= 180.0 kOhm Power= 100.0 mW Tolerance= 0.5%	1	\$0.01	0805 7 mm ²
6.	Rfb2	Vishay-Dale	CRCW0402562KFKED Series= CRCW..e3	Res= 562.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
7.	Rpg	Vishay-Dale	CRCW0402100KFKED Series= CRCW..e3	Res= 100.0 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
8.	U1	Texas Instruments	TPS62150ARGTR	Switcher	1	\$0.85	S-PVQFN-N16 25 mm ²

Simulation Parameters

#	Name	Parameter Name	Description	Values
1.	Rload	R	load resistance	3.3 Ohm



Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	379.506 mA	Current	Input capacitor RMS ripple current
2.	Cout IRMS	73.525 mA	Current	Output capacitor RMS ripple current
3.	IC Ipk	1.127 A	Current	Peak switch current in IC
4.	Iin Avg	835.83 mA	Current	Average input current
5.	L Ipp	254.7 mA	Current	Peak-to-peak inductor ripple current
6.	BOM Count	8	General	Total Design BOM count
7.	FootPrint	79.0 mm ²	General	Total Foot Print Area of BOM components
8.	Frequency	1.326 MHz	General	Switching frequency
9.	Mode	CCM	General	Conduction Mode
10.	Pout	3.3 W	General	Total output power
11.	Total BOM	\$1.15	General	Total BOM Cost
12.	Vout OP	3.3 V	Op_Point	Operational Output Voltage
13.	Duty Cycle	82.554 %	Op_point	Duty cycle
14.	Efficiency	94.005 %	Op_point	Steady state efficiency
15.	IC Tj	34.415 degC	Op_point	IC junction temperature
16.	ICThetaJA	29.1 degC/W	Op_point	IC junction-to-ambient thermal resistance
17.	IOUT_OP	1.0 A	Op_point	Iout operating point
18.	VIN_OP	4.2 V	Op_point	Vin operating point
19.	Vout p-p	1.28 mV	Op_point	Peak-to-peak output ripple voltage
20.	Cin Pd	0.0 W	Power	Input capacitor power dissipation
21.	Cout Pd	0.0 W	Power	Output capacitor power dissipation
22.	IC Iq Pd	84.0 μW	Power	IC Iq Pd
23.	IC Pd	151.717 mW	Power	IC power dissipation
24.	L Pd	58.75 mW	Power	Inductor power dissipation
25.	Total Pd	210.454 mW	Power	Total Power Dissipation

Design Inputs

#	Name	Value	Description
1.	Iout	1.0 A	Maximum Output Current
2.	Iout1	1.0 Amps	Output Current #1
3.	VinMax	4.2 V	Maximum input voltage
4.	VinMin	3.7 V	Minimum input voltage
5.	Vout	3.3 V	Output Voltage
6.	Vout1	3.3 Volt	Output Voltage #1
7.	base_pn	TPS62150A	Texas Instruments Base Part Number
8.	source	DC	Input Source Type
9.	ta	30.0 degC	Ambient temperature

Design Assistance

1. Feature Highlights: DCS-Control(TM) Architecture with upto 1A output current, 3V to 17V Input Voltage Range, Adjustable output voltage from 0.9V to 6V>Selectable operating frequency, Optional Softstart Capacitor for slow startup, Tracking,Pin selectable output voltage (nominal, +5%) Seamless Power Save Mode for Light Load Efficiency, Power Good Output, 100% Duty Cycle mode, Short Circuit Protection, PG=Low when device is in shutdown through EN, UVLO or Thermal Shutdown

2. TPS62150A Product Folder : <http://www.ti.com/product/TPS62150A> : contains the data sheet and other resources.

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You should completely validate and test your design implementation to confirm the system functionality for your application prior to production.

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