
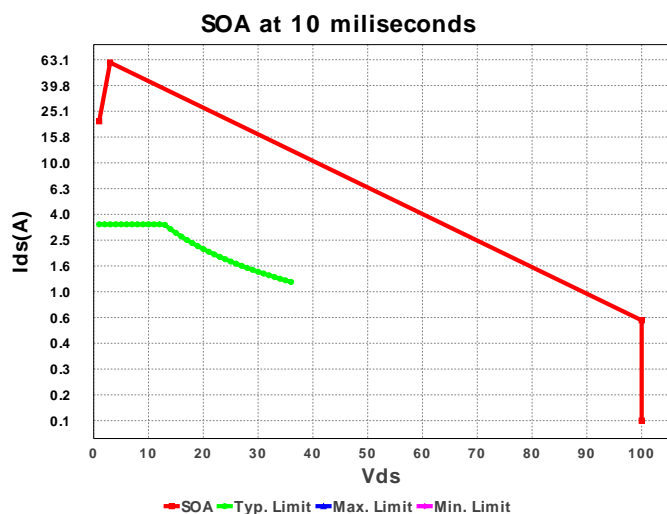




Device = TPS2491DGSR  
Topology = Hotswap  
Created = 3/2/14 4:43:07 AM  
BOM Cost = \$2.64  
Total Pd = 0.13W  
Footprint = 216.0mm2  
BOM Count = 12

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
11.	Rs	Stackpole Electronics Inc	CSR1206FK15L0 Series= ?	Res= 15.0 mOhm Power= 500.0 mW Tolerance= 1.0%	1	\$0.11	 1206 11mm2
12.	U1	Texas Instruments	TPS2491DGSR	Switcher	1	\$1.40	NA 0mm2



## Operating Values

#	Name	Value	Category	Description
1.	BOM Count	12	General	Total Design BOM count
2.	FootPrint	216.0 mm2	General	Total Foot Print Area of BOM components
3.	Pout	86.286 W	General	Total output power
4.	Total BOM	\$2.64	General	Total BOM Cost
5.	Q TjOp	30.001 degC	Op_Point	Q TjOp
6.	Vout OP	35.953 V	Op_Point	Operational Output Voltage
7.	Efficiency	99.85 %	Op_point	Steady state efficiency
8.	IOUT_OP	2.4 A	Op_point	Iout operating point
9.	VIN_OP	36.0 V	Op_point	Vin operating point
10.	FET Pd	27.275 mW	Power	FET Power Dissipation
11.	Total Pd	129.875 mW	Power	Total Power Dissipation
12.	Calculated FET Plim	42.885 W	Unknown	Calculated FET Power Limit
13.	Calculated Voff	15.066 V	Unknown	Calculated Voff
14.	Calculated Von	16.271 V	Unknown	Calculated Von
15.	Calculated Vprog	1.287 V	Unknown	Calculated Vprog
16.	Charge Time	6.648 ms	Unknown	Charge Time
17.	Turn on time	3.749 ms	Unknown	Turn on time

## Design Inputs

#	Name	Value	Description
1.	Iout	2.4 A	Maximum Output Current
2.	VinMax	36.0 V	Maximum input voltage
3.	VinMin	18.0 V	Minimum input voltage
4.	base_pn	TPS2491	Texas Instruments Base Part Number
5.	currentLimit	3.0 A	Current limit
6.	outputLoadCapacitance	220.0 uF	Output Load capacitance
7.	source	DC	Input Source Type
8.	ta	30.0 degC	Ambient temperature

## Design Assistance

1. The TPS2491 Webench Designer provides the design engineer with a fully functional HotSwap schematic for the positive voltage system. The created design calculates a complete BOM and the total cost of the BOM. Also, the Webench designer offers simulation to emulate the behavior of the device such as Power Sequence, Restart Sequence and Input Transients. To learn more about HotSwap devices and its applications, please refer to the following link: [http://www.ti.com/analog/docs/analogtechdoc\\_hh.tsp?viewType=mostuseful&techDoc=1&rootFamilyId=64&familyId=420&docCategoryId=1&Input3=GoFET](http://www.ti.com/analog/docs/analogtechdoc_hh.tsp?viewType=mostuseful&techDoc=1&rootFamilyId=64&familyId=420&docCategoryId=1&Input3=GoFET) power limit may have been derated by: 100.0.

2. TPS2491 Product Folder : <http://www.ti.com/product/TPS2491> : contains the data sheet and other resources.

Texas Instruments' WEBENCH simulation tools attempt to recreate the performance of a substantially equivalent physical implementation of the design. Simulations are created using Texas Instruments' published specifications as well as the published specifications of other device manufacturers. While Texas Instruments does update this information periodically, this information may not be current at the time the simulation is built. Texas Instruments does not warrant the accuracy or completeness of the specifications or any information contained therein. Texas Instruments does not warrant that any designs or recommended parts will meet the specifications you entered, will be suitable for your application or fit for any particular purpose, or will operate as shown in the simulation in a physical implementation. Texas Instruments does not warrant that the designs are production worthy.

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

Use of Texas Instruments' WEBENCH simulation tools is subject to [Texas Instruments' Site Terms and Conditions of Use](#). Prototype boards based on WEBENCH created designs are provided AS IS without warranty of any kind for evaluation and testing purposes and are subject to the terms of the [Evaluation License Agreement](#).