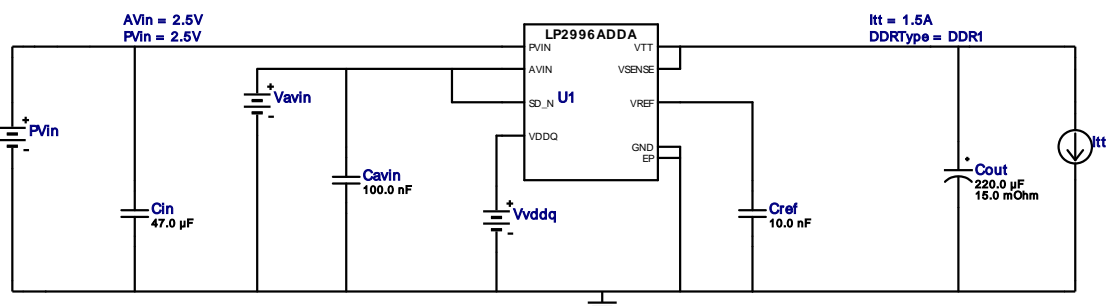


WEBENCH® Design Report






Design : 4798703/5 LP2996AMRE/NOPB
Design 5 - LP2996AMRE/NOPB

DDRTYPE = DDR1
PVIN = 2.5V
AVIN = 2.5V
I_{tt} = 1.5A
T_a = 25.0degC
VDDQ = 2.5V
VTT = 1.25V

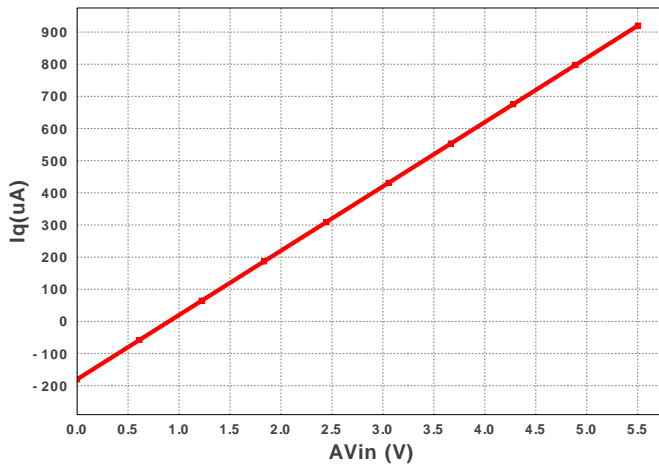
Device = LP2996AMRE/NOPB
Topology = DDRLDO
Created = 9/22/16 6:50:40 PM
BOM Cost = \$1.35
BOM Count = 5
Total Pd = 1.88W



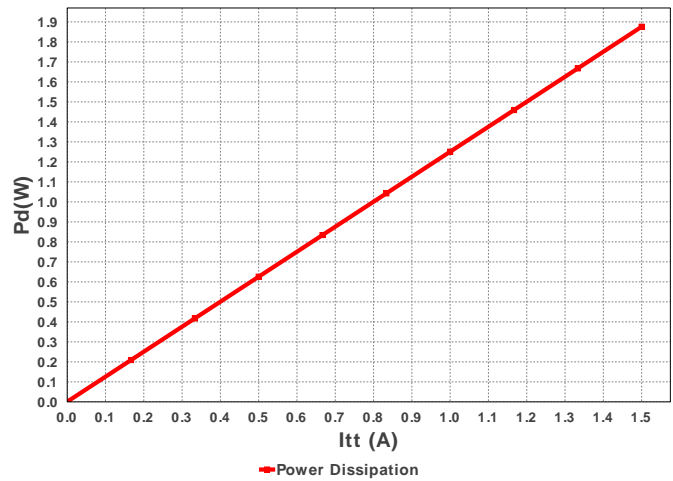
Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cavin	MuRata	GRM155R60J104KA01D Series= X5R	Cap= 100.0 nF VDC= 6.3 V IRMS= 0.0 A	1	\$0.01	 0402 3 mm ²
2.	Cin	Taiyo Yuden	JMK212BJ476MG-T Series= X5R	Cap= 47.0 uF VDC= 6.3 V IRMS= 0.0 A	1	\$0.14	 0805 7 mm ²
3.	Cout	Panasonic	2R5TPE220MAFB Series= ?	Cap= 220.0 uF ESR= 15.0 mOhm VDC= 2.5 V IRMS= 2.0 A	1	\$0.50	 CAPSMT_6_B2S 17 mm ²
4.	Cref	MuRata	GRM155R60J103KA01D Series= X5R	Cap= 10.0 nF VDC= 6.3 V IRMS= 0.0 A	1	\$0.01	 0402 3 mm ²
5.	U1	Texas Instruments	LP2996AMRE/NOPB	Switcher	1	\$0.69	 DDA0008A 57 mm ²

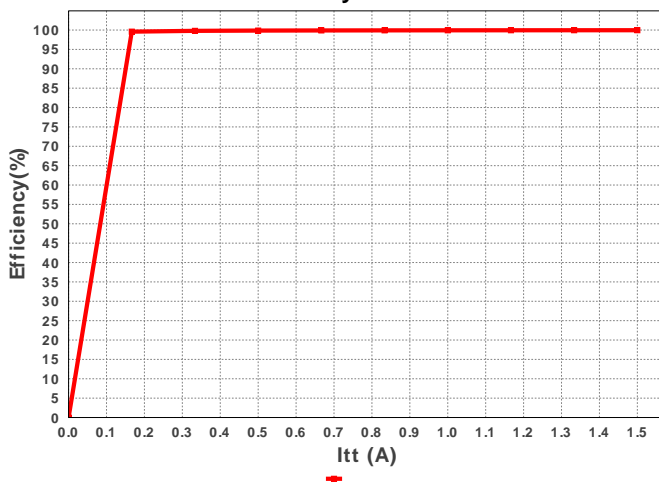
Quiescent Current Iq Vs. AVin



Power Dissipation Vs. Itt



Efficiency Vs. Itt



Operating Values

#	Name	Value	Category	Description
1.	DDR Type	DDR1	DDR Memory	DDR Memory Type
2.	BOM Count	5	General	Total Design BOM count
3.	FootPrint	87.0 mm ²	General	Total Foot Print Area of BOM components
4.	Total BOM	\$1.35	General	Total BOM Cost
5.	AVin_OP	2.5 V	Op_Point	Pvin operating point
6.	Itt_OP	1.5 A	Op_Point	Itt Operating Point
7.	PVin_OP	2.5 V	Op_Point	Pvin operating point
8.	Ta_OP	25.0 degC	Op_Point	Operating Ambient Temperature
9.	Vddq_OP	2.5 V	Op_Point	Vddq operating point
10.	Vtt_OP	1.25 V	Op_Point	Vtt operating point
11.	Efficiency	99.954 %	Op_point	Steady state efficiency
12.	IC Tj	105.662 degC	Op_point	IC junction temperature
13.	ICThetaJA	43.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
14.	Total Pd	1.876 W	Power	Total Power Dissipation

Design Inputs

#	Name	Value	Description
1.	AVin	2.5 A	AVin
2.	DDRTYPE	DDR1	DDRTYPE
3.	Itt	1.5 A	Itt
4.	PVin	2.5 A	PVin
5.	application	DDRPower	application
6.	base_pn	LP2996A	Base Product Number
7.	Ta	25.0 A	Ambient temperature

Design Assistance

1. **LP2996A** Product Folder : <http://www.ti.com/product/lp2996a> : 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](#).