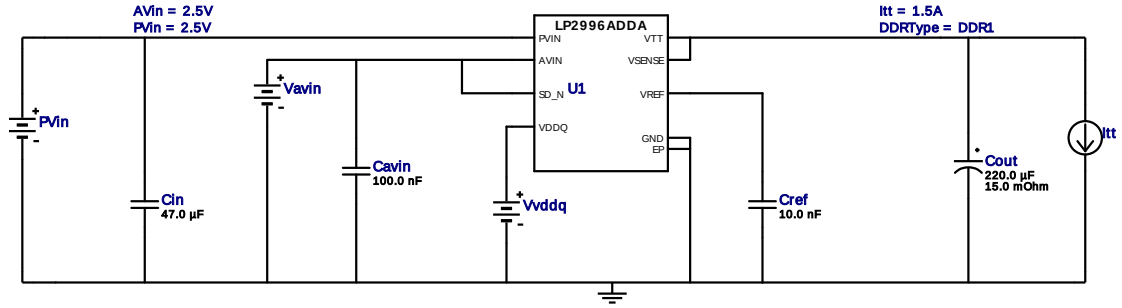
WEBENCH® Design Report

DDRType = DDR1
PVin = 2.5V
AVin = 2.5V
Itt = 1.5A
Ta = 25.0degC
VDDQ = 2.5V
VTT = 1.25V

Device = LP2996AMRE/NOPB
Topology = DDRLDO
Created = 9/28/16 2:34:30 AM
BOM Cost = $1.35
BOM Count = 5
Total Pd = 1.88W

Design : 4806458/2 LP2996AMRE/NOPB
Design 2 - LP2996AMRE/NOPB



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

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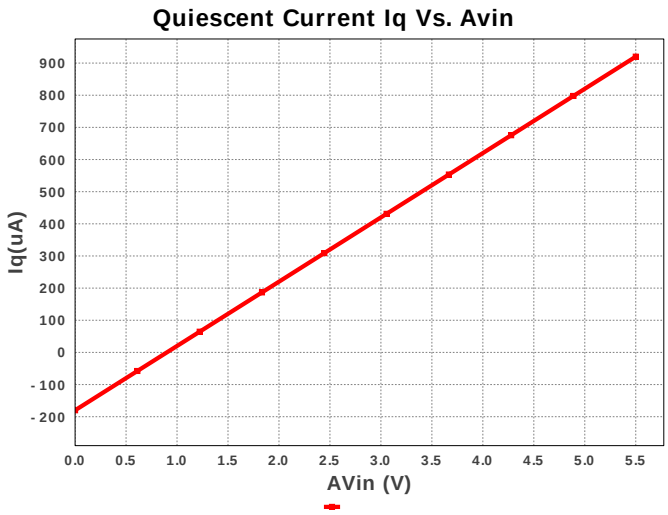

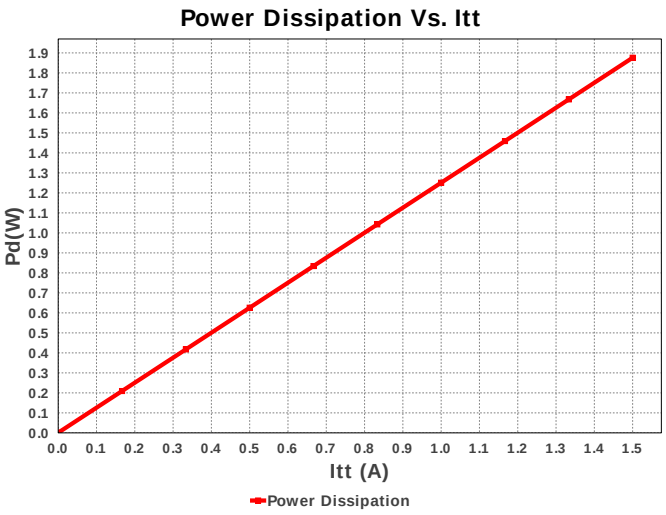

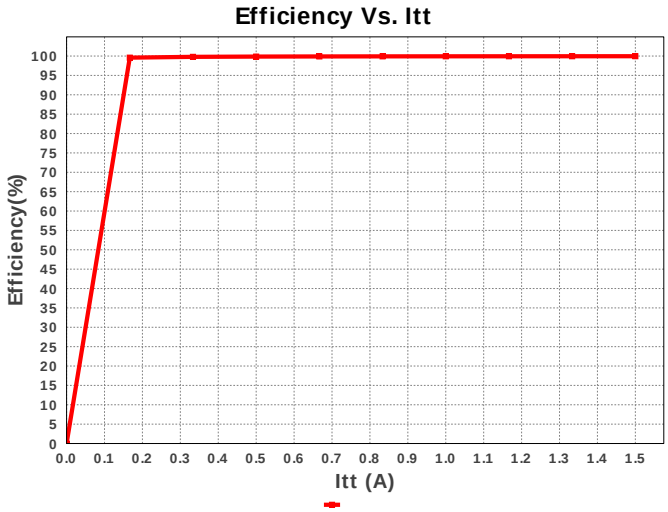

Operating Values

#	Name	Value	Category	Description
1.	DDR Type	DDR1	DDR Memory App Type	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.

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