

SMPS tests

Mean well LRS350-36 -rated with 9,7A

35V without load

LOAD resistive	Volatge (V)	Current (A)	Calc. Watts	comments
8	34,74	4,26	147,9924	6:30min fan is starting
5,4	34,63	6,38	220,9394	3min the fan is starting
4	34,44	8,37	288,2628	
2,66	34,11	12,56	428,4216	hickup mode

current per channel	Load
17,4724	4

Mean weel LRS 150-24 no fan - **rated with 6,5A**

24V without load

LOAD resistive	Volatge (V)	Current (A)	Calc. Watts	comments
8	23,83	2,9	69,107	
5,4	23,79	4,37	103,9623	
4	23,66	5,75	136,045	
2,66				hickup mode

Mean weel LRS 150-24 no fan - **rated with 6,5**

LOAD resistive	Volatge (V)
4	28,07
4	29,06

FauxFrench: #357

The SMPS reaction time is sometimes stated in the datasheet as the step response.

How to measure:

(General) Switch between two different, but realistic, loading levels of the SMPS output. For an SMPS used for an audio amplifier, 200mA <-> 2A is not un-

🔧 (amplifier specific) Use the amplifier with the intended (dummy!) load. The test generator (input) must be able to run in "burst"-mode. Adjust the test ge

This is a rough simulation of how the supply voltage will behave with heavy transients in the music. By changing the capacitance on the output (within a re

he topic is drifting a bit away from class D amplifiers though the SMPS are meant for TPA3255 amplifiers.

I will dare one more posting on the topic on this thread and the moderators may move it if necessary.

My experience is that SMPS were conceived in order to improve efficiency and physical size/weight. With high level of integration on monolithic ICs and a 99% of all SMPS are designed with these main features in mind: efficiency, compact size/weight and price.

I reup here the link to that PS reference design from TI, that would perfectly fit the TAS3251: PMP10215 Universal Input to 3.3V, 12V, 36V, 200W Cont

SMPS tests

Then comes a group of designers having decades of experience with high quality audio amplifiers presenting unusual characteristics of a very dynamic (va

All other qualities like highest efficiency, particular small size/weight, very low price, power levels, safety issues etc. are only secondary concerns or trivial
🤔 The problem for them is then that the bulk production is geared towards the mainstream types and few SMPS designers are particularly knowledgeable al
I have seen SMPS designed for dedicated audio amplifier use in the sense of output voltage levels (also symmetrical) and power. I did not find mentioning

I know the market is rather limited but we need someone designing dedicated audio amplifier SMPS at a decent price. And, it is not as trivial as it seems.

Test of loop reaction:

page 65-66

<https://www.diyaudio.com/forums/class-d/309813-wrong-tpa3255-66.html>



SMPS tests

power per channel
69,8896

IA - MAX TEST

Current (A)	Calc. Watts	comments	
6,84	191,9988	no hick up	PSU 1
6,9	200,514	no hick up	PSU 2

realistic. Check how the output voltage with higher loading for a start sags, then starts increasing and with some oscillation returns to the initial voltage. The res
erator burst amplitude such that the amplifier output is at a defined output power level. Suggested 50% of full output power and 100Hz frequency. Then run n
easonable range) you can find a reasonable capacitance value. Smaller SMPS output voltage swing is better.

massive production out east, SMPS also became very price competitive.

tinuous PSU for Class-D Amplifier Reference Design | TI.com

SMPS tests

rying) power consumption. They notice the new power conversion technology and think: "that we can probably use as well". The problem is only that their main

.
bout audio amplifier needs. This is where we are today.

of particular noise/EMI reduction means or any strong attention to dynamic properties.

SMPS tests

response time is the time until the voltage no longer sags.

→ input signal ↔ input signal for defined output power and watch how the SMPS output voltage sags every time a signal burst starts. The response time is the time

SMPS tests

1 wishes are little noise and fast response (in order to maintain the supply voltages constant).

SMPS tests

me until the voltage no longer sags.