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 power per channel
17,4724 4 69,8896

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 6,5A** - MAX TEST

LOAD resistive	Volatge (V)	Current (A)	Calc. Watts	comments	
4	28,07	6,84	191,9988	no hick up	PSU 1
4	29,06	6,9	200,514	no hick up	PSU 2

referenz for all tests smps
https://www.diyaudio.com/forums/class-d/311931-breeeze-audio-tpa3116-2-0-100w-dual-chip-10.html#post5846468

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 unrealistic. Check how the output voltage with higher loading for a start sags, then starts increasing and with some oscillation returns
mplifier specific) Use the amplifier with the intended (dummy!) load. The test generator (input) must be able to run in "burst"-mode. Adjust the test generator burst amplitude such that the amplifier output is at a defined output power level. Suggested 50% of full output power and
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 reasonable range) you can find a reasonable capacitance value. Smaller SMPS output voltage swing is better.

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 massive production out east, SMPS also became very price competitive.
99% of all SMPS are designed with these main features in mind: efficiency, compact size/weight and price.
I reput 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 Continuous PSU for Class-D Amplifier Reference Design | TI.com
Then comes a group of designers having decades of experience with high quality audio amplifiers presenting unusual characteristics of a very dynamic (varying) power consumption. They notice the new power conversion technology and think: "that we can probably use as well". The pr

All other qualities like highest efficiency, particular small size/weight, very low price, power levels, safety issues etc. are only secondary concerns or trivial.
e problem for them is then that the bulk production is geared towards the mainstream types and few SMPS designers are particularly knowledgeable about audio amplifier needs. This is where we are today.
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 of particular noise/EMI reduction means or any strong attention to dynamic properties.

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

to the initial voltage. The response time is the time until the voltage no longer sags.
100Hz frequency. Then run no 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 until the voltage no longer sags.

roblem is only that their main wishes are little noise and fast response (in order to maintain the supply voltages constant).