Subject: Damper diodes
Posted by Manualblock on Wed, 11 Aug 2004 14:12:09 GMT
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Hi All; Eric if you are out there; Quick question; how do you feel about A DD bridge for an SE triode, 211 or the Svetlana 572. I know the dual diodes will run 900 volts on the plate, As per the tech. bulletin. Can I ask if they will go 1100 plate voltage 70ma. plate current for 12 v. output in class A?There is an example of this on the net but no schematic.Thanks J.R.

Subject: Re: Damper diodes
Posted by metasonix on Thu, 12 Aug 2004 03:42:13 GMT
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The question is, WHICH damper diode do you want to use?As long as the PIV rating of the diode is more than 2.828 x the AC supply you're using, you are ok. I'd suggest derating the PIV by a added factor of 1.5 for a safety margin. I know the RCA tube manuals only say 2.8, trust me, the tubes will thank you. It's a matter of being able to handle surges and line noise.Damper rectifiers were NOT intended for power rectification, they were meant to suppress high-voltage reverse spikes on a flyback transformer. Those spikes were usually very short duty cycle. Using dampers as AC rectifiers means: further derating is a good idea.Also suggest if you're trying to make more than 300v dc, use a separate heater winding for the diodes--don't try to share it with other tubes, REGARDLESS of the damper's heater-cathode voltage rating. If it's a simple full-wave rectifier with a CT plate winding, a single heater winding will do. If it's a full-wave bridge, you need 3 windings.For example, the common NOS diode 6CJ3 has a PIV of 5500 volts. So a pair is suitable for making up to 5500/2.828/1.5 = 1296 vdc. A pair of 6CJ3s are "rated" to produce 700 mA rated max, though I'd still derate that by 1.5, thus 466 mA.This compares with the experiences of people I know who have used dampers as rectifiers. Most of the old color-TV types will produce ~1100-1200 vdc at ~300-400 mA--much above that and you start to see reliability problems. This also applies to Svetlana 6D22S dampers. For more voltage, mercury vapor types are almost mandatory.

Subject: Re: Damper diodes
Posted by metasonix on Thu, 12 Aug 2004 03:46:43 GMT
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Amazingly, my old 6D22S tech bulletin is still online. I do not know how long this will last, they were supposed to have shut down this webhost 3 years ago. Probably an oversight. The company info there is totally invalid now, so be warned.http://www.svetlana.com/docs/TechBulletins/technoteNo52.html

Subject: Re: Damper diodes
Posted by Manualblock on Sun, 15 Aug 2004 12:57:19 GMT
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Thanks much Eric, I have seen the 211 triode with mercury vapor rectifier tubes and damper Diodes bridged. They have their seperate advantages and trying to reconcile each with a particular circuit is the difficult part. I am working on determining the advantages of both. Your help has been greatly appreciated, thanks J.R.P.S.(you are doing a great service to the community with those expose' articles of NOS pirate's.)