Tetrode Pulse Modulators

Code: P535/1E (CV398)
P552/1E (CV427)

These valves are special purpose tetrodes for pulse use. They are equivalent to American types. The P535/1E to the 715B and the P552/1E to the 5D21.

CATHODE.

Indirectly-heated, oxide-coated		
Heater voltage	26	V
Nominal current	2	A
*Minimum cathode heating time	1	min

DIRECT INTERELECTRODE CAPACITANCES.

Input	37.5	pF
Output	7.5	pF
Anode to grid	2.0	pF

MECHANICAL DATA.

Maximum overall length	149.23	mm
Maximum bulb diameter	65.09	mm
Base	B4A	
Top cap	CT3 with cupped flange	
Net weight	195	g

*CATHODE PRE-HEATING TIME.

The pre-heating time is dependent upon the peak anode current to be taken. The table below gives the minimum pre-heating time for different conditions. These figures represent minimum times. Whenever practicable, it is recommended that the pre-heating time be increased to about 15 or 20 minutes.

Peak anode current	Minimum pre-heating time
Up to 5 Amperes	1 minute
Up to 10 Amperes	2 minutes
Up to 15 Amperes	3 minutes

Tetrode Pulse Modulators

Code: P535/1E (CV398)
P552/1E (CV427)

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS.

Pulse Modulator. Rectangular wave.

MAXIMUM RATINGS.	P535/1E	P552/1E	
Maximum direct anode voltage	15	20	kV
†Maximum peak anode current	15	15	A
Maximum direct anode dissipation	60	60	W
Maximum direct screen voltage	1.25	1.25	kV
Maximum peak screen current	5	5	A
Maximum direct screen dissipation	8	8	W
Maximum negative grid voltage	1.0	1.0	kV
Maximum peak positive grid voltage	300	300	V
Maximum peak grid current	2	2	A
Maximum direct grid dissipation	1.0	1.0	W

† The product of pulse duration in seconds and the pulse repetition frequency in cycles per second should not exceed 0.001. For peak currents in excess of 5 amperes the product of peak current in amperes and the pulse duration in microseconds should not exceed 30. The valves should not be operated for more than 5 microseconds in any 100 microsecond interval. For peak currents of less than 5 amperes the duty cycle is determined by the anode dissipation.

TYPICAL OPERATING CONDITIONS (Duty cycle 0.001)

	P535/1E	P552/1E	
‡‡Direct anode voltage	15	20	kV
‡‡Direct screen voltage	1.25	1.25	kV
Direct grid voltage	−800	−800	V
Peak pulse grid voltage	1025	1025	V
Direct anode current	15	15	mA
Peak anode current	15	15	A
Direct screen current (approx.)	1.5	1.5	mA
Direct grid current (approx.)	10	10	mA
Load resistor	800	1100	Ω

Tetrode Pulse Modulators

Code: P535/1E (CV398)
P552/1E (CV427)

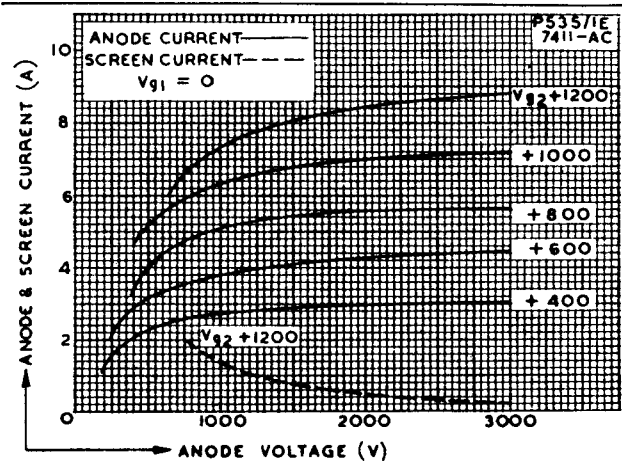
‡VALVE PROTECTION.

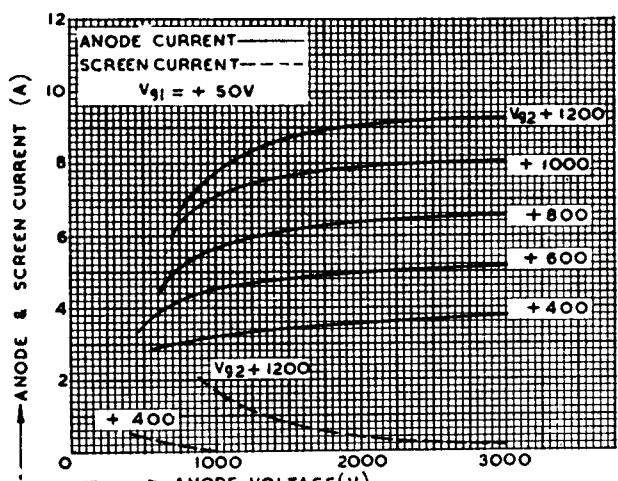
During the course of the operational life of these valves internal discharges are likely to occur occasionally. In the interest of valve protection and long life, certain protective measures designed to limit the power in such discharges are desirable. The recommended precautions are :

1. The inclusion of sufficient d.c. resistance in series with the anode and screen power supplies to limit the short circuit current to about 500 mA in either circuit.
2. The location of a resistance of approximately 100 ohms in series with the screen as close to the pin of the valve as possible.
3. The use of a by-pass capacitor to earth, about 0.05 μF is a suitable value, connected to the supply side of the 100 ohms resistor as mentioned above.

Tetrode Pulse Modulators

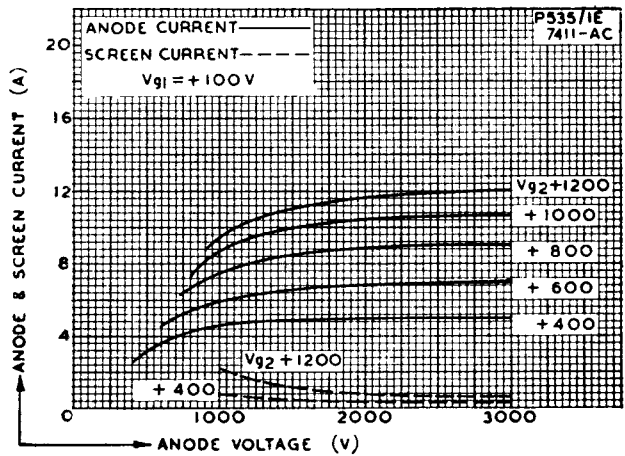
Code: P535/1E (CV398)
P552/1E (CV427)

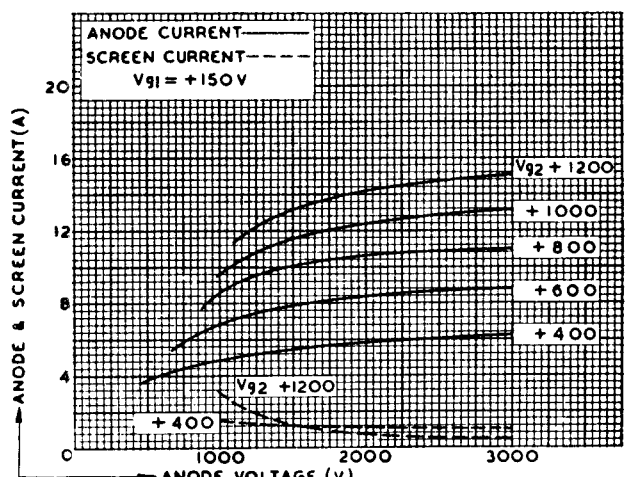




Tetrode Pulse Modulators

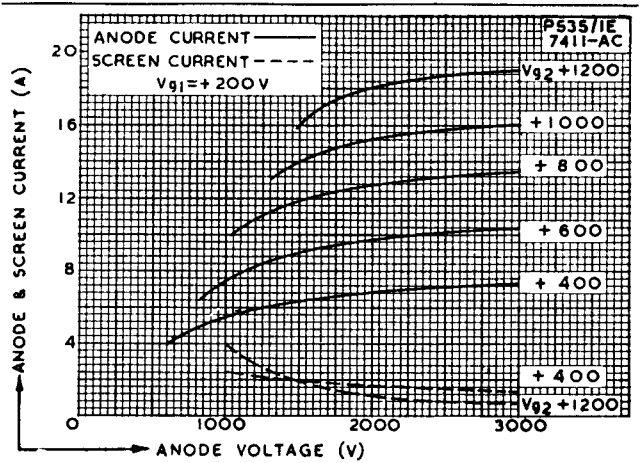
Code: P535/1E (CV398)
P552/1E (CV427)

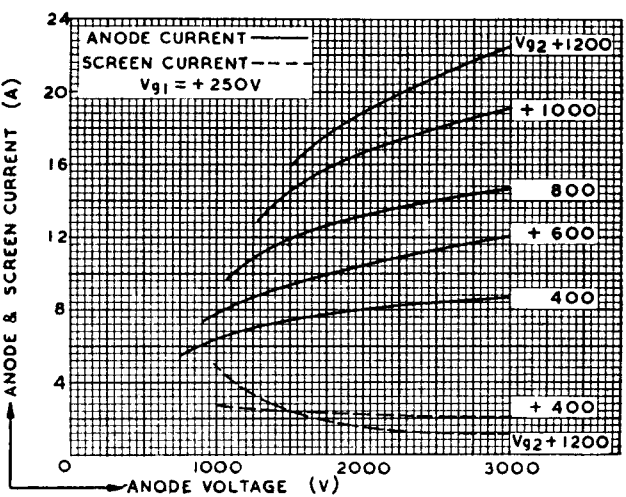




Tetrode Pulse Modulators

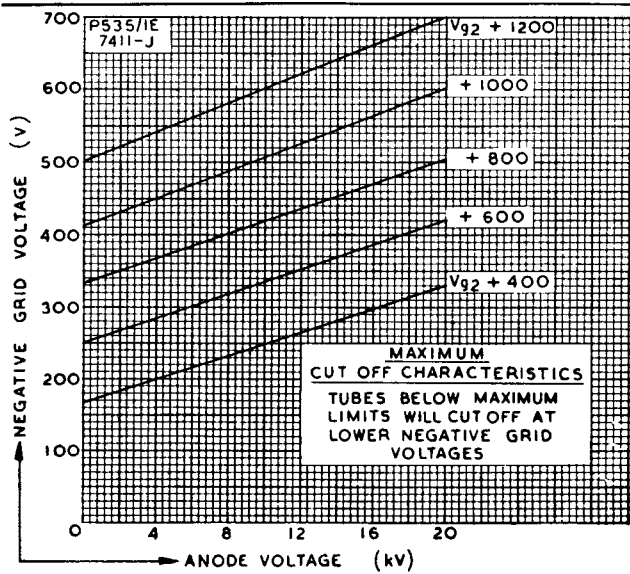
Code: P535/1E (CV398)
P552/1E (CV427)

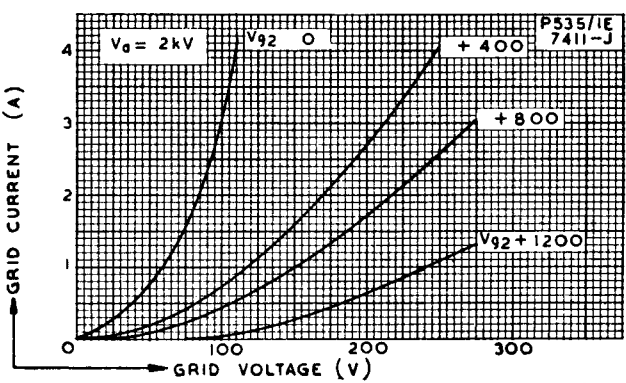




Tetrode Pulse Modulators

Code: P535/1E (CV398)
P552/1E (CV427)

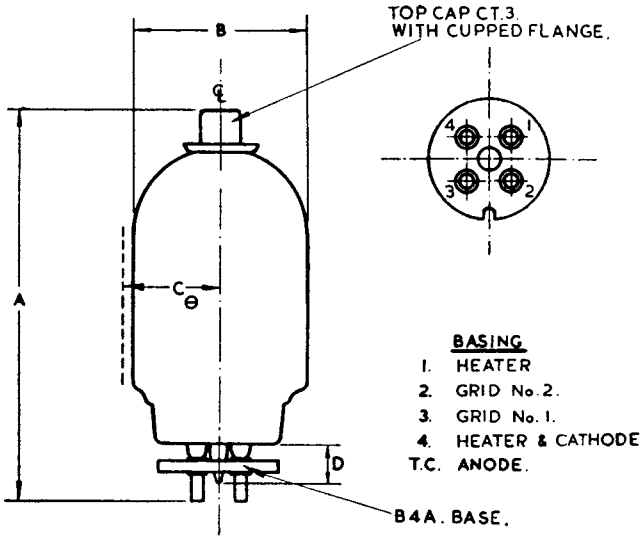




Ref.:
P535/1E
P552/1E

Tetrode Pulse Modulators

Code: P535/1E (CV398)
P552/1E (CV427)



	DIM.	MILLIMETRES	INCHES
	A	142·88 MIN.	5·625 MIN.
		149·23 MAX.	5·875 MAX.
	B	65·09 MAX.	2·563 MAX.
Θ	C	35·71 MAX.	1·406 MAX.
	D	12·7 MAX.	1/2 MAX.

Θ DENOTES ECCENTRICITY WITH RESPECT TO ℄ OF BASE.

NOTE: BASIC FIGURES ARE INCHES.