

TWIN DIODE TYPES 3AL5, 6AL5 AND 12AL5

The 3AL5, 6AL5 and 12AL5 are miniature 7-pin twin diode types designed for service as detectors in FM and television circuits as well as automatic-volume-control rectifiers. They are also used as ratio detectors in a-c operated FM receivers. Each diode can be used independently of the other or combined in parallel or full-wave connection. The resonant frequency of each section is approximately 700 megacycles per second.

The 3AL5 has been designed for use in receivers which employ series-connected heaters, especially in television receivers where the picture-tube heater is in series with other heaters. When it is employed in this type of circuit with other tubes having a heater current rating of 600 ma., heater voltage surges across individual tubes are minimized inasmuch as the heater warm-up characteristic is controlled.

ELECTRICAL:

Cathode.....	Coated Unipotential		
Heater:	3AL5	6AL5	12AL5
Voltage (ac or dc)	3.15	6.3 ± 10%	12.6
Current	0.60	0.30	0.15
Warm-up Time (Approx.) ▲ ..	11	- -	- -

Direct Interelectrode Capacitances:

	Shielded*	Unshielded	
Plate 1 to Cathode 1, Heater, and Internal Shield†	3.2	2.5	μμf
Plate 2 to Cathode 2, Heater, and Internal Shield††	3.2	2.5	μμf
Cathode 1 to Plate 1, Heater, and Internal Shield†	3.6	3.4	μμf
Cathode 2 to Plate 2, Heater, and Internal Shield††	3.6	3.4	μμf
Plate 1 to Plate 2 (Grounded Shield) (Max.)	.026	.068	μμf

MECHANICAL:

Bulb	T-5-1/2
Base	Small-Button Miniature 7-Pin
Basing	6BT
Mounting Position	Any

MAXIMUM RATINGS:

Design Maximum Values

Peak Inverse Plate Voltage	330	max.	Volts
Peak Plate Current per Plate	54	max.	Ma.
DC Output Current per Plate	9	max.	Ma.
Peak Heater-Cathode Voltage:			
Heater Negative with Respect to Cathode			
Total DC + Peak	330	max.	Volts
Heater Positive with Respect to Cathode			
DC Component	100	max.	Volts
DC + Peak	200	max.	Volts

HALF-WAVE RECTIFIER**

Characteristics and Typical Operation

AC Voltage per Plate (RMS)	117	Volts
Minimum Total Effective Plate Supply		
Impedance per Plate	300	Ohms
DC Output Current per Plate	9	Ma.

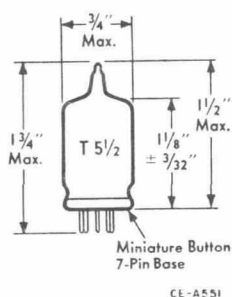
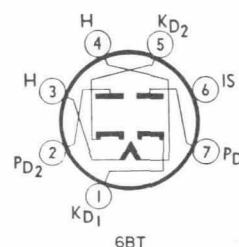
** Units used separately or in parallel.

* External Shield No. 316 tied to pin 6.

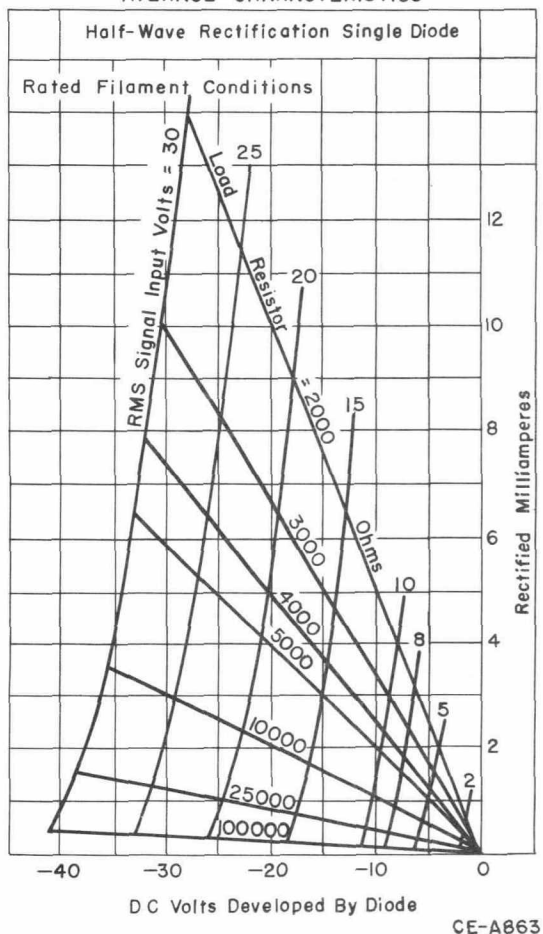
† Ground Plate and Cathode Unit 2.

†† Ground Plate and Cathode Unit 1.

▲ Heater Warm-up Time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying four times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three times rated heater voltage divided by rated heater current.



AVERAGE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS

