

engineering data service

12DL8

ADVANCE DATA

MECHANICAL DATA

Bulb	T-6 1/2
Base	E 9-1, Miniature Button 9-Pin
Outline	6-3
Basing	9HR
Cathode	Coated Unipotential
Mounting Position	Any

ELECTRICAL DATA

HEATER CHARACTERISTICS ¹

Heater Voltage	12.6	Volts
Heater Current	0.55	Amp.

Direct Interelectrode Capacitances

Diode (each unit)		
Input (P ₁ to K+H)	1.6	μf
Input (P ₂ to K+H)	1.6	μf
No. 1 to No. 2 (P ₁ to P ₂)	0.03	μf

Tetrode (each unit)

Input (G ₂ to G ₁ +K+H)	12	μf
Output (P to G ₁ +K+H)	1.3	μf
Grid No. 2 to Plate	14	μf

Coupling (Diode No. 1 Plate to Tetrode Grid No. 2)

.02 μf Max.

(Diode No. 2 Plate to Tetrode Grid No. 2)

.006 μf Max.

RATINGS - (Design Center Values except as noted)

Tetrode Plate Voltage	30	Volts	Max.
Positive Tetrode Grid No. 1 Voltage (Abs. Max.)	16	Volts	
Negative Tetrode Grid No. 2 Voltage	20	Volts	Max.
Tetrode Grid No. 2 Circuit Resistance	10	Megohms	Max.
Average Diode Current	5	Ma.	Max.
Heater-Cathode Voltage	±30	Volts	Max.

CHARACTERISTICS

Class A₁ Amplifier - Single Tube

Plate Voltage	12.6	Volts
Grid No. 2 (Control Grid) Voltage ²	-0.5	Volts
Grid No. 1 (Space-Charge Grid) Voltage	12.6	Volts
Plate Current	40	Ma.
Grid No. 1 (Space-Charge Grid) Current	75	Ma.
Plate Resistance	480	Ohms
Amplification Factor ³	7.2	
Transconductance ³	15 000	μmhos

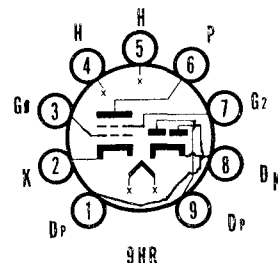
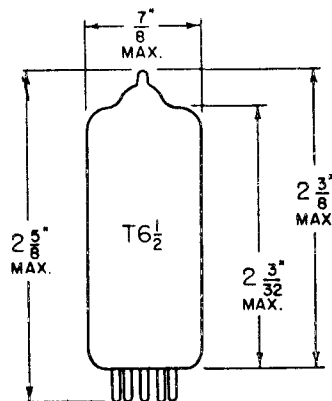
Diode Units - Two

Diode Current with 10.0 Volts Applied (each diode)

3 Ma.

QUICK REFERENCE DATA

The 12DL8 is a combined twin-diode and space-charge grid tetrode with independent unipotential cathodes in the 9-Pin miniature construction. The diode section is intended for use as detector and the tetrode section is intended for use as a power amplifier where the heater, plate and space-charge grid potentials are obtained directly from an automotive battery.



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TYPICAL OPERATION

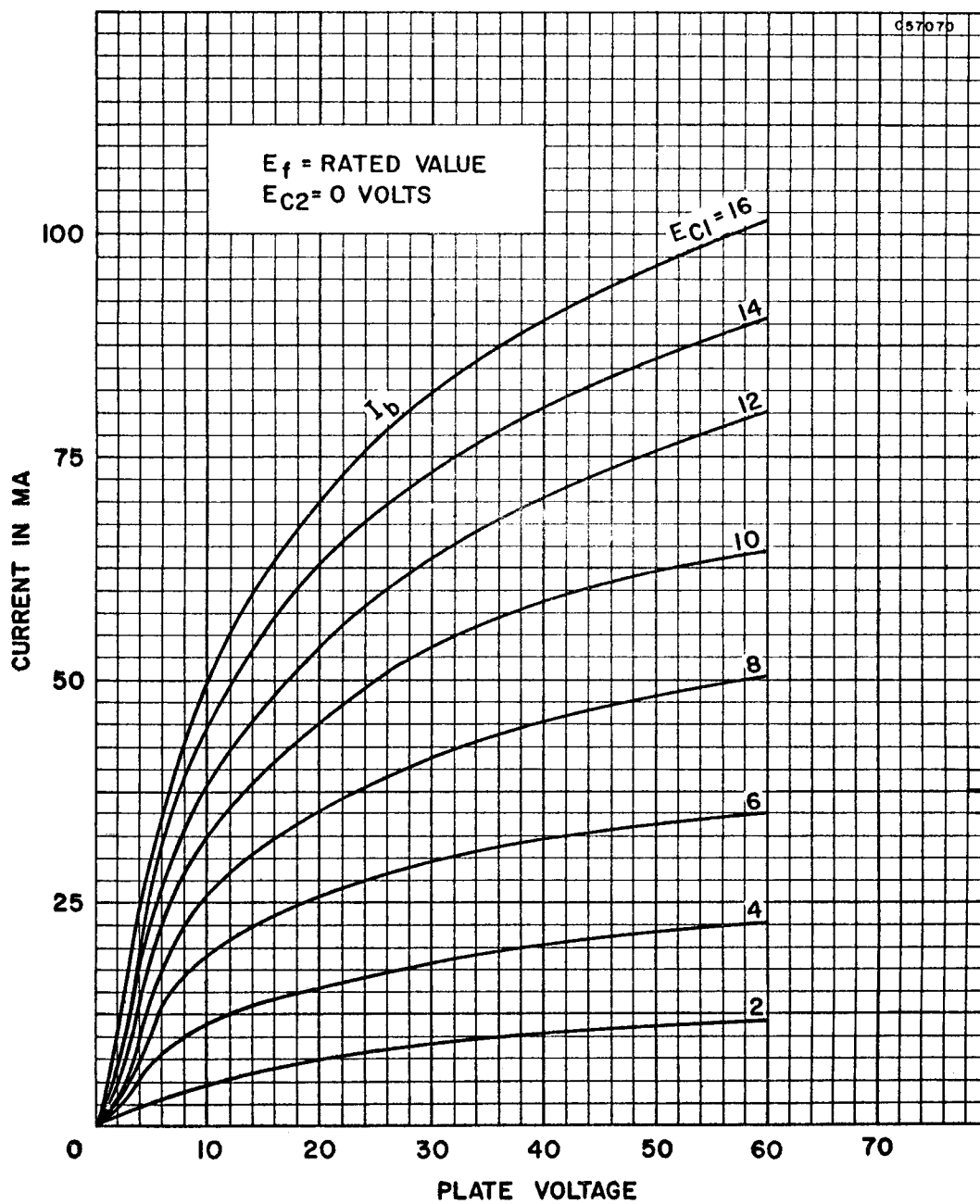
Class A₁ Amplifier - Single Tube

Plate Voltage	12.6	Volts
Grid No. 2 (Control Grid) Voltage ⁴	-2.0	Volts
Grid No. 1 (Space-Charge Grid) Voltage	12.6	Volts
Peak AF Grid No. 2 Voltage	2.5	Volts
AF Signal Source Resistance	100 000	Ohms
Load Resistance	800	Ohms
Plate Current	8.0	Ma.
Grid No. 1 (Space-Charge Grid) Current	75	Ma.
Power Output	40	mw
Total Harmonic Distortion (Max.)	10%	

NOTES:

1. This tube is intended to be used in automotive service from a nominal 12 Volt battery source. The heater is therefore designed to operate over the 10.0 to 15.9 voltage range encountered in this service. The Maximum Ratings of the tube provide for an adequate safety factor such that the tube will withstand the wide variation in supply voltages.
2. Average bias developed across a 2.2 Megohm resistor.
3. From Grid No. 2 to plate.
4. Obtained across a 2.2 Megohm resistor by Grid No. 2 rectification in which case the zero signal plate current is approximately 40 Ma.

AVERAGE PLATE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS

