

Germanium PNP Transistor

2N1168

50V / 5A

DATASHEET

OEM – Delco

Source: Delco Power Transistors 1958

DELCO RADIO DIVISION
 GENERAL MOTORS CORPORATION
 KOKOMO, INDIANA

2N1168
POWER TRANSISTOR

ENGINEERING DATA SHEET

February 6, 1959

Distributed in the U.K. by

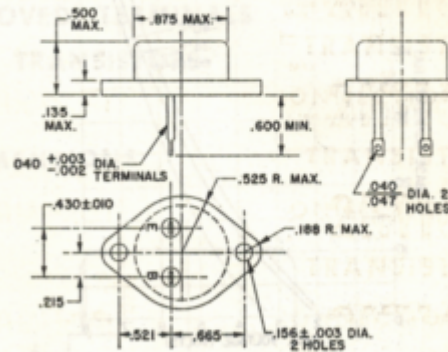
AC-DELCO DIVISION OF GENERAL MOTORS LTD.
 DUNSTABLE, BEDFORDSHIRE

GENERAL DESCRIPTION

The Delco Radio Type 2N1168 is a high power PNP germanium transistor designed for use in 12 volt audio amplifiers. It is characterized by high output power, high gain, and low distortion. Due to the high gain of this transistor, unbypassed emitter operation is possible in both Class A and Class B amplifiers.

The case of the 2N1168 is hermetically sealed and is electrically connected to the collector.

DIMENSIONS AND CONNECTIONS



UPON REQUEST TRANSISTORS WILL BE SUPPLIED WITH 7/16" STRAIGHT PINS WITHOUT SPADE LUGS.

ABSOLUTE MAXIMUM RATINGS

Collector diode voltage V_{CB} (.....) 50 volts	Maximum junction temperature	
($V_{EB} = -1.5$ volts)	Continuous	95°C
Emitter diode voltage V_{EB}	Intermittent	100°C
20 volts	Minimum junction temperature	-65°C
Emitter current (continuous)*	Lead temperature, 1/16" ± 1/32" from	
5 amp.	case for 2 seconds	245°C
Base current (continuous)*		
1 amp.		

*This is the maximum current which can be carried safely by the leads.

ELECTRICAL CHARACTERISTICS (T = 25°C)

DC data	Min.	Typical	Max.	
Collector diode current I_{CBO} ($V_{CB} = -50$ volts, $V_{EB} = -1.5$ volt)		2	8	ma
Emitter diode current I_{EBO} ($V_{EB} = -20$ volts)		1	8	ma
Current gain ($V_{CE} = -2$ volts, $I_C = 1$ amp)		110		
Current gain ($V_{CE} = -2$ volts, $I_C = 3$ amp)		60		
Base voltage V_{EB} ($V_{EC} = -2$ volts, $I_C = 3$ amp)7		volt
Saturation voltage V_{EC} ($I_B = 100$ ma, $I_C = 3$ amp)25		volt
Collector to emitter voltage V_{CEB} ($I_C = 300$ ma dc, $R_{EB} = 30$ ohms)	30	50		volt
AC data				
Power gain ($I_C = 600$ ma dc., $V_C = -12$ volts dc)		37		db
Current gain ($I_C = 600$ ma dc., $V_C = -12$ volts dc)		90		
Input impedance ($I_C = 600$ ma dc., $V_C = -12$ volts)		25		ohms
Common emitter current amplification cutoff frequency ($I_C = 3$ amp dc., $V_{CE} = -3$ volts dc.)		10		kes

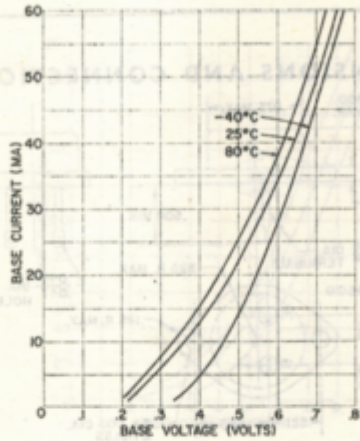
THERMAL CHARACTERISTICS

Thermal resistance (junction to mounting base)	1	1.5	°C/watt
--	---	-----	---------

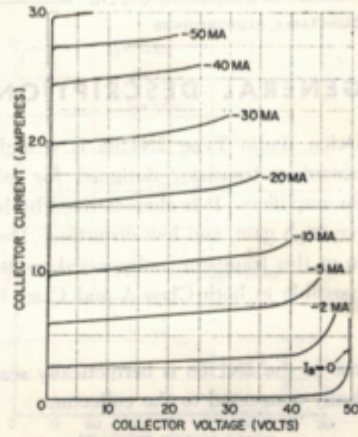
2N1168

DELCO RADIO DIVISION
GENERAL MOTORS CORPORATION

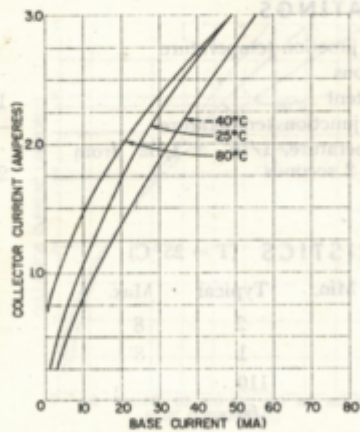
TYPICAL CHARACTERISTICS, COMMON EMITTER



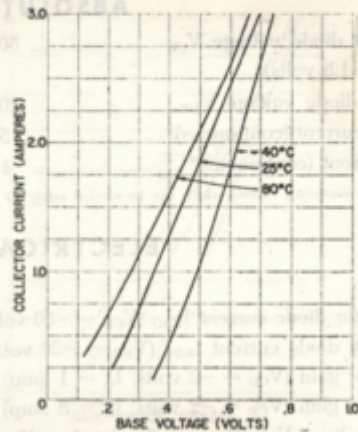
INPUT CHARACTERISTICS



OUTPUT CHARACTERISTICS (25°C)



CURRENT TRANSFER CHARACTERISTICS



TRANSCONDUCTANCE CHARACTERISTICS

MECHANICAL DATA

The 2N1168 transistor has been designed to pass the following environmental tests: (The numbers refer to paragraphs of MIL-T-19500) Temperature Cycling (4.6.24), Glass Strain (4.6.25), Moisture Resistance (4.6.26), Shock (4.6.28), Vibration, Fatigue (4.6.30), Vibration, Noise (4.6.31), Reduced Pressure (15 mm of mercury) (4.6.32) and Salt Spray (4.6.35).