

Germanium PNP Transistor

2N173

40/60V / 15A

DATASHEET

OEM – Delco

Source: Delco Power Transistors 1958

DELCO RADIO DIVISION

GENERAL MOTORS CORPORATION

KOKOMO, INDIANA

2N173**POWER TRANSISTOR****ENGINEERING DATA SHEET**

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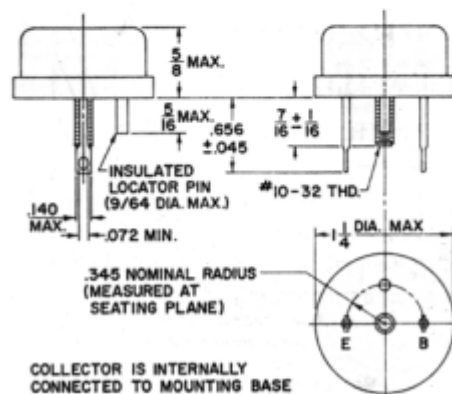
November 4, 1958

GENERAL DESCRIPTION

The improved Delco Radio Type 2N173, is a P-N-P germanium power transistor designed for general use with a 12 volt power supply. It is characterized by a new, higher maximum emitter current of 15 amperes, a maximum collector voltage of 60 volts and a thermal resistance below 1°C per watt. A low saturation resistance will give high efficiency in switching applications. The distortion is low both in Class A operation and in class AB operation with matched pairs.

The case is hermetically sealed. The collector and the case are electrically connected.

The Delco 2N173 transistors will be supplied either in single units or in matched pairs.

DIMENSIONS AND CONNECTIONS**ABSOLUTE MAXIMUM RATINGS**

Collector diode voltage V_{CB} 60 volts	Maximum junction temperature	
($V_{EB} = -1.5$ volts)	Continuous	95°C
Emitter diode voltage V_{EB} 40 volts	Intermittent	100°C
Emitter current (continuous) 15 amp.	Minimum junction temperature	-65°C
Base current (continuous) 4 amp.		

ELECTRICAL CHARACTERISTICS (T = 25°C)

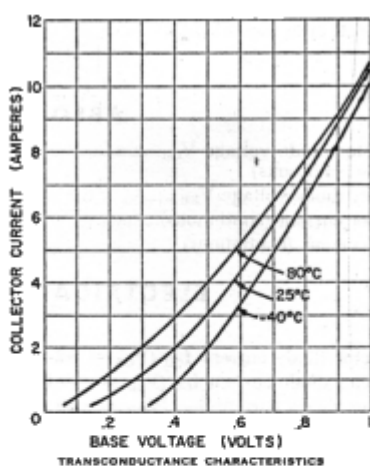
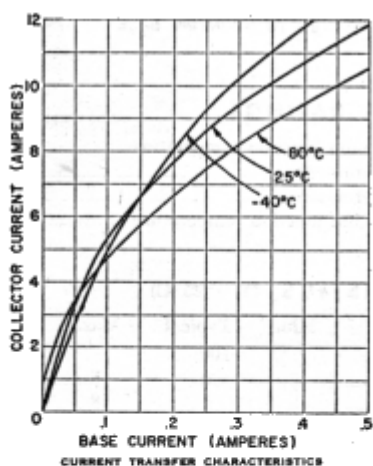
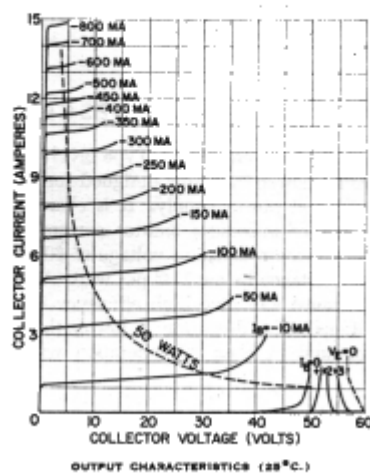
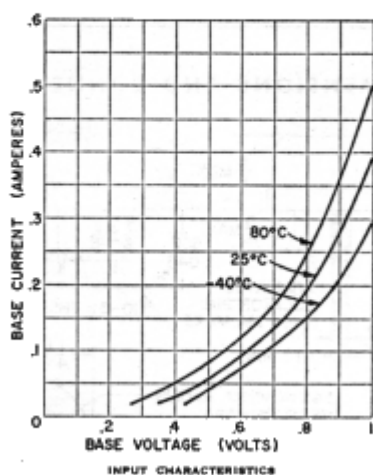
	Min.	Typical	Max.	
Collector diode current I_{CO} ($V_{CB} = -2$ volts)		100		microamp
Collector diode current I_{CO} ($V_{CB} = -60$ volts)		2	8	ma
Emitter diode current I_{EO} ($V_{EB} = -40$ volts)		1	8	ma
Current gain ($V_{CB} = -2$ volts, $I_C = 5$ amps)	35		70	
Current gain ($V_{CB} = -2$ volts, $I_C = 12$ amps)		25		
Base voltage V_{EB} ($V_{CB} = -2$ volts, $I_C = 5$ amps)		0.65		volts
Floating potential V_{EB} ($V_{CB} = -80$ volts, $I_E = 0$)		0.15	1	volts
Saturation voltage V_{EC} ($I_E = 2$ A, $I_C = 12$ amp)		0.3	1	volts
Collector to emitter voltage V_{CES} ($I_C = 300$ ma d.c., $V_{EB} = 0$)	50			volts
Collector to emitter voltage V_{CEO} ($I_C = 300$ ma d.c., $I_E = 0$)		50		volts
Common emitter current amplification cutoff frequency ($I_C = 5$ amp, $V_{EC} = -6$ volts)		10		kc.
Rise time ("on" $I_C = 12$ Ade, $I_E = 2$ amp, $V_{CB} = -12$ volts)		15		micro sec.
Fall time ("off" $I_C = 0$, $V_{EB} = -6$ volts, $R_{EB} = 10\Omega$)		15		micro sec.

THERMAL CHARACTERISTICS

Thermal resistance (junction to mounting base)	.7	1	°C/watt
Thermal capacity for pulses in the 1 to 10 millisecond range	.075		watt sec/°C

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TYPICAL CHARACTERISTICS, COMMON EMITTER**MECHANICAL DATA**

The 2N173 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), and Reduced Pressure (15 mm of mercury) (4.6.32). Maximum recommended torque on the mounting stud is twelve inch-pounds.