

The General Electric type 2N123 is a PNP alloy junction high frequency switching transistor intended for military, industrial and data processing applications where high reliability at the maximum ratings is of prime importance.

2N123

Outline Dwg. No. 8

SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS:

Collector to Emitter Voltage (base open), V_{CE0}	-15 volts
Collector to Base Voltage (emitter open), V_{CB0}	-20 volts
Emitter to Base Voltage (collector open), V_{EB0}	-10 volts
Collector Current, I_C	-125 ma
Peak Collector Current (10 μ s max.), I_{CM}	-500 ma
Emitter Current, I_E	-125 ma
Collector Dissipation (25°C)*, P_{CAV}	100 mw
Peak Collector Dissipation (10 μ s max.; 25°C)**, P_{CM}	500 mw
Total Transistor Dissipation (25°C)***, P_{TA}	150 mw
Storage Temperature, T_{STG}	-55 to 85 °C

ELECTRICAL CHARACTERISTICS: (25°C)

Switching Characteristics (Common Emitter)

	DESIGN CENTER	LIMITS MIN.	LIMITS MAX.	
D.C. Base Current Gain ($V_{CE} = 1$ v; $I_C = 10$ ma) I_C/I_B	50	30	150	volts
Saturation Voltage ($I_B = .5$ ma; $I_C = 10$ ma), V_{CE}	.15		0.2	
Pulse Response Time ($I_C = 10$ ma)				
Delay & Rise Time, t_r	.9			μ sec
Storage Time, t_s	.5			μ sec
Fall Time, t_f	.5			μ sec

Cutoff Characteristics

Collector Cutoff Current ($V_{CE} = -20$ v), I_{CO}	2	6	μ a
Emitter Cutoff Current ($V_{EB} = -10$ v), I_{EO}	2	6	μ a
Collector to Emitter (Base open, $I_C = -0.6$ ma), V_{CE}	25	15	volts

High Frequency Characteristics (Common Base)

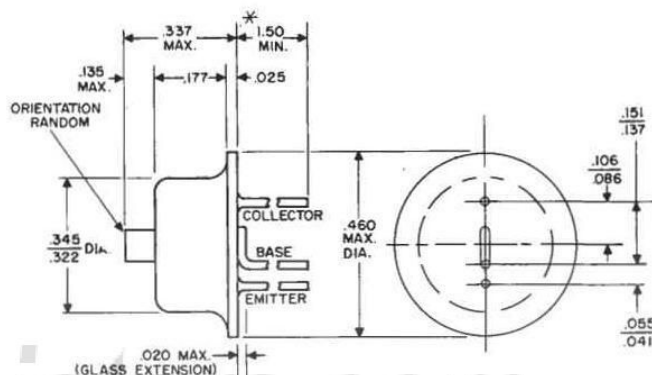
($V_{CE} = -5$ v; $I_C = 1$ ma)			
Alpha Cutoff Frequency, $f_{\alpha h}$	8	5	mc
Collector Capacitance ($f = 1$ mc), C_{cb}	15		μ mf
Voltage Feedback Ratio ($f = 1$ mc), h_{fb}	8×10^{-3}		
Base Spreading Resistance, r_b	80		ohms

Low Frequency Characteristics (Common Base)

($V_{CE} = -5$ v; $I_C = 1$ ma; $f = 270$ cps)			
Input Impedance, h_{ib}	28		ohms
Voltage Feedback Ratio, h_{fb}	8×10^{-4}		
Current Amplification, h_{cb}	.980	.970	
Output Admittance, h_{ob}	.9		μ mhos

Derate for increase in ambient temperature:

*1.67 mw/°C, **8 mw/°C, ***2.5 mw/°C



* CUT TO 0.200" FOR USE IN SOCKETS.
LEADS TINNED DIA. .018
MOUNTING POSITION - ANY
WEIGHT: .05 OZ.
BASE CONNECTED TO TRANSISTOR SHELL.
DIMENSIONS IN INCHES.