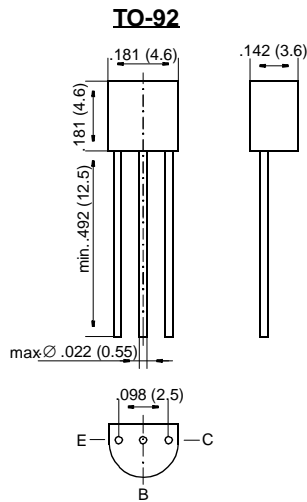


2N4124

Small Signal Transistors (NPN)



Dimensions in inches and (millimeters)

FEATURES

- ◆ NPN Silicon Epitaxial Transistor for switching and amplifier applications.
- ◆ Especially suitable for AF-driver and low-power output stages.
- ◆ As complementary type, the PNP transistor 2N4126 is recommended.



MECHANICAL DATA

Case: TO-92 Plastic Package

Weight: approx. 0.18 g

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	25	V
Collector-Base Voltage	V_{CBO}	30	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	200	mA
Peak Collector Current	I_{CM}	800	mA
Base Current	I_B	50	mA
Power Dissipation at $T_{amb} = 25\text{ °C}$	P_{tot}	625 ¹⁾	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	-65 to +150	°C

¹⁾ Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case.

2N4124

ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

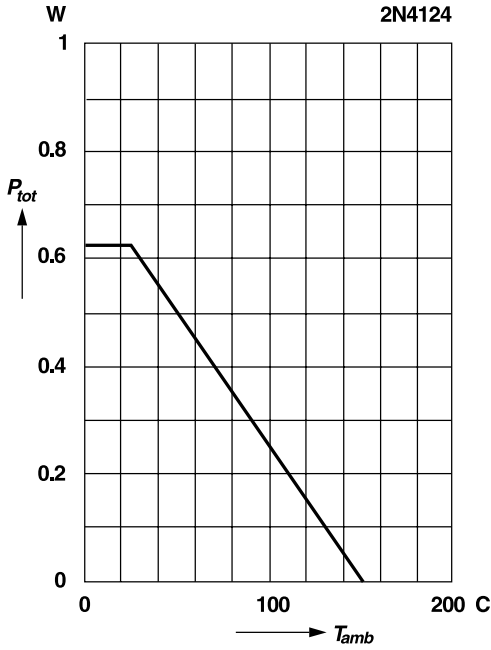
	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 1\text{ V}$, $I_C = 2.0\text{ mA}$ at $V_{CE} = 1\text{ V}$, $I_C = 50\text{ mA}$	h_{FE} h_{FE}	120 –	– 60	360 –	– –
Collector-Base Cutoff Current at $V_{CB} = 20\text{ V}$	I_{CBO}	–	–	50	nA
Emitter-Base Cutoff Current at $V_{EB} = 3\text{ V}$	I_{EBO}	–	–	50	nA
Collector Saturation Voltage at $I_C = 50\text{ mA}$, $I_B = 5\text{ mA}$	V_{CESAT}	–	–	0.3	V
Base Saturation Voltage at $I_C = 50\text{ mA}$, $I_B = 5\text{ mA}$	V_{BESAT}	–	–	0.95	V
Collector-Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	25	–	–	V
Collector-Base Breakdown Voltage at $I_C = 10\text{ }\mu\text{A}$	$V_{(BR)CBO}$	30	–	–	V
Emitter-Base Breakdown Voltage at $I_E = 10\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	–	–	V
Gain-Bandwidth Product at $V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$, $f = 50\text{ MHz}$	f_T	–	200	–	MHz
Collector-Base Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{CBO}	–	12	–	pF
Thermal Resistance Junction to Ambient Air	R_{thJA}	–	–	200 ¹⁾	K/W

¹⁾ Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case

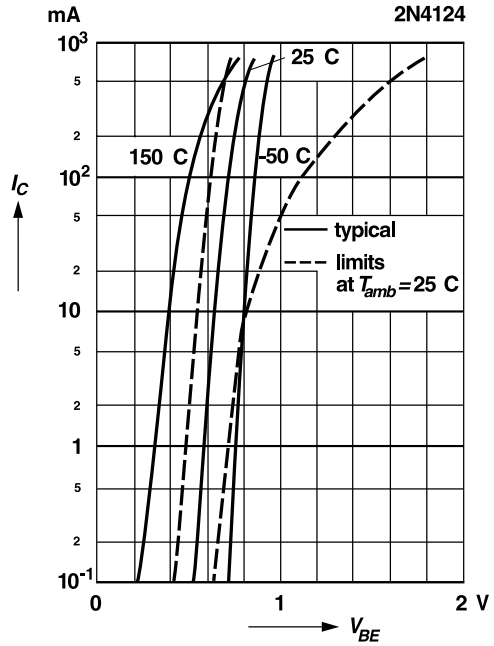
RATINGS AND CHARACTERISTIC CURVES 2N4124

Admissible power dissipation versus ambient temperature

Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case

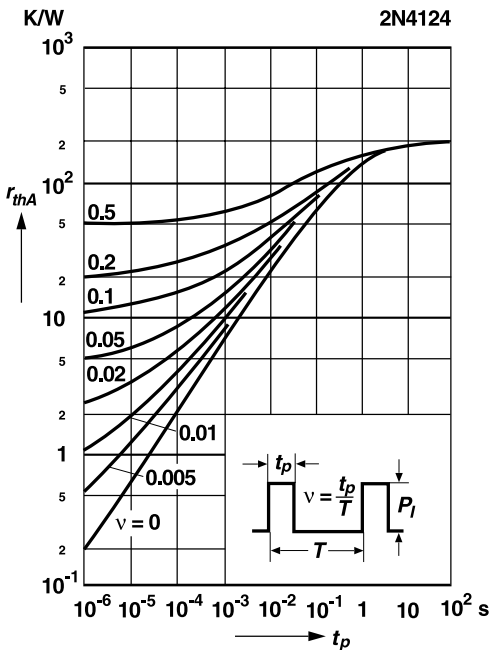


Collector current versus base-emitter voltage

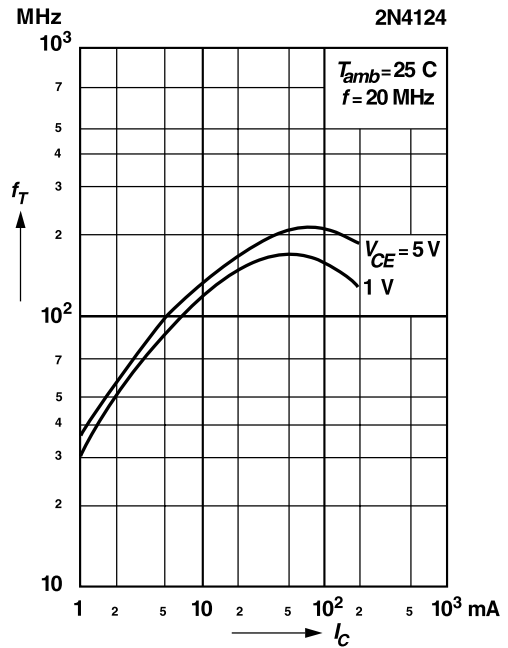


Pulse thermal resistance versus pulse duration

Valid provided that leads are kept at ambient temperature at a distance of 2 mm from case

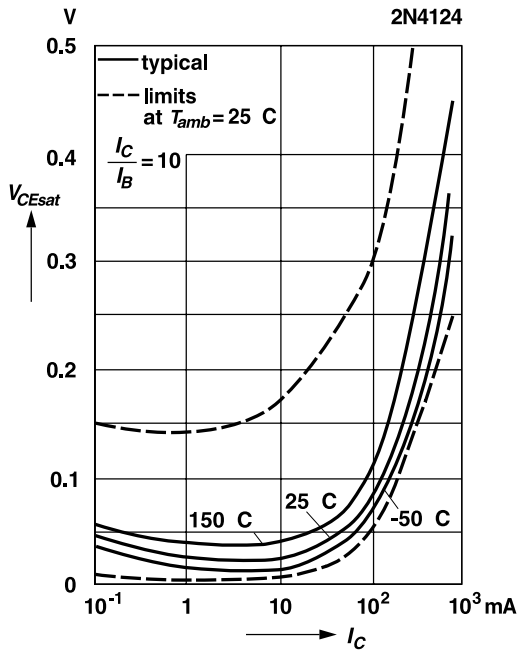


Gain-bandwidth product versus collector current

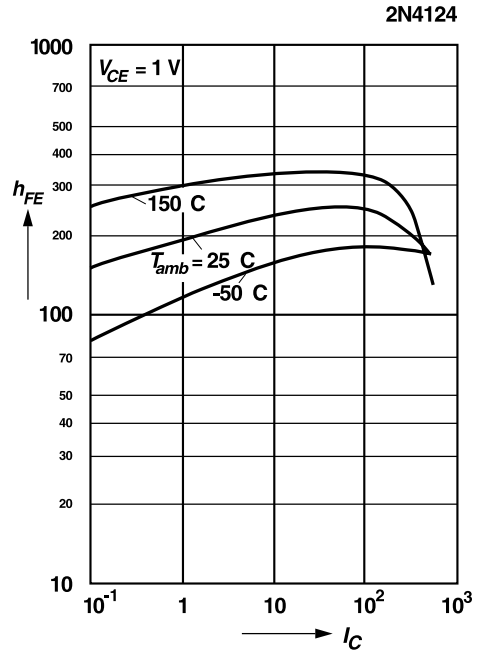


RATINGS AND CHARACTERISTIC CURVES 2N4124

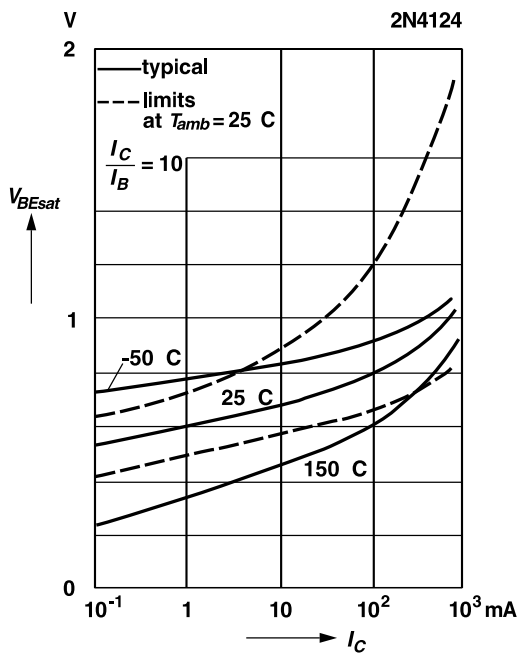
Collector saturation voltage versus collector current



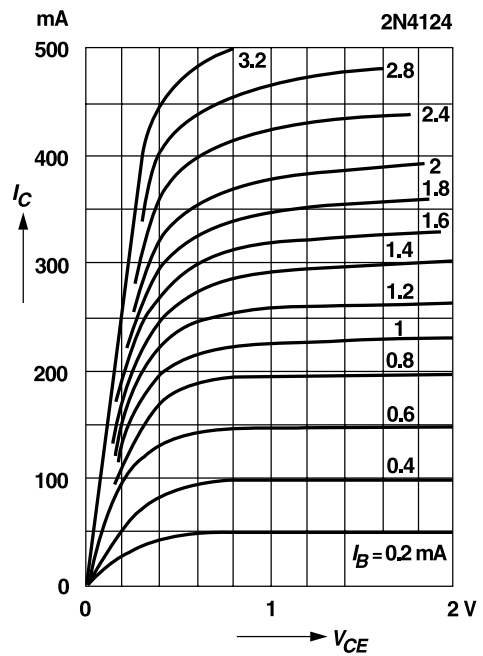
DC current gain versus collector current



Base saturation voltage versus collector current

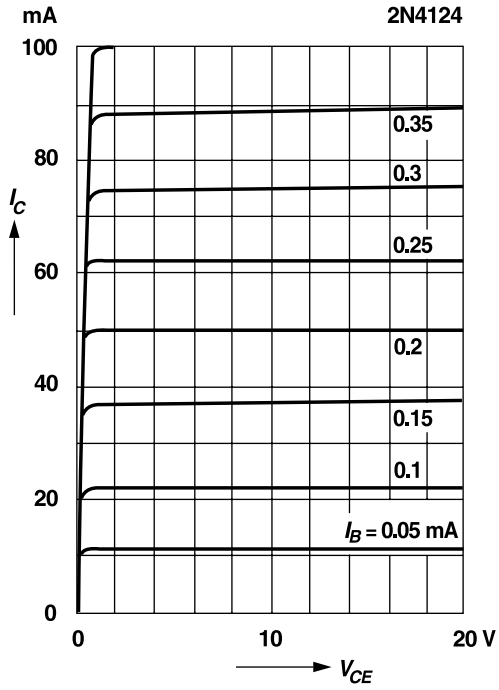


Common emitter collector characteristics



RATINGS AND CHARACTERISTIC CURVES 2N4124

Common emitter
collector characteristics



Common emitter
collector characteristics

