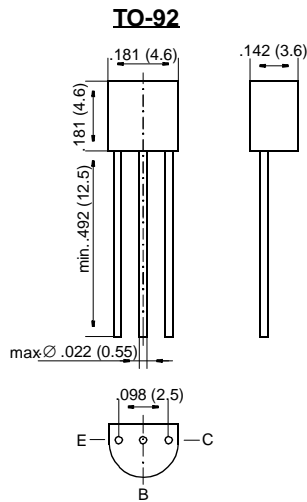


# 2N4124

## 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 <sup>1)</sup>	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_S$	-65 to +150	°C

<sup>1)</sup> 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

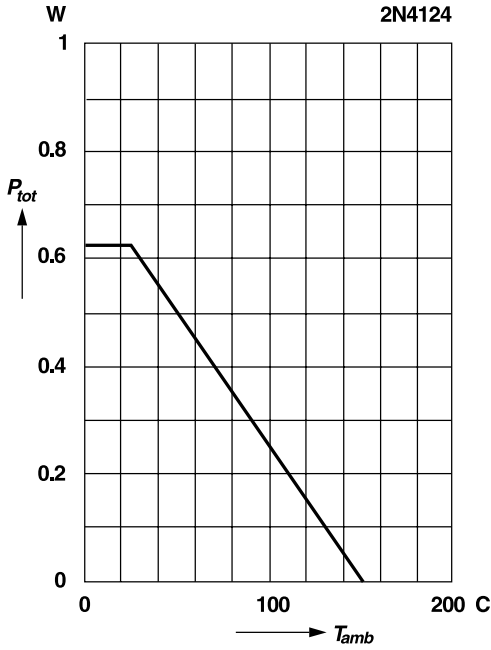
	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 1\text{ V}$ , $I_C = 2.0\text{ mA}$ at $V_{CE} = 1\text{ V}$ , $I_C = 50\text{ mA}$	$h_{FE}$ $h_{FE}$	120 –	– 60	360 –	– –
Collector-Base Cutoff Current at $V_{CB} = 20\text{ V}$	$I_{CBO}$	–	–	50	nA
Emitter-Base Cutoff Current at $V_{EB} = 3\text{ V}$	$I_{EBO}$	–	–	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 <sup>1)</sup>	K/W

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

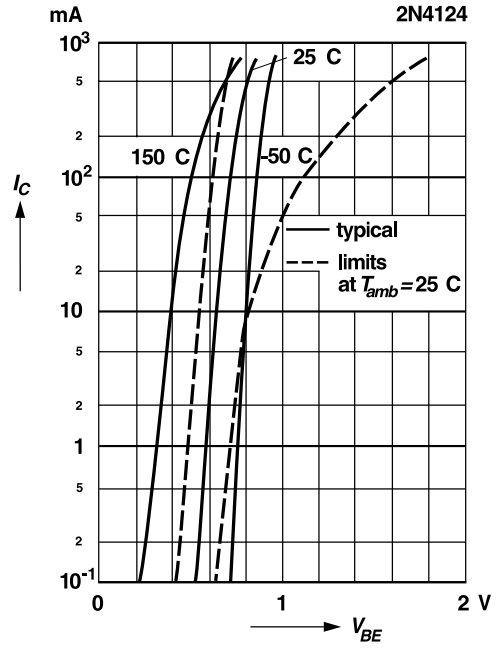
# RATINGS AND CHARACTERISTIC CURVES 2N4124

## Admissible power dissipation versus ambient temperature

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

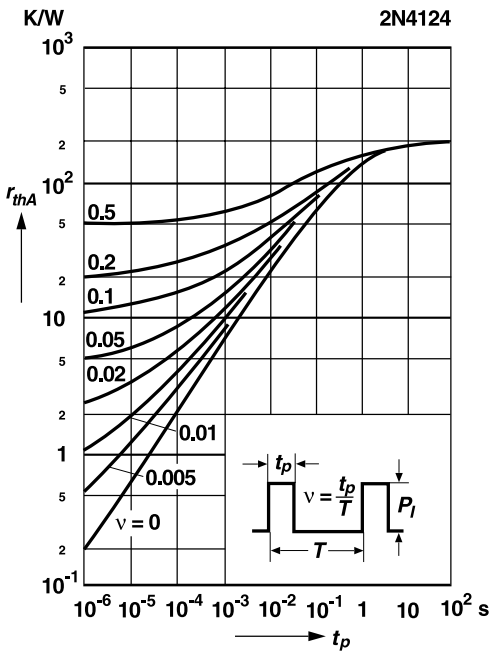


## Collector current versus base-emitter voltage

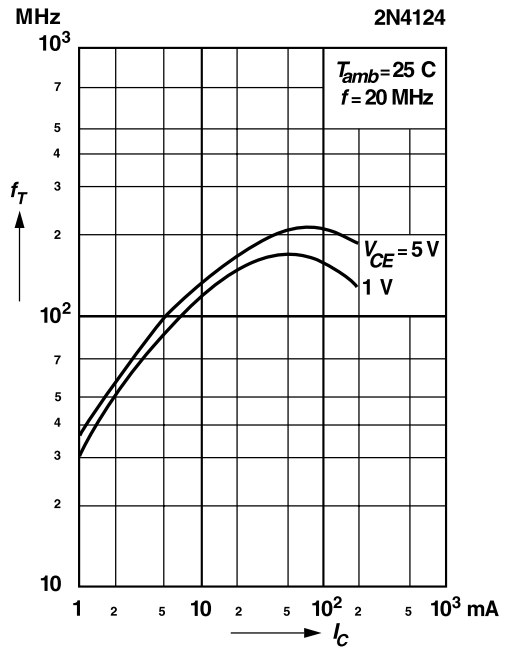


## Pulse thermal resistance versus pulse duration

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

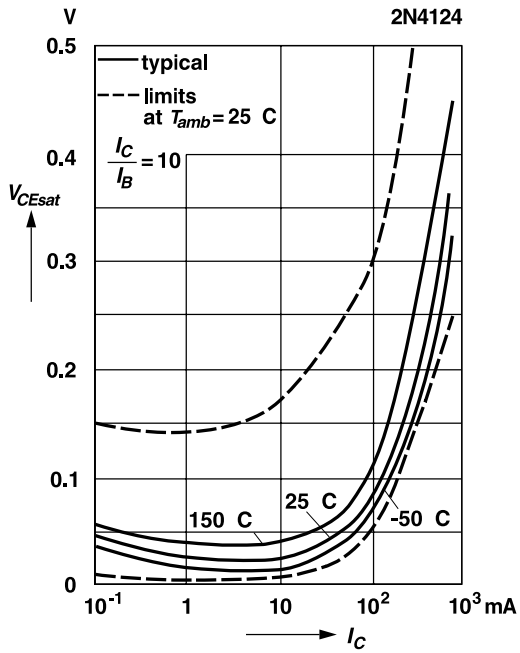


## Gain-bandwidth product versus collector current

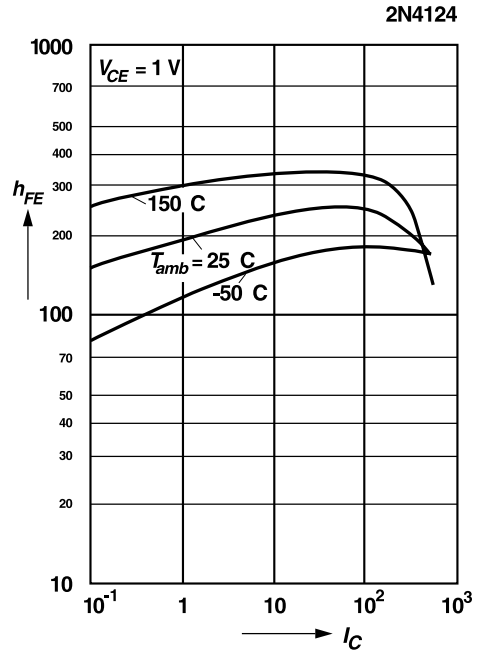


# RATINGS AND CHARACTERISTIC CURVES 2N4124

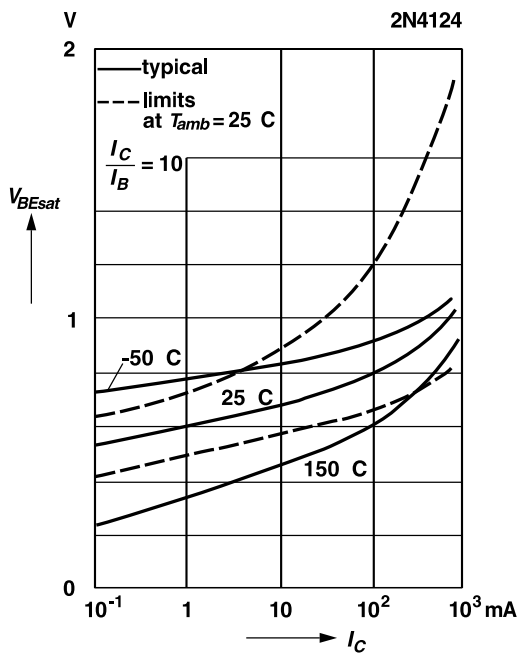
Collector saturation voltage versus collector current



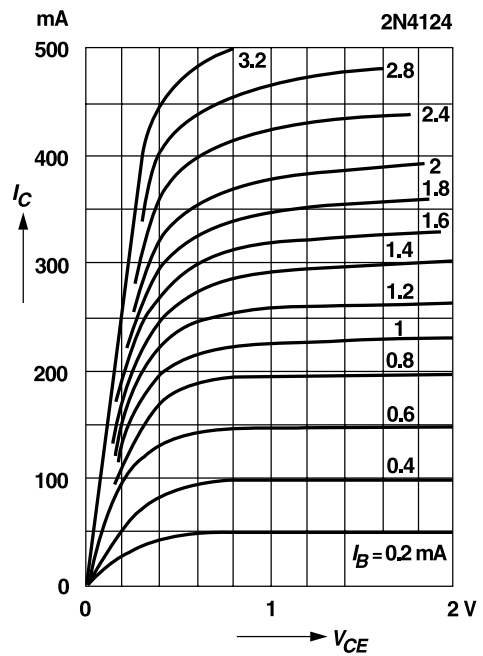
DC current gain versus collector current



Base saturation voltage versus collector current

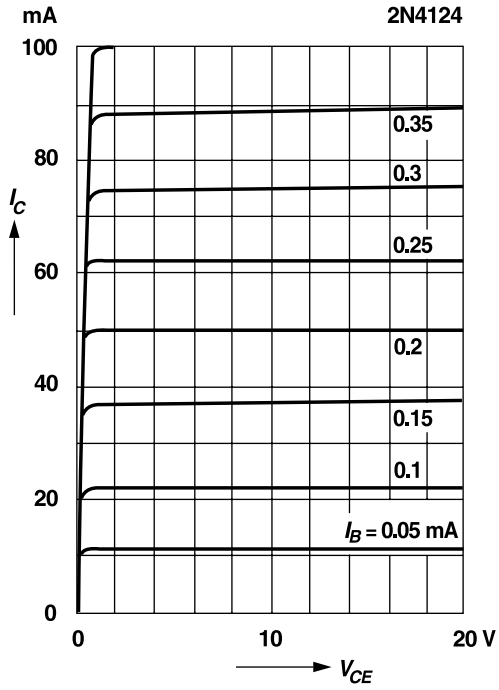


Common emitter collector characteristics



# RATINGS AND CHARACTERISTIC CURVES 2N4124

Common emitter  
collector characteristics



Common emitter  
collector characteristics

