



CHENMKO ENTERPRISE CO.,LTD

SURFACE MOUNT

General Purpose Transistor

VOLTAGE 25 Volts CURRENT 200 mAmpere

CHT4124PT

Lead free devices

APPLICATION

- * AF input stages and driver applicationon equipment.
- * Other general purpose applications.

FEATURE

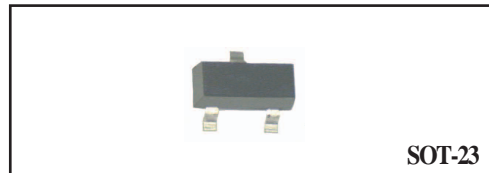
- * Small surface mounting type. (SOT-23)
- * High current gain.
- * Suitable for high packing density.
- * Low collector-emitter saturation.
- * High saturation current capability.

CONSTRUCTION

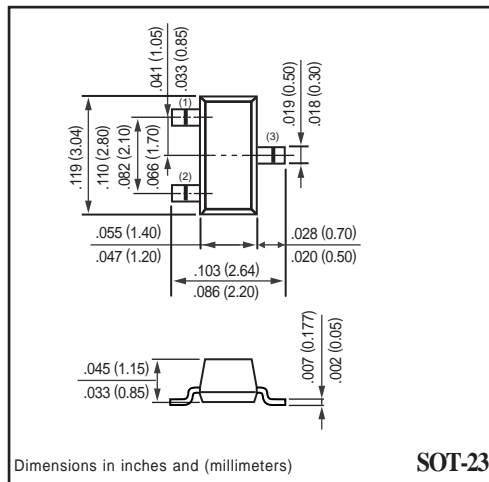
- * NPN Switching Transistor

MARKING

- * KT



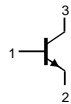
SOT-23



Dimensions in inches and (millimeters)

SOT-23

CIRCUIT



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{CBO}	collector-base voltage	open emitter	–	30	V
V _{CEO}	collector-emitter voltage	open base	–	25	V
V _{EBO}	emitter-base voltage	open collector	–	5	V
I _C	collector current (DC)		–	200	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	–	350	mW
T _{stg}	storage temperature		–65	+150	°C
T _j	junction temperature		–	150	°C
T _{amb}	operating ambient temperature		–65	+150	°C

Note

1. Transistor mounted on an FR4 printed-circuit board.

RATING CHARACTERISTIC CURVES (CHT4124PT)

CHARACTERISTICS

$T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{(BR)CBO}$	collector-base breakdown voltage	$I_C = 10\mu\text{A}$; $I_E = 0\text{A}$	30	–	V
$V_{(BR)CEO}$	collector-emitter breakdown voltage	$I_C = 1\text{mA}$; $I_B = 0\text{A}$	25	–	V
$V_{(BR)EBO}$	emitter-base breakdown voltage	$I_E = 10\mu\text{A}$; $I_C = 0\text{A}$	5	–	V
I_{CBO}	collector cut-off current	$I_E = 0$; $V_{CB} = 20\text{ V}$	–	50	nA
I_{EBO}	emitter cut-off current	$I_C = 0$; $V_{EB} = 3\text{ V}$	–	50	nA
h_{FE}	DC current gain	$I_C = 50\text{ mA}$; $V_{CE} \neq 1\text{V}$; note 3	60	–	
h_{FE}	DC current gain	$I_C = 2\text{ mA}$; $V_{CE} = 1\text{V}$	120	360	
V_{CEsat}	collector-emitter saturation	$I_C = 50\text{ mA}$; $I_B = 5\text{ mA}$	–	300	mV
V_{BEsat}	base-emitter saturation voltage	$I_C = 50\text{ mA}$; $I_B = 5\text{ mA}$	–	950	mV
C_{obo}	output capacitance	$I_E = i_e = 0$; $V_{CB} = 5\text{ V}$; $f = 1\text{ MHz}$	–	4	pF
C_{ibo}	input capacitance	$I_E = i_e = 0$; $V_{CB} = 5\text{ V}$; $f = 1\text{ MHz}$	–	8	pF
f_T	transition frequency	$I_C = 10\text{ mA}$; $V_{CE} = 20\text{ V}$; $f = 100\text{ MHz}$	300	–	MHz

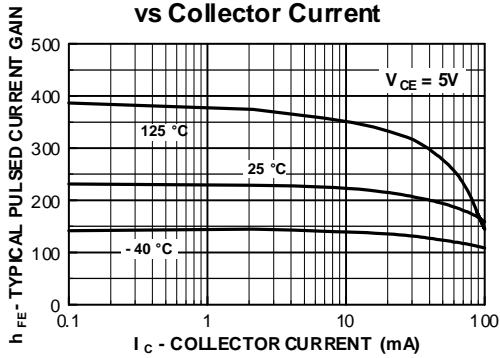
Note

3. Pulse test: $t_p \leq 300\text{ }\mu\text{s}$; $\delta \leq 0.02$.

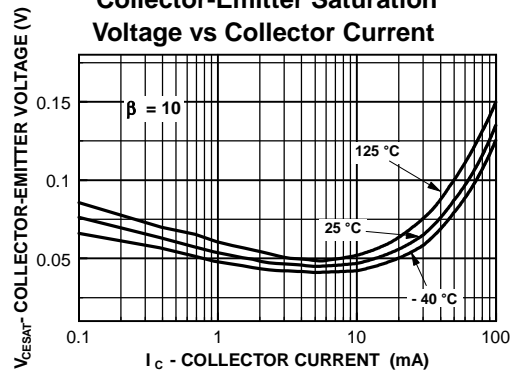
RATING CHARACTERISTIC CURVES (CHT4124PT)

Typical Characteristics

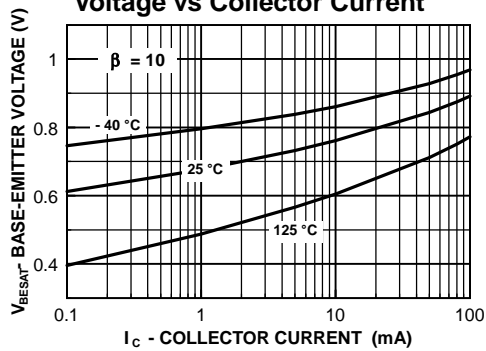
Typical Pulsed Current Gain vs Collector Current



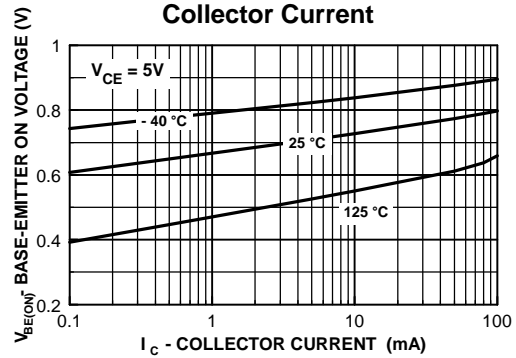
Collector-Emitter Saturation Voltage vs Collector Current



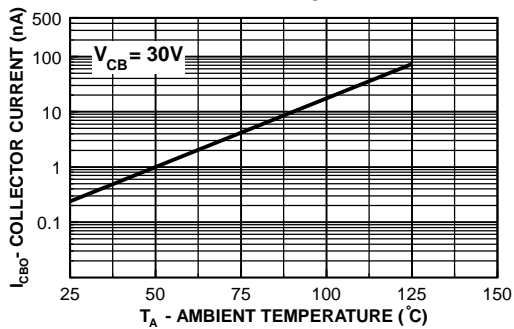
Base-Emitter Saturation Voltage vs Collector Current



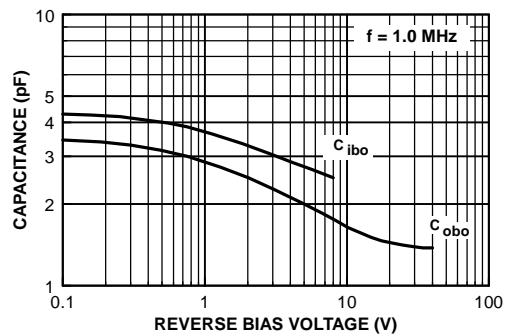
Base-Emitter ON Voltage vs Collector Current



Collector-Cutoff Current vs Ambient Temperature



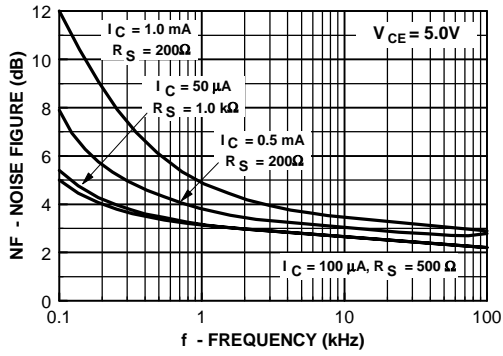
Capacitance vs Reverse Bias Voltage



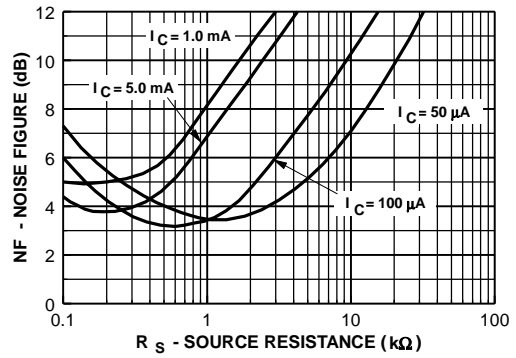
RATING CHARACTERISTIC CURVES (CHT4124PT)

Typical Characteristics

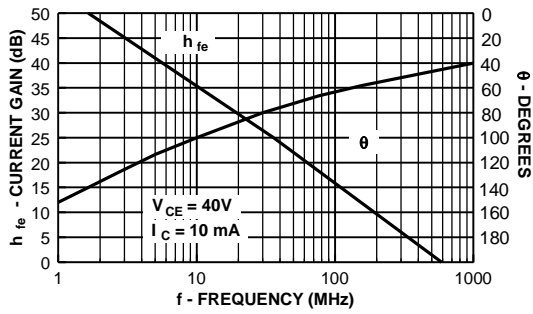
Noise Figure vs Frequency



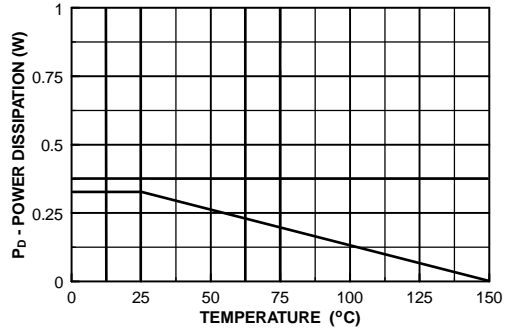
Noise Figure vs Source Resistance



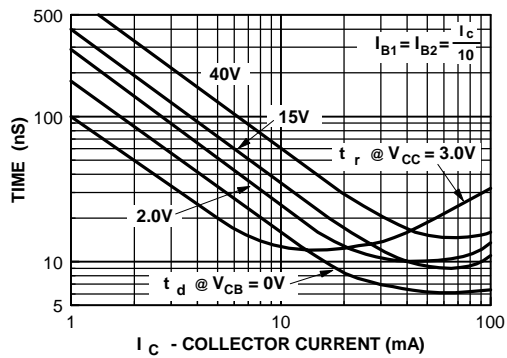
Current Gain and Phase Angle vs Frequency



Power Dissipation vs Ambient Temperature



Turn-On Time vs Collector Current



Rise Time vs Collector Current

