



**CHENMKO ENTERPRISE CO.,LTD**

**SURFACE MOUNT**

**General Purpose Transistor**

VOLTAGE 25 Volts CURRENT 200 mAmpere

**CHT4124SPT**

*Lead free devices*

**APPLICATION**

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

**FEATURE**

- \* Small surface mounting type. (SC-88/SOT-363)
- \* High current gain.
- \* Suitable for high packing density.
- \* Low collector-emitter saturation.
- \* High saturation current capability.

**CONSTRUCTION**

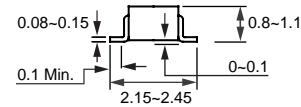
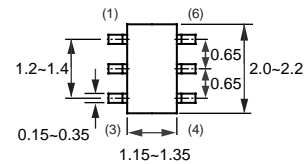
- \* Two internal isolated NPN transistors in one package.

**MARKING**

- \* CS



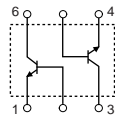
**SC-88/SOT-363**



Dimensions in millimeters

**SC-88/SOT-363**

**CIRCUIT**



**LIMITING VALUES**

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

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

**Note**

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

## RATING CHARACTERISTIC CURVES ( CHT4124SPT )

### 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

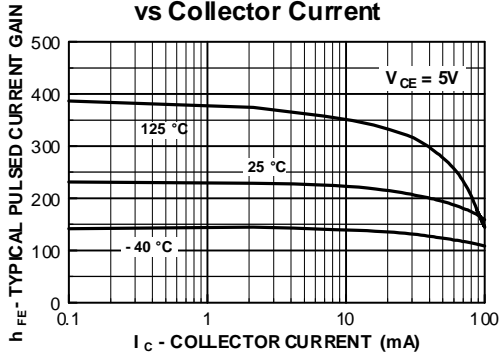
### Note

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

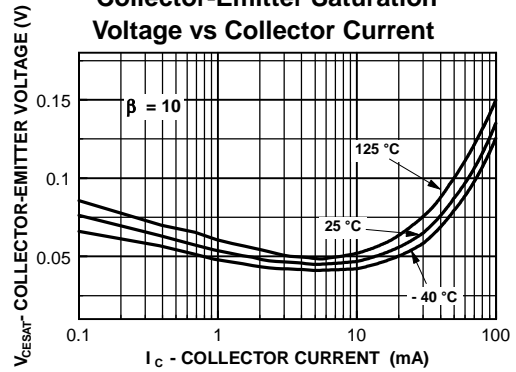
## RATING CHARACTERISTIC CURVES ( CHT4124SPT )

### Typical Characteristics

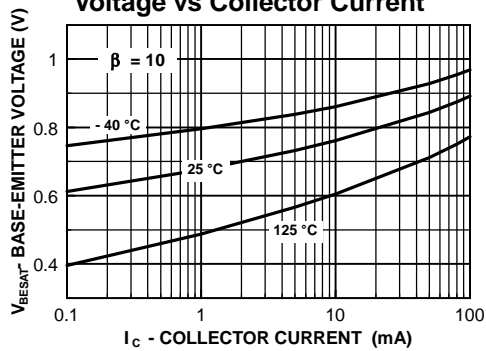
**Typical Pulsed Current Gain vs Collector Current**



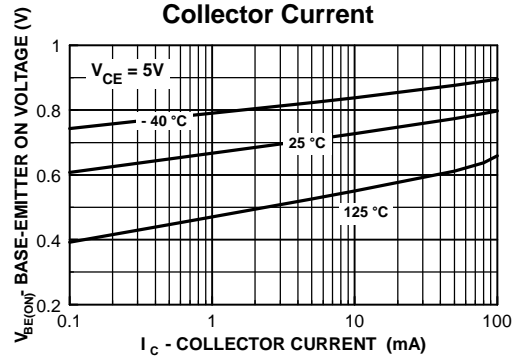
**Collector-Emitter Saturation Voltage vs Collector Current**



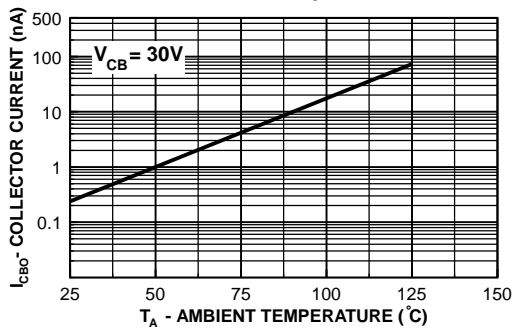
**Base-Emitter Saturation Voltage vs Collector Current**



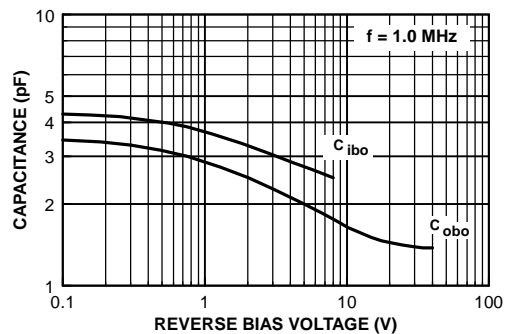
**Base-Emitter ON Voltage vs Collector Current**



**Collector-Cutoff Current vs Ambient Temperature**



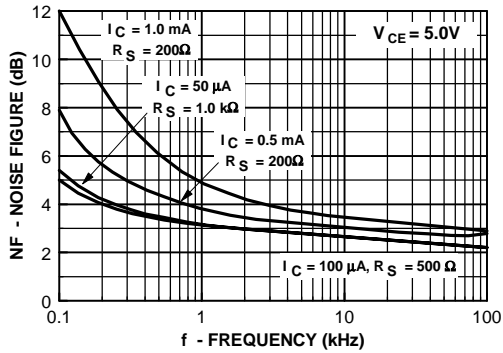
**Capacitance vs Reverse Bias Voltage**



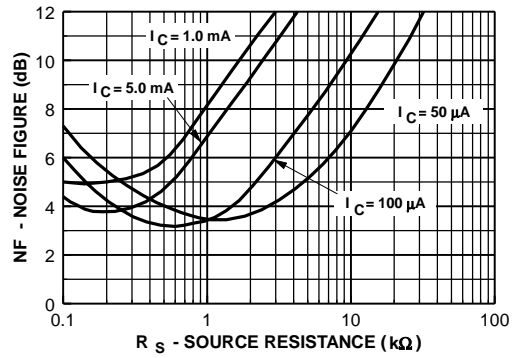
# RATING CHARACTERISTIC CURVES ( CHT4124SPT )

## Typical Characteristics

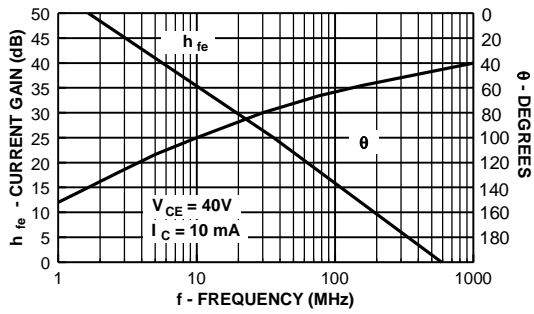
### Noise Figure vs Frequency



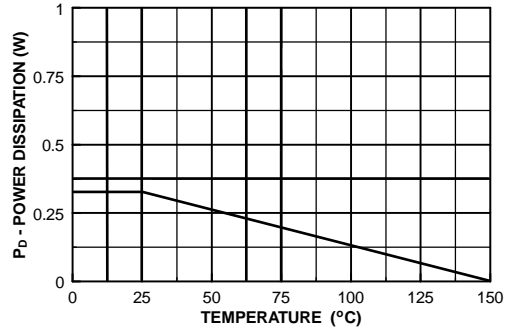
### Noise Figure vs Source Resistance



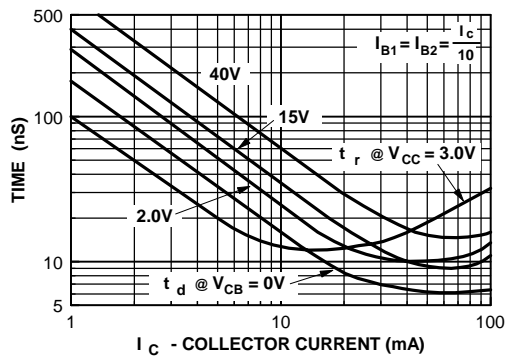
### Current Gain and Phase Angle vs Frequency



### Power Dissipation vs Ambient Temperature



### Turn-On Time vs Collector Current



### Rise Time vs Collector Current

