



**CHENMKO ENTERPRISE CO.,LTD**

**CHT9013PT**

**SURFACE MOUNT  
NPN Silicon Transistor**

VOLTAGE 25Volts CURRENT 0.5 Ampere

*Lead free devices*

**APPLICATION**

- \* Telephony and professional communication equipment.
- \* Other switching applications.

**FEATURE**

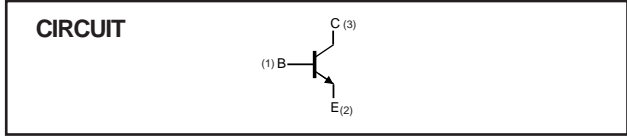
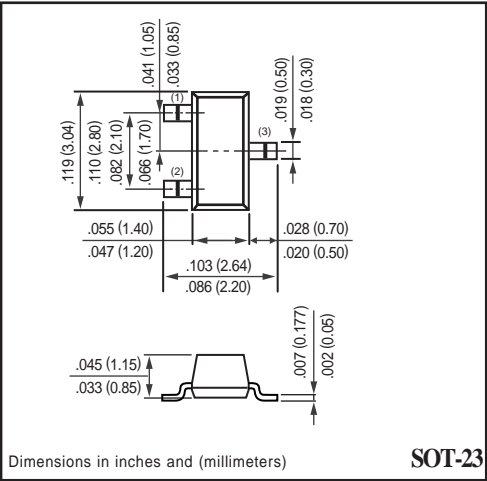
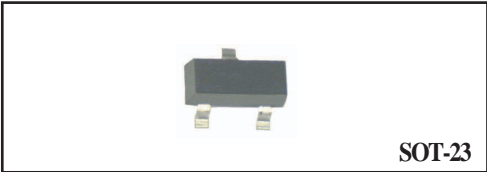
- \* Surface mount package. (SOT-23)
- \* Suitable for high packing density.

**CONSTRUCTION**

\*NPN Silicon Transistor

**MARKING**

- \* HFE(L):J3
- \* HFE(H):J2
- \* HFE(J):J1



**LIMITING VALUES**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CB0</sub>	collector-base voltage	open emitter	-	40	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)		-	500	mA
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C; note 1	-	300	mW
T <sub>stg</sub>	storage temperature		-55	+150	°C
T <sub>j</sub>	junction temperature		-	150	°C
T <sub>amb</sub>	operating ambient temperature		-55	+150	°C

**Note**

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

## RATING CHARACTERISTIC CURVES ( CHT9013PT )

### CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$I_{CBO}$	collector cut-off current	$V_{CB} = 40V, I_E = 0$	–	0.1	$\mu\text{A}$
$I_{CEO}$	collector cut-off current	$V_{CE} = 20V, I_B = 0$	–	0.1	$\mu\text{A}$
$I_{EBO}$	emitter cut-off current	$V_{EB} = 5V, I_C = 0$	–	0.1	$\mu\text{A}$
$h_{FE}$	DC current gain	$I_C = 50\text{ mA}; V_{CE} = 1V$ $I_C = 500\text{ mA}; V_{CE} = 1V$	120 40	400 –	
$V_{CE(sat)}$	collector-emitter saturation voltage	$I_C = 500\text{ mA}; I_B = 50\text{ mA}$	–	0.6	V
$V_{BE(sat)}$	base-emitter saturation voltage	$I_C = 500\text{ mA}; I_B = 50\text{ mA}$	–	1.2	V
$f_T$	transition frequency	$I_C = 20\text{ mA}; V_{CE} = 6\text{ V};$ $f = 30\text{ MHz}$	150	–	MHz

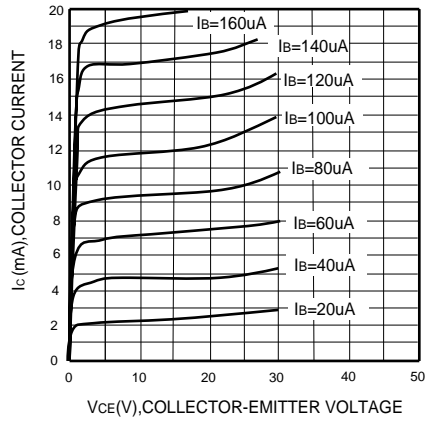
**Note :**

1. Pulse test:  $t_p \leq 300\mu\text{Sec}; \delta \leq 0.02$ .
2.  $h_{FE}$ : Classification L: 120 to 200, H: 200 to 350, J: 300 to 400

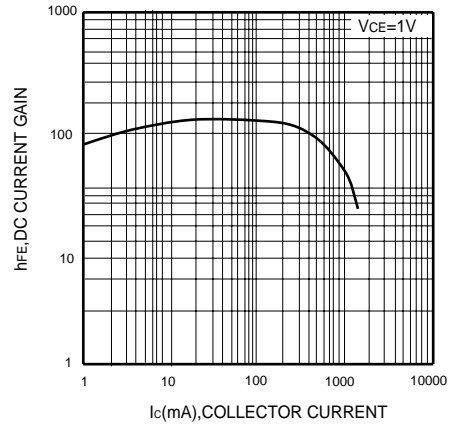
## RATING CHARACTERISTIC CURVES ( CHT9013PT )

### Typical Electrical Characteristics

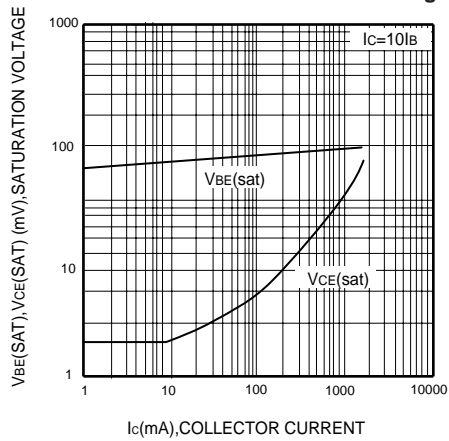
**FIG. 1 - Static Characteristic**



**FIG. 2 - DC collector current**



**FIG. 3 - Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage**



**FIG. 4 - Current Gain Bandwidth Product**

