



**CHENMKO ENTERPRISE CO.,LTD**

**CHT42PT**

*Lead free devices*

**SURFACE MOUNT  
NPN High Voltage Transistor**

VOLTAGE 300 Volts CURRENT 0.5 Ampere

**APPLICATION**

- \* Video out to drive color CRT
- \* Other high voltage applications.

**FEATURE**

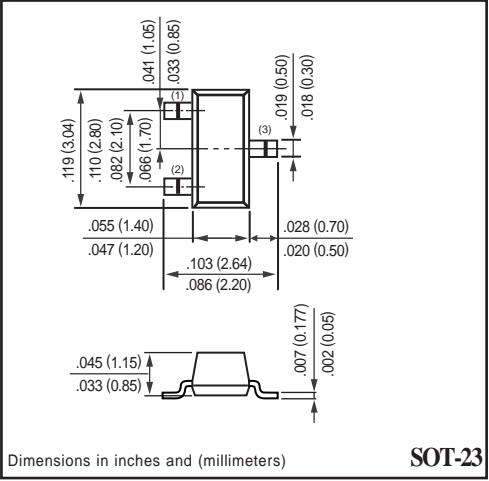
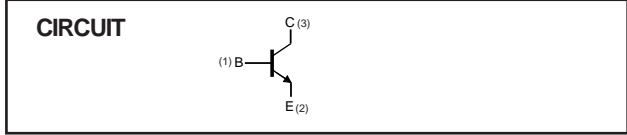
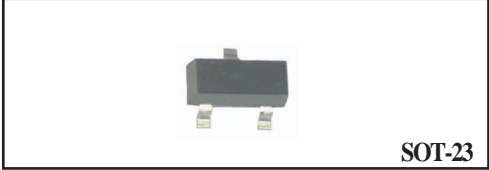
- \* Small surface mounting type. (SOT-23)
- \* Low current (Max.=500mA).
- \* Suitable for high packing density.
- \* Low voltage (Max.=300V) .
- \* High saturation current capability.

**CONSTRUCTION**

- \* NPN High Voltage Transistor

**MARKING**

- \* T42



**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	—	300	V
V <sub>CEO</sub>	collector-emitter voltage	open base	—	300	V
V <sub>EBO</sub>	emitter-base voltage	open collector	—	6	V
I <sub>C</sub>	collector current DC		—	500	mA
I <sub>CM</sub>	peak collector current		—	500	mA
I <sub>BM</sub>	peak base current		—	100	mA
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C; note 1	—	350	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 ( CHT42PT )

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	357	K/W

#### Note

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

### CHARACTERISTICS

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

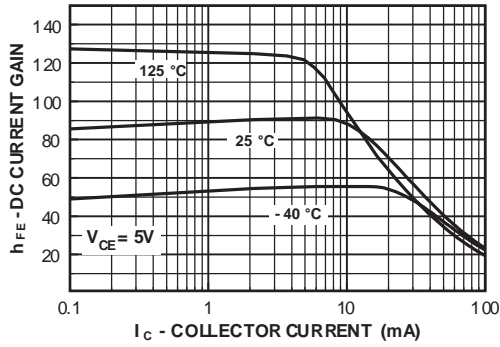
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = 20\text{ V}$	–	0.1	$\mu\text{A}$
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = 6\text{ V}$	–	0.1	$\mu\text{A}$
$h_{FE}$	DC current gain	$V_{CE} = 10\text{ V}$ ; note 1; $I_C = 1.0\text{ mA}$ $I_C = 10\text{ mA}$ $I_C = 30\text{ mA}$	25 40 40	– – 300	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = 20\text{ mA}; I_B = 2\text{ mA}$	–	500	mV
$V_{BEsat}$	base-emitter saturation voltage	$I_C = 20\text{ mA}; I_B = 2\text{ mA}$	–	900	mV
$C_{cb}$	collector-base capacitance	$I_E = i_e = 0; V_{CB} = 20\text{ V}; f = 1\text{ MHz}$	–	3	pF
$f_T$	transition frequency	$I_C = 10\text{ mA}; V_{CE} = 20\text{ V}; f = 100\text{ MHz}$	50	–	MHz

#### Note

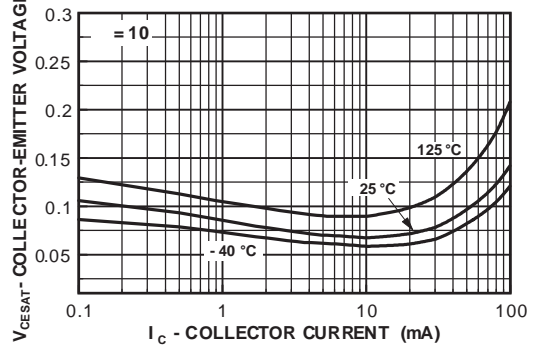
1. Pulse test:  $t_p \leq 300\text{ }\mu\text{s}$ ;  $\delta \leq 0.02$ .

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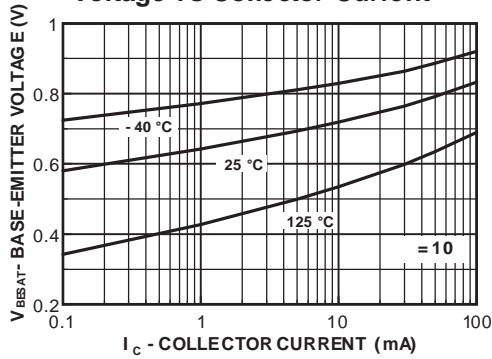
**DC Current Gain vs Collector Current**



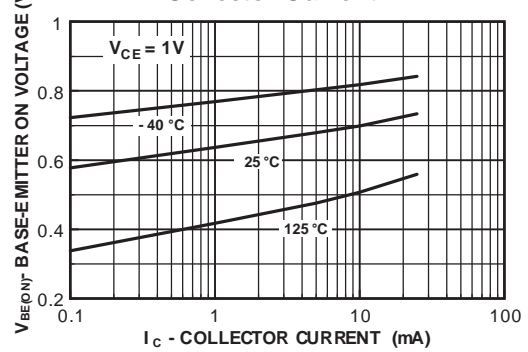
**Collector-Emitter Saturation Voltage vs Collector Current**



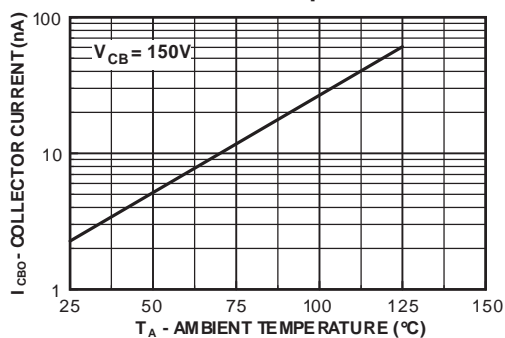
**Base-Emitter Saturation Voltage vs Collector Current**



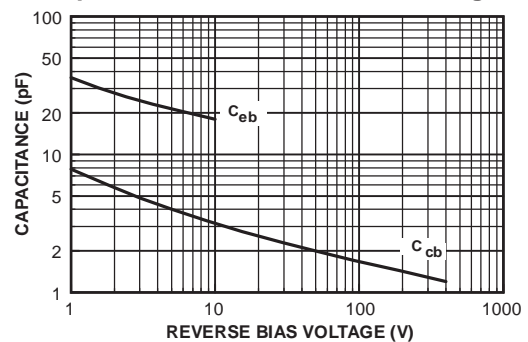
**Base-Emitter ON Voltage vs Collector Current**



**Collector-Cutoff Current vs Ambient Temperature**



**Collector-Base and Emitter-Base Capacitance vs Reverse Bias Voltage**



## RATING CHARACTERISTIC CURVES ( CHT42PT )

