



CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

**SURFACE MOUNT
NPN High Voltage Transistor**

VOLTAGE 300 Volts CURRENT 0.5 Ampere

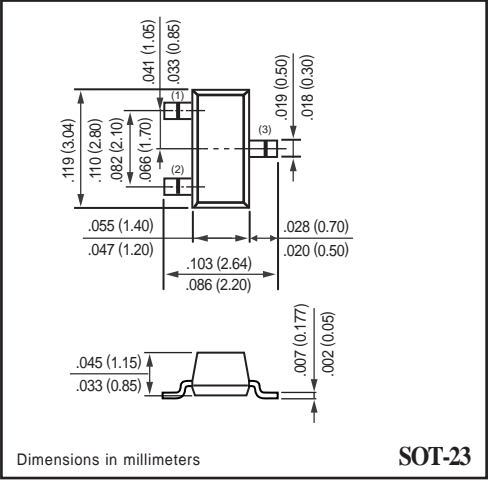
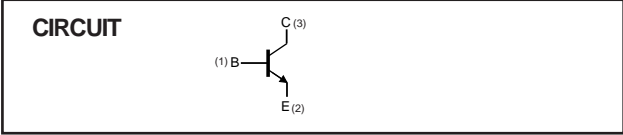
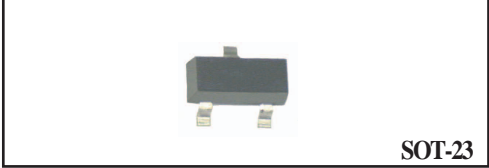
CHT42GP

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 _{CB0}	collector-base voltage	open emitter	-	300	V
V _{CEO}	collector-emitter voltage	open base	-	300	V
V _{EBO}	emitter-base voltage	open collector	-	6	V
I _C	collector current DC		-	500	mA
I _{CM}	peak collector current		-	500	mA
I _{BM}	peak base current		-	100	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	-	350	mW
T _{stg}	storage temperature		-55	+150	°C
T _j	junction temperature		-	150	°C
T _{amb}	operating ambient temperature		-55	+150	°C

Note

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

RATING CHARACTERISTIC CURVES (CHT42GP)

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.

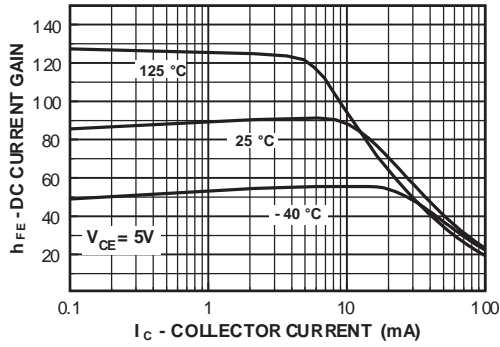
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0; V_{CB} = 20\text{ V}$	–	0.1	μA
I_{EBO}	emitter cut-off current	$I_C = 0; V_{EB} = 6\text{ V}$	–	0.1	μA
h_{FE}	DC current gain	$V_{CE} = 10\text{ V}$; note 1; $I_C = 1.0\text{ mA}$ $I_C = 10\text{ mA}$ $I_C = 30\text{ mA}$	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

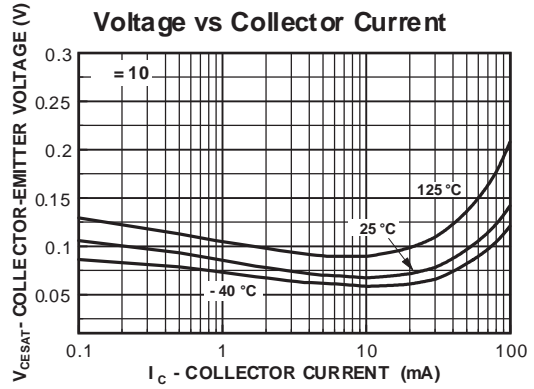
1. Pulse test: $t_p \leq 300\text{ }\mu\text{s}$; $\delta \leq 0.02$.

RATING CHARACTERISTIC CURVES (CHT42GP)

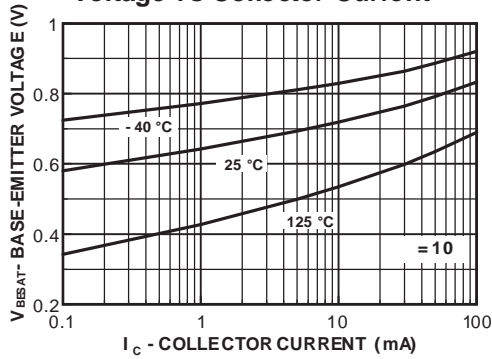
DC Current Gain vs Collector Current



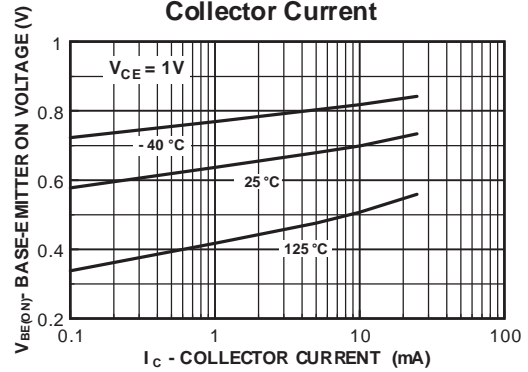
Collector-Emmitter Saturation Voltage vs Collector Current



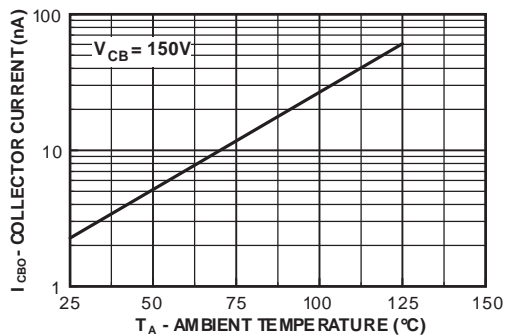
Base-Emmitter Saturation Voltage vs Collector Current



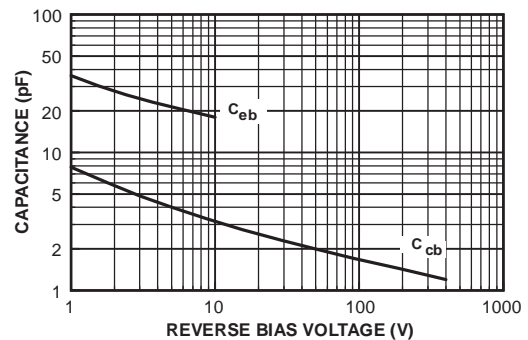
Base-Emmitter ON Voltage vs Collector Current



Collector-Cutoff Current vs Ambient Temperature



Collector-Base and Emmitter-Base Capacitance vs Reverse Bias Voltage



RATING CHARACTERISTIC CURVES (CHT42GP)

