



**CHENMKO ENTERPRISE CO.,LTD**

**CHT846BWPT**

*Lead free devices*

**SURFACE MOUNT**  
**NPN General Purpose Transistor**  
VOLTAGE 65 Volts CURRENT 0.1 Ampere

**APPLICATION**

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

**FEATURE**

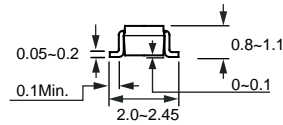
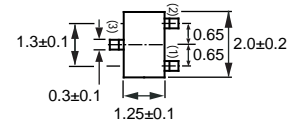
- \* Surface mount package. (SC-70/SOT-323)
- \* High current gain.
- \* Suitable for high packing density.
- \* Low collector-emitter saturation.
- \* High saturation current capability.

**MARKING**

- \* HFE(Q):RH
- \* HFE(R):RI
- \* HFE(S):RJ



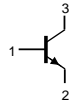
**SC-70/SOT-323**



Dimensions in millimeters

**SC-70/SOT-323**

**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	-	80	V
V <sub>CEO</sub>	collector-emitter voltage	open base	-	65	V
V <sub>EBO</sub>	emitter-base voltage	open collector	-	6	V
I <sub>C</sub>	collector current (DC)		-	0.1	A
P <sub>C</sub>	Collector power dissipation		-	0.3	W
		Note2	-	0.4	
T <sub>stg</sub>	storage temperature		-55	+150	°C
T <sub>j</sub>	junction temperature		-	150	°C

**Note**

1. Transistor mounted on an FR4 printed-circuit board.
2. When mounted on a 7X5X0.6mm ceramic board.

## RATING CHARACTERISTIC ( CHT846BWPT)

### THERMAL CHARACTERISTICS CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	Typ.	MAX.	UNIT
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = 30\text{ V}$	-	-	15	nA
		$I_C = 0; V_{CB} = 30\text{ V}; T_A = 150\text{ }^{\circ}\text{C}$	-	-	5	$\mu\text{A}$
$BV_{CBO}$	collector-base breakdown voltage	$I_C = 10\text{ }\mu\text{A}$	80	-	-	V
$BV_{CEO}$	collector-emitter breakdown voltage	$I_C = 10\text{ mA}$	65	-	-	V
$BV_{EBO}$	emitter-base breakdown voltage	$I_E = 1\text{ }\mu\text{A}$	6	-	-	V
$h_{FE}$	DC current transfer ratio	$V_{CE}/I_C = 5\text{V}/2\text{ mA}$	110	-	800	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = 10\text{ mA}; I_B = 0.5\text{ mA}$	-	-	250	mV
		$I_C = 100\text{ mA}; I_B = 5\text{ mA}$	-	-	600	mV
$V_{BE(on)}$	base-emitter saturation voltage	$I_C = 10\text{ mA}; V_{CE} = 5.0\text{ V}$	0.58	-	0.77	V
$C_{ib}$	emitter input capacitance	$I_C = 0; V_{CB} = 0.5\text{ V}; f = 1\text{ MHz}$	-	8	-	pF
$C_{ob}$	collector output capacitance	$I_E = 0; V_{CB} = -10\text{ V}; f = 1\text{ MHz}$	-	3	-	pF
$f_T$	transition frequency	$I_E = 20\text{ mA}; V_{CE} = 5\text{ V}; f = 100\text{ MHz}$	-	200	-	MHz

#### Note

1. Pulse test:  $t_p \leq 300\text{ }\mu\text{s}; \delta \leq 0.02$ .
2.  $h_{FE}$ : Classification Q: 110 to 220, R: 200 to 450, S: 420 to 800

## RATING CHARACTERISTIC CURVES ( CHT846BWPT)

fig1. Grounded emitter output characteristics

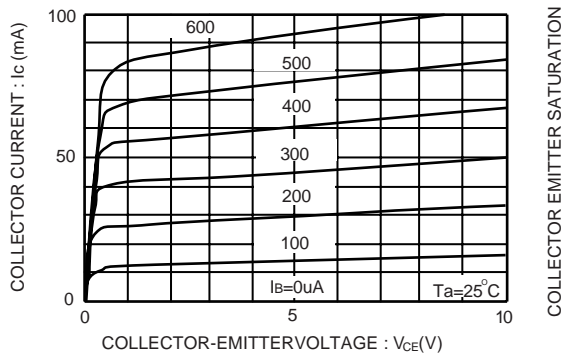
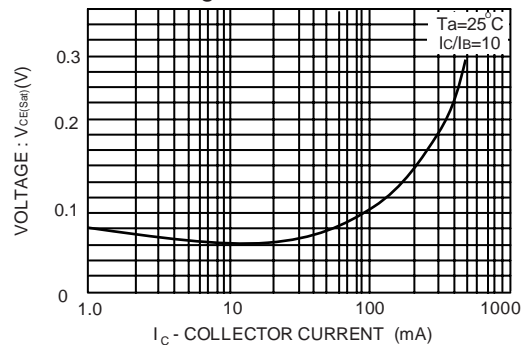


fig2. Collector-Emitter Saturation Voltage vs Collector Current



## RATING CHARACTERISTIC CURVES ( CHT846BWPT)

fig3.DC current gain VS. collector current (1)

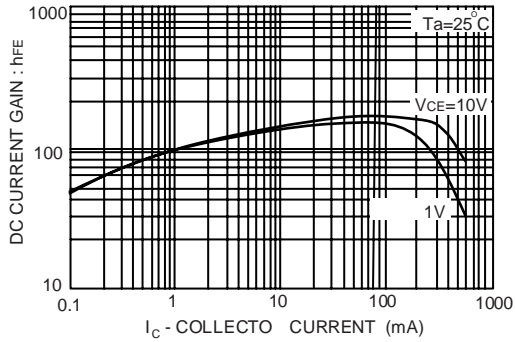


fig4.DC current gain VS. collector current (2)

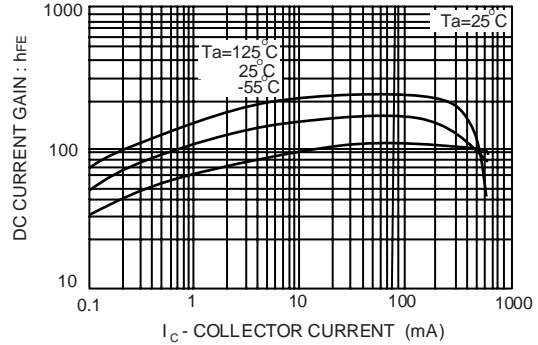


fig5.AC current gain VS. collector current

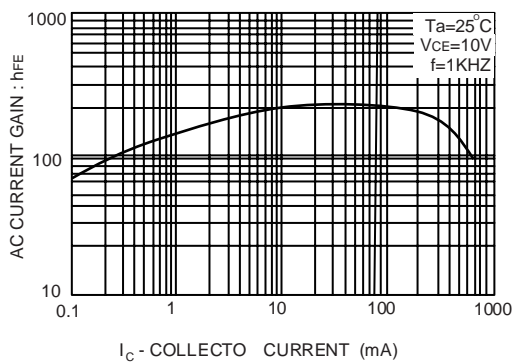


fig6.Base-emitter saturation voltage VS. collector current

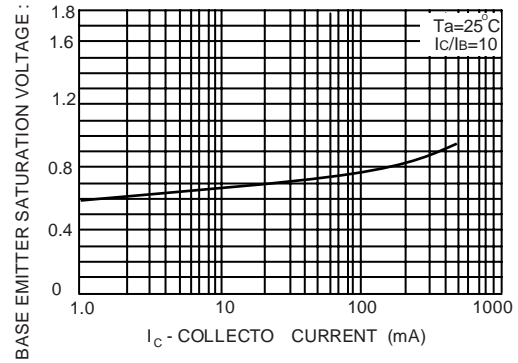


fig7.Grounded emitter propagation characteristics

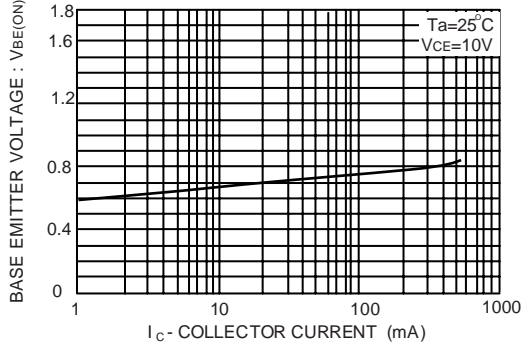
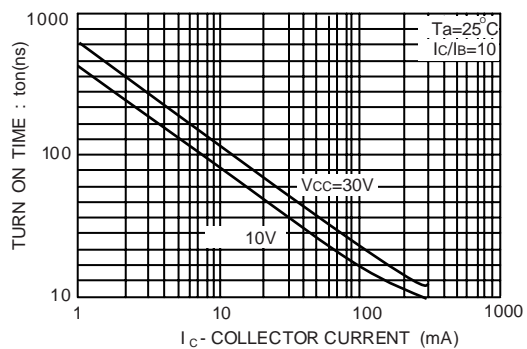


fig8.Turn-on time VS. collector current



## RATING CHARACTERISTIC CURVES ( CHT846BWPT)

fig9. Rise time VS. collector current

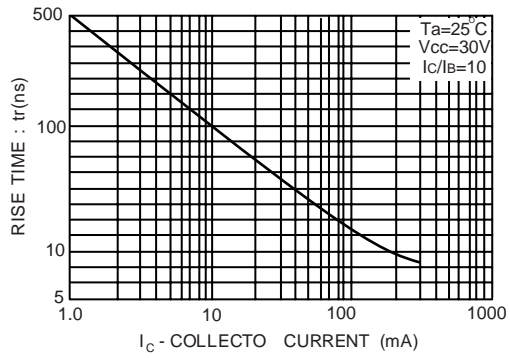


fig10. Fall time VS. collector current

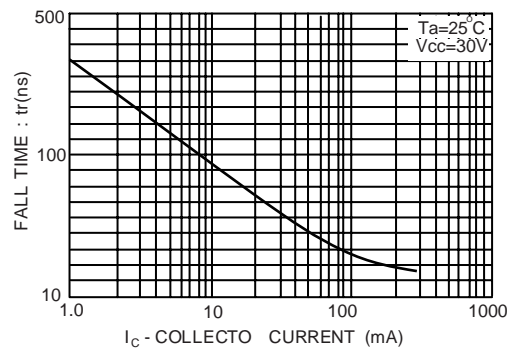


fig11. Input / output capacitance VS. voltage

