



CHENMKO ENTERPRISE CO.,LTD

Lead free devices

SURFACE MOUNT

NPN/PNP Silicon AF Transistor Array

VOLTAGE 80 Volts CURRENT 0.5 Ampere

CHT06UPNPT

APPLICATION

- * AF input stages and driver applicationon equipment.
- * Other switching applications.

FEATURE

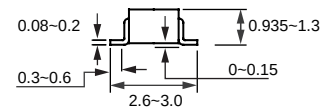
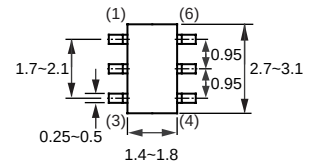
- * Small surface mounting type. (SC-74/SOT-457)
- * High current gain.
- * Suitable for high packing density.
- * Low collector-emitter saturation.
- * High saturation current capability.
- * Two internal isolated NPN/PNP transistor in one package.

CONSTRUCTION

- * NPN/PNP transistor in one package.



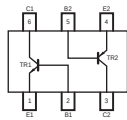
SC-74/SOT-457



Dimensions in millimeters

SC-74/SOT-457

CIRCUIT



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	—	80	V
V _{CEO}	collector-emitter voltage	open base	—	80	V
V _{EBO}	emitter-base voltage	open collector	—	4	V
I _C	collector current (DC)		—	500	mA
I _{CM}	peak collector current		—	1000	mA
I _{BM}	peak base current		—	200	mA
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1	—	330	mW
T _{stg}	storage temperature		−65	+150	°C
T _j	junction temperature		—	150	°C
T _{amb}	operating ambient temperature		−65	+150	°C

Note

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

RATING CHARACTERISTIC CURVES (CHT06UPNPT)

THEMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-s}$	thermal resistance from junction to soldering point	note 1	105	K/W

Note

- 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	$I_E = 0; V_{CB} = 80\text{ V}$	–	100	nA
		$I_C = 0; V_{CB} = 80\text{ V}; T_A = 150\text{ }^{\circ}\text{C}$	–	20	uA
I_{CEO}	emitter cut-off current	$I_C = 0; V_{CE} = 60\text{ V}$	–	100	nA
h_{FE}	DC current gain	$I_C = 10\text{ mA}; V_{CE} = 1.0\text{ V}; \text{note 1}$	100	–	
		$I_C = 100\text{ mA}; V_{CE} = 1.0\text{ V}$	100	–	
V_{CEsat}	collector-emitter saturation voltage	$I_C = 100\text{ mA}; I_B = 10\text{ mA}$	–	250	mV
$V_{BE(ON)}$	base-emitter saturation voltage	$I_C = 100\text{ mA}; V_{CE} = 1\text{ V}$	–	1.2	V
C_c	collector capacitance	$I_E = I_e = 0; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$	–	12	pF
C_e	emitter capacitance	$I_C = I_c = 0; V_{BE} = 500\text{ mV}; f = 1\text{ MHz}$	–	120	pF
f_T	transition frequency	$I_C = 20\text{ mA}; V_{CE} = 5\text{ V}; f = 100\text{ MHz}$	100	–	MHz
F	noise figure	$I_C = 100\text{ }\mu\text{A}; V_{CE} = 5\text{ V}; R_S = 1\text{ k}\Omega; f = 1.0\text{ kHz}$	–	4	dB

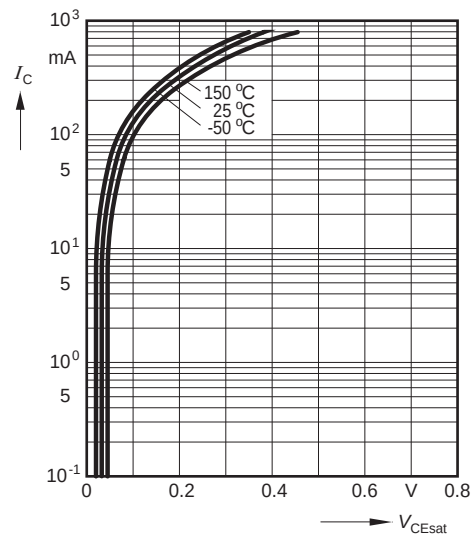
Note

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

RATING CHARACTERISTIC CURVES (CHT06UPNPT)

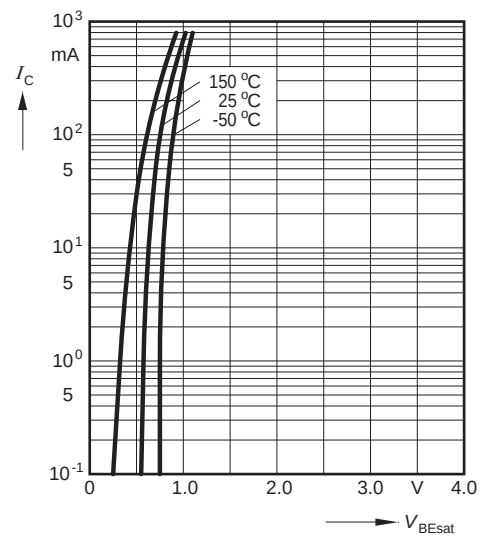
Collector-emitter saturation voltage

$$I_C = f(V_{CEsat}), h_{FE} = 10$$



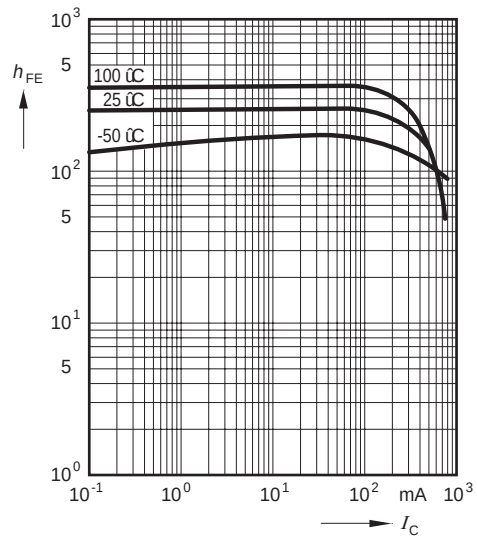
Base-emitter saturation voltage

$$I_C = f(V_{BEsat}), h_{FE} = 10$$



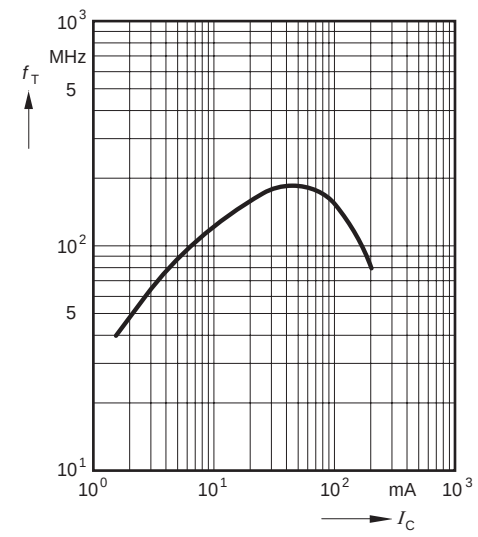
DC current gain $h_{FE} = f(I_C)$

$$V_{CE} = 5V$$



Transition frequency $f_T = f(I_C)$

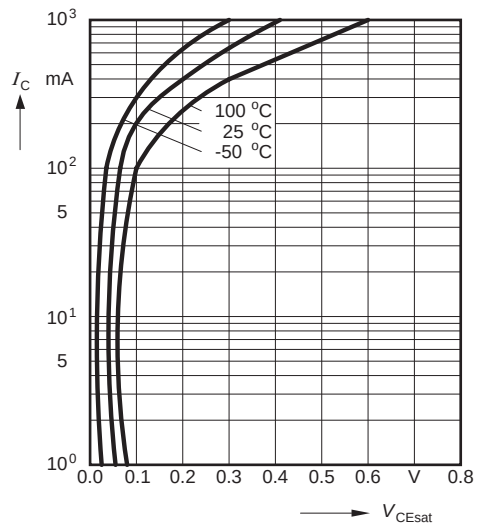
$$V_{CE} = 5V$$



RATING CHARACTERISTIC CURVES (CHT06UPNPT)

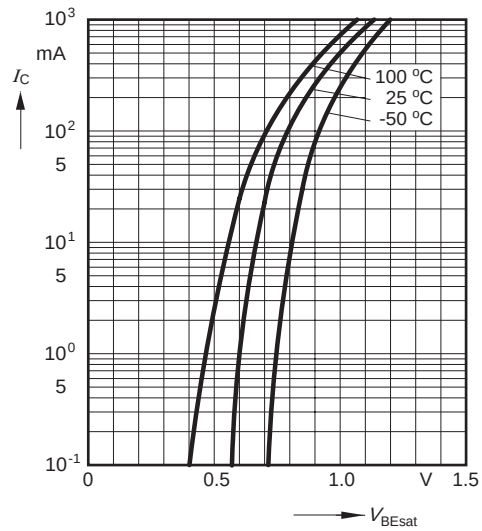
Collector-emitter saturation voltage

$$I_C = f(V_{CEsat}), h_{FE} = 10$$



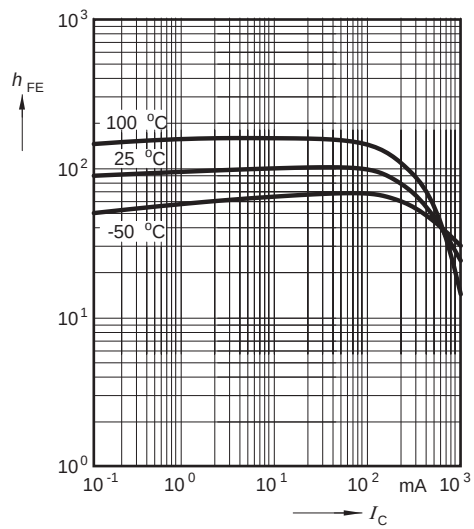
Base-emitter saturation voltage

$$I_C = f(V_{BEsat}), h_{FE} = 10$$



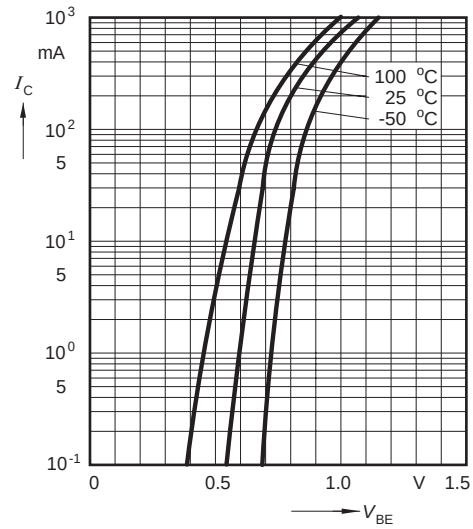
DC current gain $h_{FE} = f(I_C)$

$$V_{CE} = 1V$$



Collector current $I_C = f(V_{BE})$

$$V_{CE} = 1V$$



RATING CHARACTERISTIC CURVES (CHT06UPNPT)

Transition frequency $f_T = f(I_C)$

$V_{CE} = 5V$

