CHENMKO ENTERPRISE CO.,LTD

CHT06UPNPT

SURFACE MOUNT
NPN/PNP Silicon AF Transistor Array

VOLTAGE 80 Volts CURRENT 0.5 Ampere

Lead free devices

APPLICATION

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

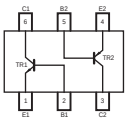
FEATURE

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

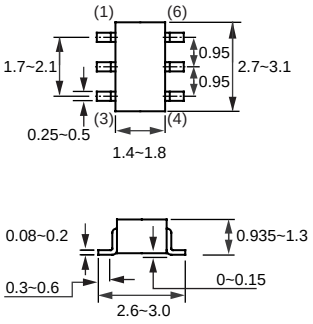
CONSTRUCTION

* NPN/PNP transistor in one package.

CIRCUIT



SC-74/SOT-457



Dimensions in millimeters

SC-74/SOT-457

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	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	$T_{amb} \leq 25$ °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.

2002-7

RATING CHARACTERISTIC CURVES (CHT06UPNPT)

THERMAL CHARACTERISTICS

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

Note

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

CHARACTERISTICS

T_{amb} = 25 °C unless otherwise speciÞed.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	I_E = 0; V_{CB} = 80 V	–	100	nA
		I_C = 0; V_{CB} = 80 V; T_A = 150 °C	–	20	uA
I_{CEO}	emitter cut-off current	I_C = 0; V_{CE} = 60 V	–	100	nA
h_{FE}	DC current gain	I_C = 10 mA; V_{CE} = 1.0V; note 1	100	–	
		I_C = 100 mA; V_{CE} = 1.0V	100	–	
V_{CEsat}	collector-emitter saturation voltage	I_C = 100 mA; I_B = 10 mA	–	250	mV
$V_{BE(ON)}$	base-emitter saturation voltage	I_C = 100 mA; V_{CE} = 1 V	–	1.2	V
C_c	collector capacitance	$I_E = i_e$ = 0; V_{CB} = 10V ; f = 1 MHz	–	12	pF
C_e	emitter capacitance	$I_C = i_c$ = 0; V_{BE} = 500 mV; f = 1 MHz	–	120	pF
f_T	transition frequency	I_C = 20 mA; V_{CE} = 5 V; f = 100 MHz	100	–	MHz
F	noise figure	I_C = 100 µA; V_{CE} = 5 V; R_S = 1 kΩ; f = 1.0 kHz	–	4	dB

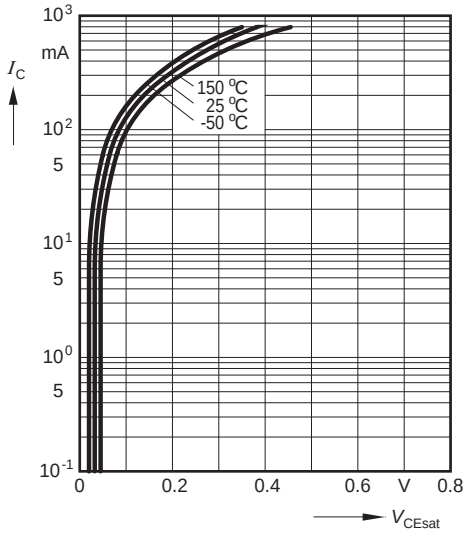
Note

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

RATING CHARACTERISTIC CURVES (CHT06UPNPT)

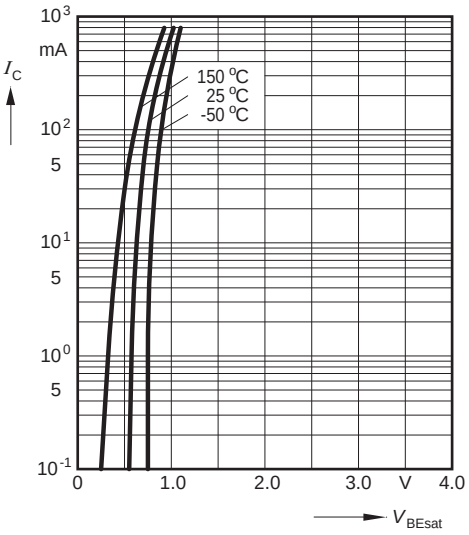
Collector-emitter saturation voltage

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



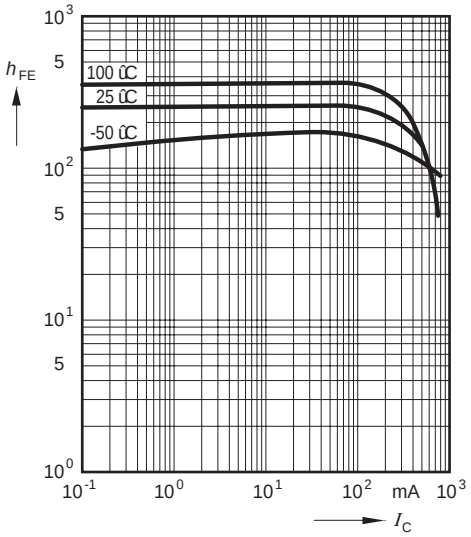
Base-emitter saturation voltage

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



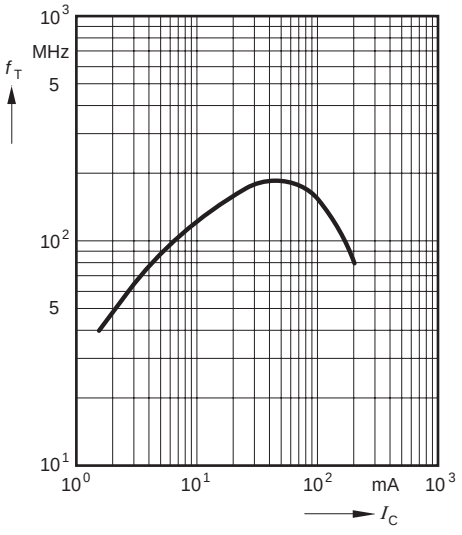
DC current gain $h_{FE} = f(I_C)$

V_{CE} = 5V



Transition frequency $f_T = f(I_C)$

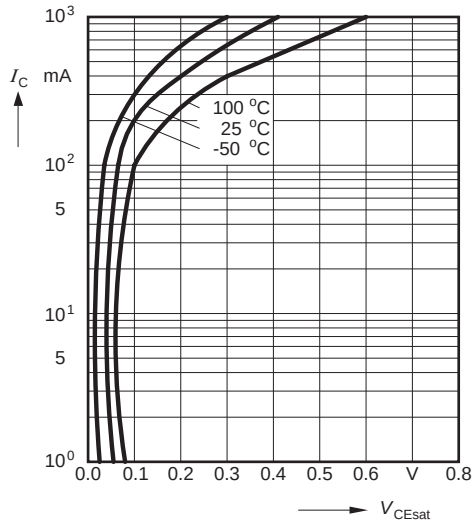
V_{CE} = 5V



RATING CHARACTERISTIC CURVES (CHT06UPNPT)

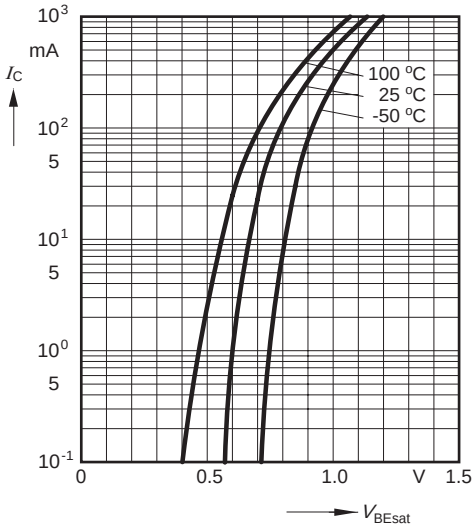
Collector-emitter saturation voltage

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



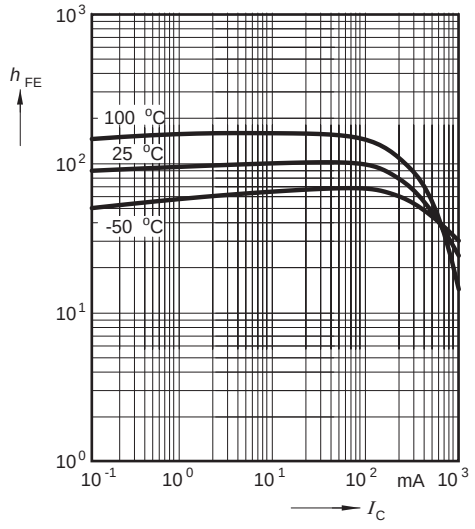
Base-emitter saturation voltage

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



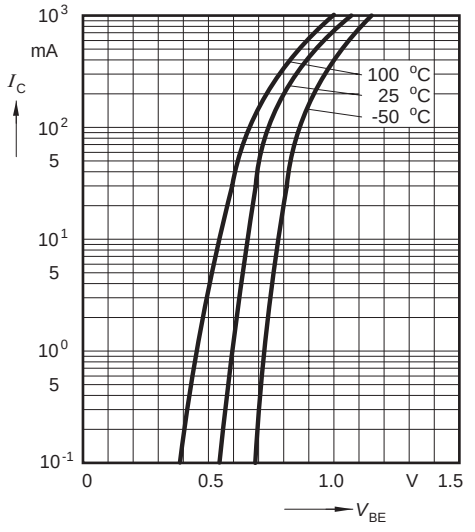
DC current gain $h_{FE} = f(I_C)$

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