



CHENMKO ENTERPRISE CO.,LTD

SURFACE MOUNT

NPN General Purpose Transistor -

VOLTAGE 60 Volts CURRENT 0.5 Ampere

CHT05PT

Lead free devices

APPLICATION

* General purpose applications.

FEATURE

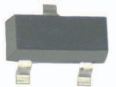
- * Small surface mounting type. (SOT-23)
- * Low current (Max.=500mA).
- * Suitable for high packing density.
- * Low voltage (Max.=60V) .
- * High saturation current capability.

CONSTRUCTION

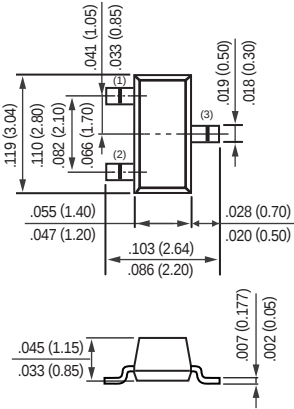
* NPN General Purpose Transistor

MARKING

* T05



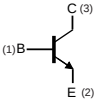
SOT-23



Dimensions in inches and (millimeters)

SOT-23

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	—	60	V
V _{CEO}	collector-emitter voltage	open base	—	60	V
V _{EB0}	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 (CHT05PT)

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

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0$; $V_{CB} = 60\text{ V}$	–	0.1	μA
I_{EBO}	emitter cut-off current	$I_C = 0$; $V_{EB} = 4\text{ V}$	–	0.1	μA
h_{FE}	DC current gain	$V_{CE} = 1.0\text{ V}$; note 1 $I_C = 10\text{ mA}$ $I_C = 100\text{ mA}$	100 100	– –	
V_{CEsat}	collector-emitter saturation voltage	$I_C = 100\text{ mA}$; $I_B = 10\text{ mA}$	–	0.25	V
V_{BEon}	base-emitter voltage	$I_C = 100\text{ mA}$; $V_{CE} = 1.0\text{ V}$	–	1.2	V
C_{cb}	collector-base capacitance	$I_E = i_e = 0$; $V_{CB} = 10\text{ V}$; $f = 1\text{ MHz}$	–	10	pF
f_T	transition frequency	$I_C = 100\text{ mA}$; $V_{CE} = 1.0\text{ V}$; $f = 100\text{ MHz}$	80	–	MHz

Note

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