



**CHENMKO ENTERPRISE CO.,LTD**

**CHT05N1PT**

**SURFACE MOUNT**

**NPN General Purpose Transistor -**

**VOLTAGE 60 Volts CURRENT 0.5 Ampere**

*Lead free devices*

**APPLICATION**

\* General purpose applications.

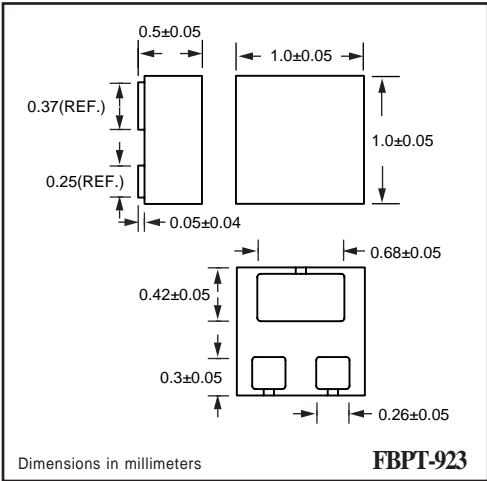
**FEATURE**

- \* Small surface mounting type. (FBPT-923)
- \* Low current (Max.=500mA).
- \* Suitable for high packing density.
- \* Low voltage (Max.=60V) .
- \* High saturation current capability.

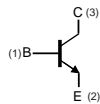
**CONSTRUCTION**

\* NPN General Purpose Transistor

**FBPT-923**



**CIRCUIT**



**LIMITING VALUES**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CB0</sub>	collector-base voltage	open emitter	-	60	V
V <sub>CE0</sub>	collector-emitter voltage	open base	-	60	V
V <sub>EB0</sub>	emitter-base voltage	open collector	-	6	V
I <sub>C</sub>	collector current DC		-	500	mA
I <sub>CM</sub>	peak collector current		-	500	mA
I <sub>BM</sub>	peak base current		-	100	mA
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C; note 1	-	100	mW
T <sub>stg</sub>	storage temperature		-55	+150	°C
T <sub>j</sub>	junction temperature		-	+150	°C
T <sub>amb</sub>	operating ambient temperature		-55	+150	°C

**Note**

2006-07

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

## RATING CHARACTERISTIC CURVES ( CHT05N1PT )

### 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	$I_E = 0; V_{CB} = 60\text{ V}$	–	0.1	$\mu\text{A}$
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = 4\text{ V}$	–	0.1	$\mu\text{A}$
$h_{FE}$	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:  $t_p \leq 300\text{ }\mu\text{s}$ ;  $\delta \leq 0.02$ .