



**CHENMKO ENTERPRISE CO.,LTD**

*Halogens free devices*

**SURFACE MOUNT  
PNP Silicon Transistor**

VOLTAGE 30 Volts CURRENT 1 Ampere

**CHT589GP**

**APPLICATION**

- \* Telephony and professional communication equipment.
- \* Other switching applications.

**FEATURE**

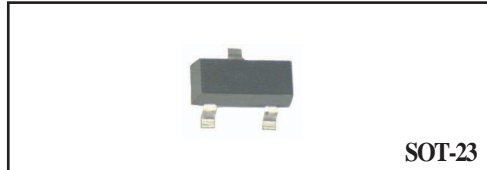
- \* Small surface mounting type. (SOT-23)
- \* High current (Max.=200mA).
- \* Suitable for high packing density.
- \* High saturation current capability.
- \* Voltage controlled small signal switch.

**CONSTRUCTION**

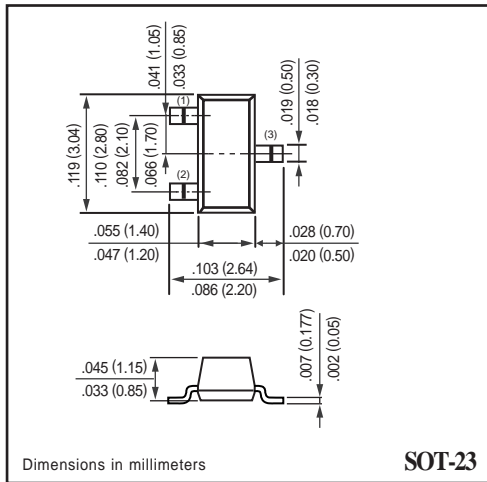
- \* PNP Silicon Transistor

**MARKING**

589



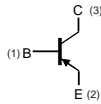
**SOT-23**



Dimensions in millimeters

**SOT-23**

**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	-50	-	V
V <sub>CEO</sub>	collector-emitter voltage	open base	-30	-	V
V <sub>EBO</sub>	emitter-base voltage	open collector	-5	-	V
I <sub>C</sub>	collector current (DC)		-	-1	A
I <sub>CM</sub>	peak collector current		-	-2	A
I <sub>BM</sub>	peak base current		-	-200	mA
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C; note 1	-	500	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**

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

## RATING CHARACTERISTIC CURVES ( CHT589GP )

### 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	$I_E = 0; V_{CB} = -30\text{ V}$	–	-100	nA
$I_{EBO}$	emitter cut-off current	$I_C = 0; V_{EB} = -4\text{ V}$	–	-100	nA
$h_{FE}$	DC current gain	$I_C = -1\text{ mA}; V_{CE} = -2\text{ V}$ $I_C = -500\text{ mA}; V_{CE} = -2\text{ V}$ $I_C = -1\text{ A}; V_{CE} = -2\text{ V}$ $I_C = -2\text{ A}; V_{CE} = -2\text{ V}$	100 100 80 40	– 300 – –	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = -0.5\text{ A}; I_B = -50\text{ mA}$	–	-0.25	V
		$I_C = -1\text{ A}; I_B = -100\text{ mA}$	–	-0.35	V
		$I_C = -2\text{ A}; I_B = -200\text{ mA}$	–	-0.65	V
$V_{BEsat}$	base-emitter saturation voltage	$I_C = -1\text{ A}; I_B = -100\text{ mA}$	–	-1.2	V
$V_{BEon}$	base-emitter turn-on voltage	$I_C = -1\text{ A}; V_{CE} = -2\text{ V}$	–	-1.1	V
$C_{obo}$	output capacitance	$V_{CB} = -10\text{ V}; f = 1\text{ MHz}$	–	15	pF
$f_T$	transition frequency	$I_C = -100\text{ mA}; V_{CE} = -5\text{ V};$ $f = 100\text{ MHz}$	100	–	MHz

#### Note

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