



**CHENMKO ENTERPRISE CO.,LTD**

*Halogens free devices*

**SURFACE MOUNT  
NPN SILICON Transistor**

VOLTAGE 160 Volts CURRENT 0.2 Ampere

**CHT5551WGP**

**APPLICATION**

\* Telephony and professional communication equipment.

**FEATURE**

\* Small surface mounting type. (SC-70/SOT-323)  
\* Suitable for high packing density.

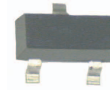
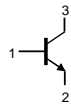
**CONSTRUCTION**

\* NPN transistors in one package.

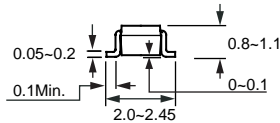
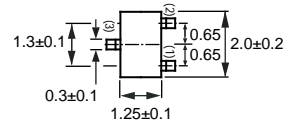
**MARKING**

\* YW

**CIRCUIT**



**SC-70/SOT-323**



Dimensions in millimeters

**SC-70/SOT-323**

**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	-	180	V
V <sub>CEO</sub>	collector-emitter voltage	open base	-	160	V
V <sub>EBO</sub>	emitter-base voltage	open collector	-	6.0	V
I <sub>C</sub>	collector current (DC)		-	200	mA
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C; note 1	-	0.3	W
T <sub>stg</sub>	storage temperature		-65	+150	°C
T <sub>j</sub>	junction temperature		-	150	°C
T <sub>amb</sub>	operating ambient temperature		-65	+150	°C

**Note**

2004-11

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

## RATING CHARACTERISTIC CURVES ( CHT5551WGP )

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	420	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	$V_{CB} = 120\text{ V}$	–	50	nA
$I_{CBO}$	collector cut-off current	$V_{CB} = 120\text{ V}, T_A = 100^{\circ}\text{C}$	–	50	uA
$I_{EBO}$	emitter cut-off current	$V_{EB} = 4.0\text{ V}$	–	50	nA
$h_{FE}$	DC current gain	$I_C = 1.0\text{ mA}; V_{CE} = 5\text{ V}$ $I_C = 10\text{ mA}; V_{CE} = 5\text{ V}$ $I_C = 50\text{ mA}; V_{CE} = 5\text{ V}$	80 80 30	– 250 –	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = 10\text{ mA}; I_B = 1.0\text{ mA}$	–	0.15	V
		$I_C = 50\text{ mA}; I_B = 5.0\text{ mA}$	–	0.2	V
$V_{BEsat}$	base-emitter saturation voltage	$I_C = 10\text{ mA}; I_B = 1.0\text{ mA}$	–	1.0	V
		$I_C = 50\text{ mA}; I_B = 5.0\text{ mA}$	–	1.0	V
$C_{ob}$	collector capacitance	$I_E = I_e = 0; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$	–	6.0	pF
$h_{fe}$		$V_{CE} = 10\text{ V}, I_C = 1.0\text{ mA}, f = 1.0\text{ KHz}$	50	200	
$f_T$	transition frequency	$I_C = 10\text{ mA}; V_{CE} = 10\text{ V}; f = 100\text{ MHz}$	100	300	MHz
F	noise figure	$I_C = 200\text{ mA}; V_{CE} = 5\text{ V}; R_S = 10\text{ }\Omega; f = 10\text{ Hz to } 15.7\text{ KHz}$	–	8.0	dB