



**CHENMKO ENTERPRISE CO.,LTD**

*Halogens free devices*

**SURFACE MOUNT  
NPN Silicon Transistor**

VOLTAGE 50Volts CURRENT 5 Ampere

**CHT5946GP**

**APPLICATION**

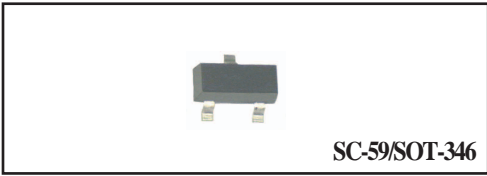
- \* Telephony and professional communication equipment.
- \* Other switching applications.

**FEATURE**

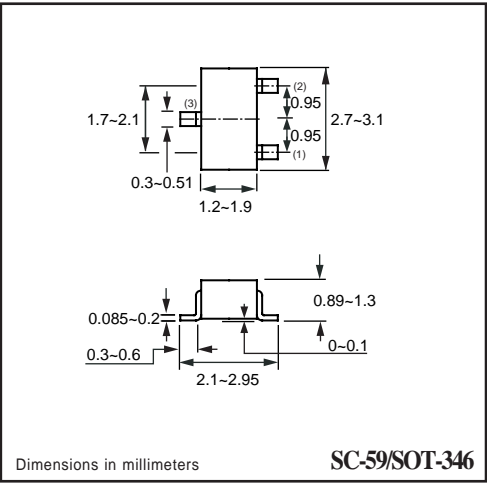
- \* Surface mount package. (SC-59/SOT-346)
- \* Suitable for high packing density.

**CONSTRUCTION**

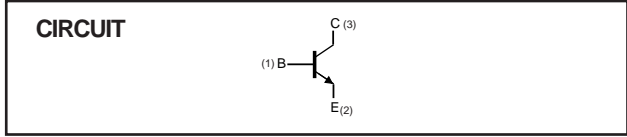
\*NPN Silicon Transistor



SC-59/SOT-346



SC-59/SOT-346



**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	-	80	V
V <sub>CEO</sub>	collector-emitter voltage	open base	-	50	V
V <sub>EBO</sub>	emitter-base voltage	open collector	-	6	V
I <sub>C</sub>	collector current (DC)		-	5	A
P <sub>tot</sub>	total power dissipation	T <sub>amb</sub> ≤ 25 °C; note 1 T <sub>amb</sub> ≤ 25 °C; note 2	-	300 625	mW mW
T <sub>stg</sub>	storage temperature		-55	+150	°C
T <sub>j</sub>	junction temperature		-40	150	°C
T <sub>amb</sub>	operating ambient temperature		-55	+150	°C

**Note**

2005-11

1. Transistor mounted on an FR4 printed-circuit board.
2. Maximum power dissipation is calculated that the device is mounted on a ceramic substrate measuring 15x15x0.6mm

## RATING CHARACTERISTIC CURVES ( CHT5946GP )

### THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 2	200	$^{\circ}C/W$
$R_{th\ j-c}$	thermal resistance from junction to case	note 2	115	$^{\circ}C/W$

### CHARACTERISTICS

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

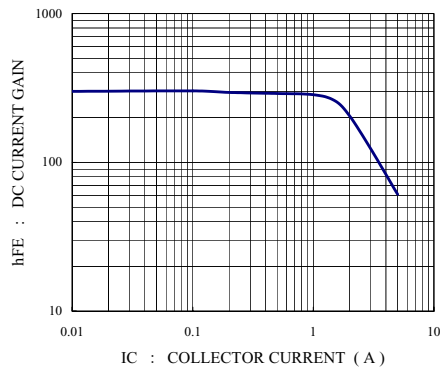
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$I_{CBO}$	collector cut-off current	$V_{CB} = 80V, I_E = 0$	–	0.5	$\mu A$
$I_{CEO}$	collector cut-off current	$V_{CE} = 40V, I_B = 0$	–	0.5	$\mu A$
$I_{EBO}$	emitter cut-off current	$V_{EB} = 6V, I_C = 0$	–	0.5	$\mu A$
$h_{FE}$	DC current gain	$I_C = 10\ mA; V_{CE} = 2V$ $I_C = 500\ mA; V_{CE} = 2V$	200 200	600 560	
$V_{CE(sat)}$	collector-emitter saturation voltage	$I_C = 1000\ mA; I_B = 50\ mA$ $I_C = 2000\ mA; I_B = 100\ mA$	– –	0.14 0.24	V V
$V_{BE(sat)}$	base-emitter saturation voltage	$I_C = 2000\ mA; I_B = 50\ mA$	–	1.0	V
$C_{ob}$	collector output capacitance	$I_E = 0; V_{CB} = 10\ V; f = 1\ MHz$	15(typ)	–	pF
$f_T$	transition frequency	$I_C = -500\ mA; V_{CE} = 10\ V;$	400(typ)	–	MHz

**Note :**

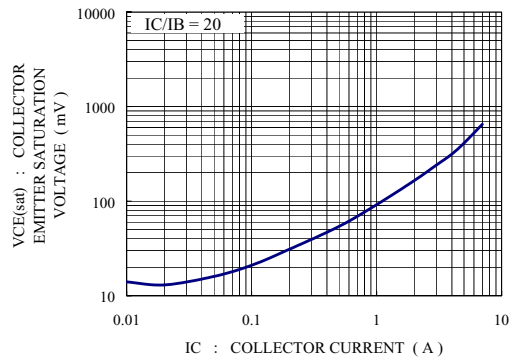
Pulse test:  $t_p \leq 300\ \mu Sec; \delta \leq 0.02.$

## RATING CHARACTERISTIC CURVES ( CHT5946GP )

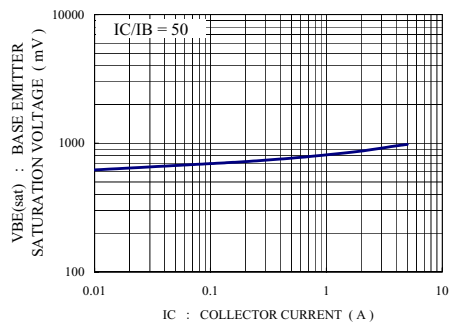
**DC Current Gain vs Collector Current**



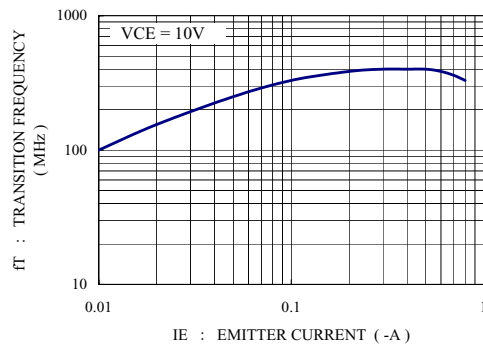
**Collector Emitter Saturation Voltage vs cCollector Current**



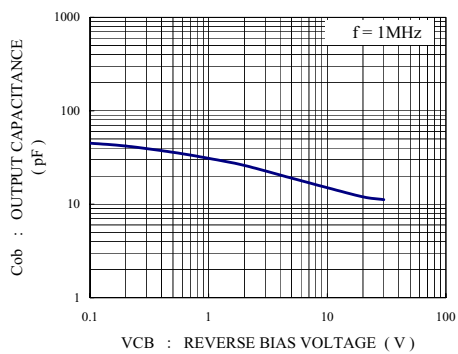
**Base Emitter Saturation Voltage vs cCollector Current**



**Transition Frequency vs Emitter Current**



**Output Capacitance vs Reverse Bias Voltage**



**Power Dissipation vs Operating Ambient Temperature**

