



CHENMKO ENTERPRISE CO.,LTD

CHT5946PT

**SURFACE MOUNT
NPN Silicon Transistor**

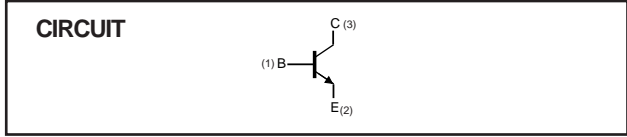
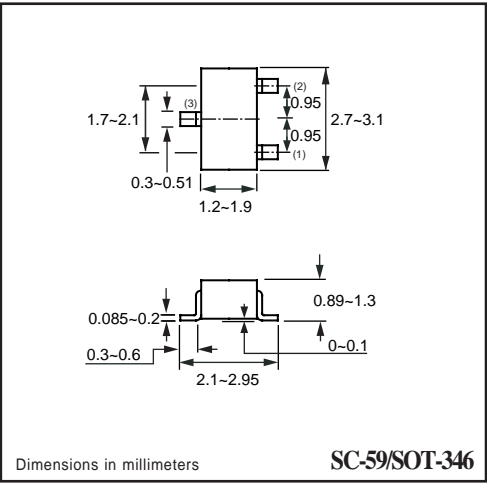
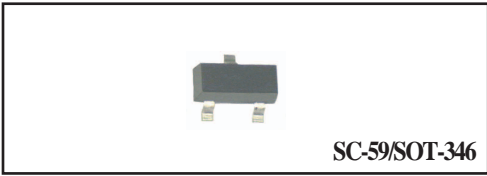
VOLTAGE 50Volts CURRENT 5 Ampere

Lead free devices

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



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	-	80	V
V _{CEO}	collector-emitter voltage	open base	-	50	V
V _{EBO}	emitter-base voltage	open collector	-	6	V
I _C	collector current (DC)		-	5	A
P _{tot}	total power dissipation	T _{amb} ≤ 25 °C; note 1 T _{amb} ≤ 25 °C; note 2	-	300 625	mW mW
T _{stg}	storage temperature		-55	+150	°C
T _j	junction temperature		-40	150	°C
T _{amb}	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 (CHT5946PT)

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.

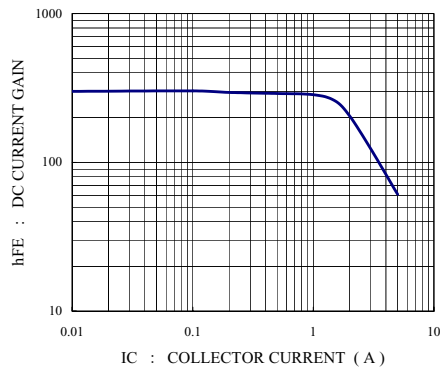
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	$V_{CB} = 80V, I_E = 0$	–	0.5	μA
I_{CEO}	collector cut-off current	$V_{CE} = 40V, I_B = 0$	–	0.5	μA
I_{EBO}	emitter cut-off current	$V_{EB} = 6V, I_C = 0$	–	0.5	μA
h_{FE}	DC current gain	$I_C = 10\ mA; V_{CE} = 2V$ $I_C = 500\ mA; V_{CE} = 2V$	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 :

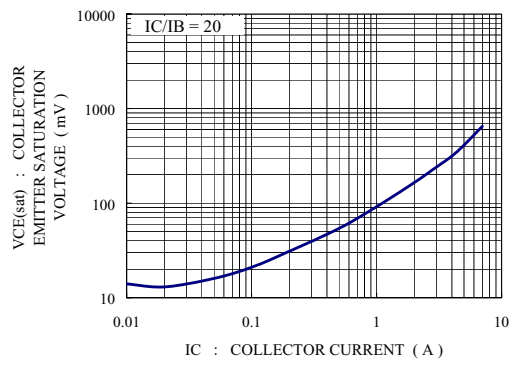
Pulse test: $t_p \leq 300\ \mu Sec; \delta \leq 0.02.$

RATING CHARACTERISTIC CURVES (CHT5946PT)

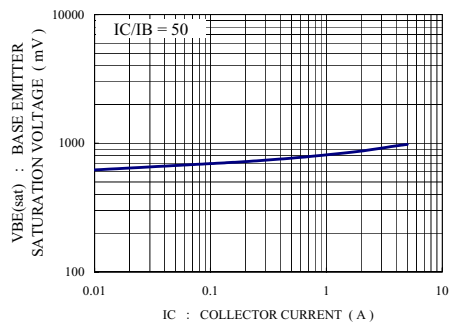
DC Current Gain vs Collector Current



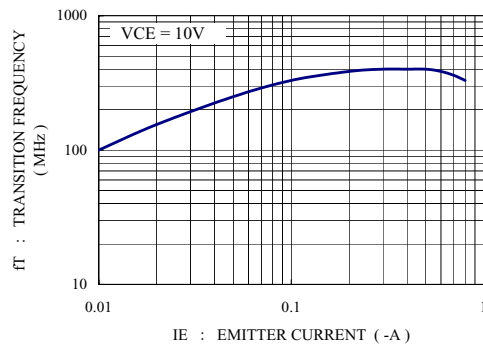
Collector Emitter Saturation Voltage vs cCollector Current



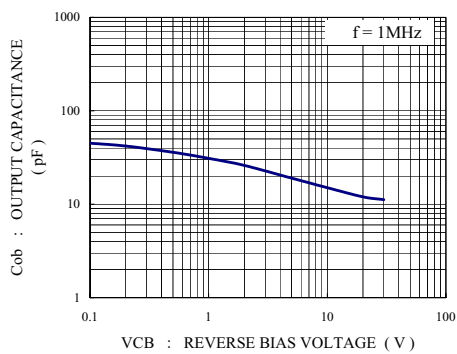
Base Emitter Saturation Voltage vs cCollector Current



Transition Frequency vs Emitter Current



Output Capacitance vs Reverse Bias Voltage



Power Dissipation vs Operating Ambient Temperature

