



**CHENMKO ENTERPRISE CO.,LTD**

**CH848BGP**

*Halogens free devices*

**SURFACE MOUNT**  
**NPN General Purpose Transistor**  
VOLTAGE 30 Volts CURRENT 0.1 Ampere

**APPLICATION**

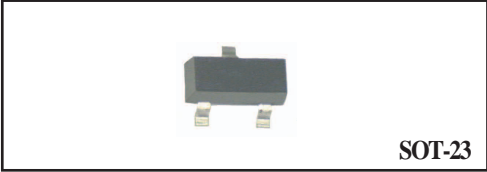
- \* AF input stages and driver applicationon equipment.
- \* Other general purpose applications.

**FEATURE**

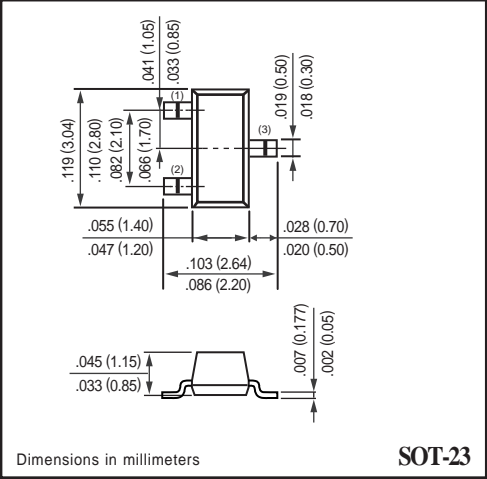
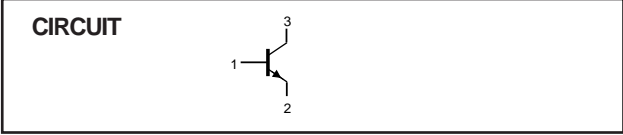
- \* Small surface mounting type. (SOT-23)
- \* High current gain.
- \* Suitable for high packing density.
- \* Low collector-emitter saturation.
- \* High saturation current capability.

**MARKING**

- \* HFE(P):
- \* HFE(Q):
- \* HFE(Y):



**SOT-23**



**SOT-23**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CBO</sub>	collector-base voltage	open emitter	-	30	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)		-	0.1	A
P <sub>C</sub>	Collector power dissipation		-	0.2	W
		Note2	-	0.31	
T <sub>stg</sub>	storage temperature		-65	+150	°C
T <sub>j</sub>	junction temperature		-	150	°C

- Note**
1. Transistor mounted on an FR4 printed-circuit board.
  2. When mounted on a 7X5X0.6mm ceramic board.

## RATING CHARACTERISTIC ( CH848BGP )

### THERMAL CHARACTERISTICS CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	Typ.	MAX.	UNIT
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = 30\text{ V}$	–	–	15	nA
$h_{FE}$	DC current transfer ratio	$V_{CE}/I_C = 5\text{V}/2\text{ mA}$	110	–	800	
$V_{BEsat}$	collector-base saturation voltage	$I_C = 10\text{ mA}; I_B = 0.5\text{ mA}$	–	700	–	mV
		$I_C = 100\text{ mA}; I_B = 5\text{ mA}$	–	900	–	mV
$V_{CEsat}$	collector-emitter saturation voltage	$I_C = 10\text{ mA}; I_B = 0.5\text{ mA}$	–	90	250	mV
		$I_C = 100\text{ mA}; I_B = 5\text{ mA}$	–	200	600	mV
$V_{BE(on)}$	base-emitter saturation voltage	$I_C = 2\text{ mA}; V_{CE} = 5.0\text{ V}$	0.58	0.66	0.70	V
		$I_C = 10\text{ mA}; V_{CE} = 5.0\text{ V}$	–	–	0.72	V
$C_{ib}$	emitter input capacitance	$I_C = 0; V_{CB} = 0.5\text{ V}; f = 1\text{ MHz}$	–	9	–	pF
$C_{ob}$	collector output capacitance	$I_E = 0; V_{CB} = 10\text{ V}; f = 1\text{ MHz}$	–	3.5	6	pF
$f_T$	transition frequency	$I_E = 10\text{ mA}; V_{CE} = 5\text{ V}; f = 100\text{ MHz}$	–	300	–	MHz
NF	noise figure	$V_{CE} = 5\text{ V}, I_C = 200\text{ }\mu\text{A}, F = 1\text{ KHz}, R_G = 2\text{ K}$	–	2	10	dB

#### Note

- Pulse test:  $t_p \leq 300\text{ }\mu\text{s}; \delta \leq 0.02$ .
- $h_{FE}$  Classification P:110 to 220 Q: 200 to 450, Y: 420 to 800

## RATING CHARACTERISTIC CURVES ( CH848BGP )

fig1.Static Characteristic

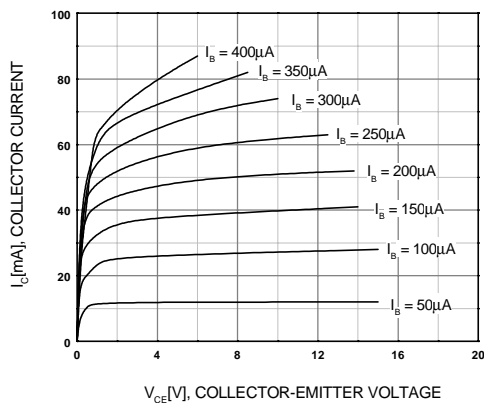
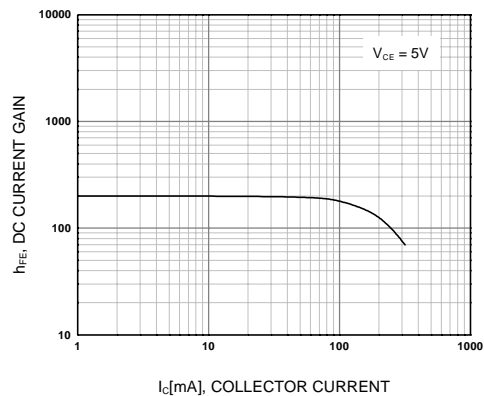


fig2.DC current Gain



## RATING CHARACTERISTIC CURVES ( CH848BGP )

fig3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

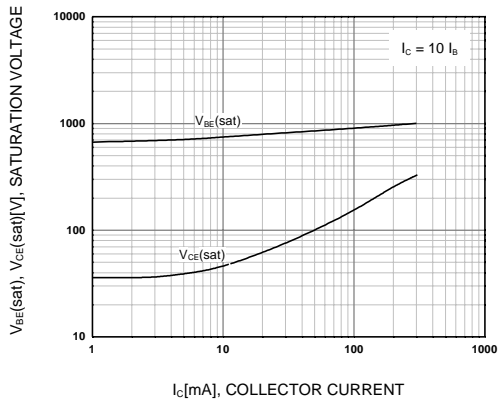


fig4. Base-Emitter On Voltage

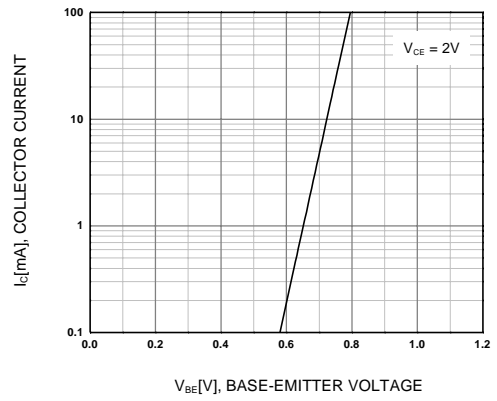


fig5. Collector Output Capacitance

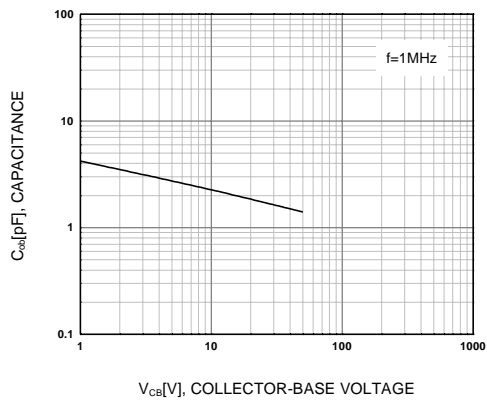


fig6. Current Gain Bandwidth Product

