



CHENMKO ENTERPRISE CO.,LTD

Lead free devices

SURFACE MOUNT

NPN General Purpose Transistor

VOLTAGE 30 Volts CURRENT 0.1 Ampere

CH848BPT

APPLICATION

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

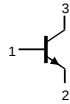
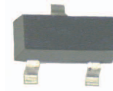
FEATURE

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

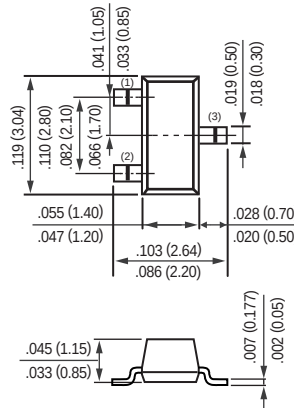
MARKING

- * HFE(P):J16
- * HFE(Q):1K
- * HFE(Y):J17

CIRCUIT



SOT-23



Dimensions in inches and (millimeters)

SOT-23

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	—	30	V
V_{CEO}	collector-emitter voltage	open base	—	30	V
V_{EBO}	emitter-base voltage	open collector	—	5	V
I_C	collector current (DC)		—	0.1	A
P_C	Collector power dissipation		—	0.2	W
		Note2	—	0.31	
T_{stg}	storage temperature		−65	+150	°C
T_j	junction temperature		—	150	°C

Note

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

2004-06

RATING CHARACTERISTIC (CH848BPT)

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

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

RATING CHARACTERISTIC CURVES (CH848BPT)

fig1.Static Characteristic

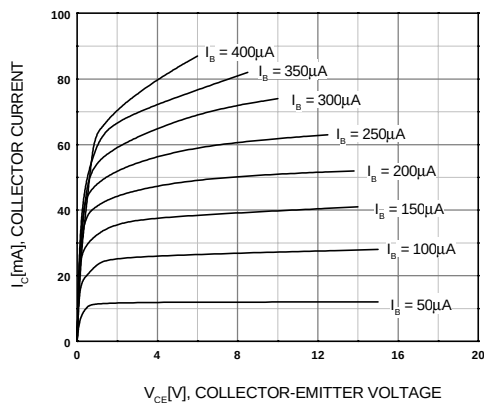
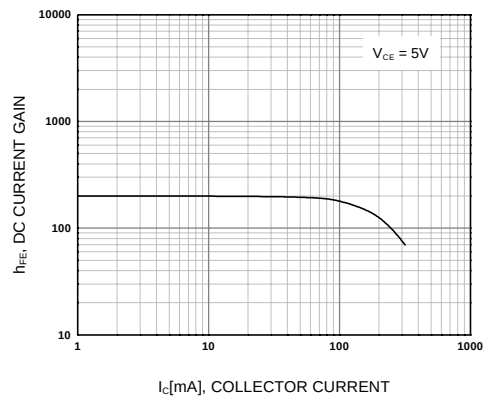


fig2.DC current Gain



RATING CHARACTERISTIC CURVES (CH848BPT)

fig3.Base-Emitter Stauration Voltage
Collector-Emitter Stauration Voltage

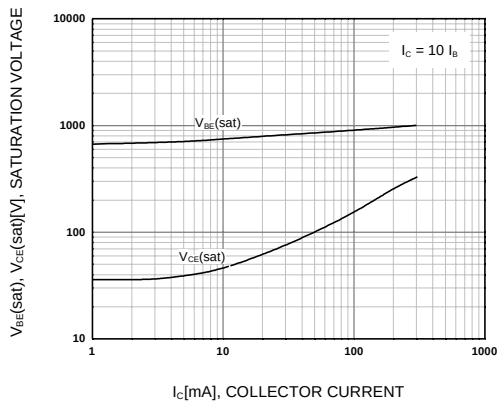


fig4.Base-Emitter On Voltage

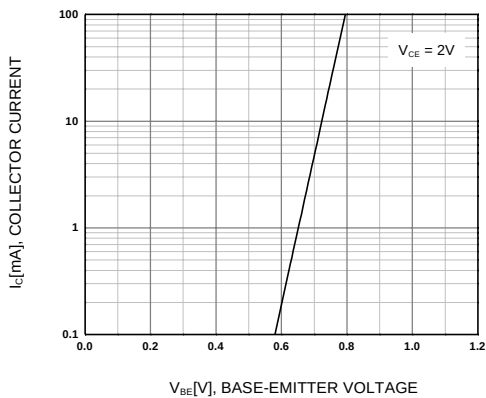


fig5.Collector Output Capacitance

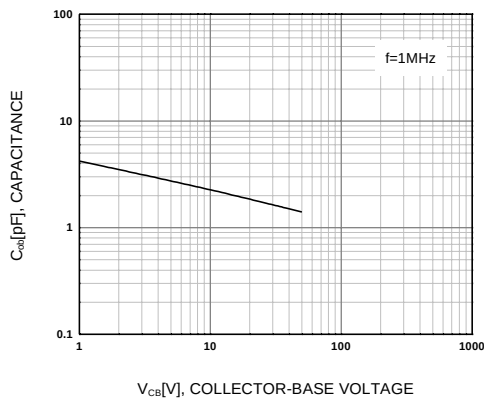


fig6.Current Gain Bandwidth Product

