CHENMKO ENTERPRISE CO.,LTD

CHT3019ZPT

SURFACE MOUNT
NPN Switching Transistor
VOLTAGE 80 Volts CURRENT 1 Ampere

Lead free devices

APPLICATION
* Telephony and proferssional communction equipment.
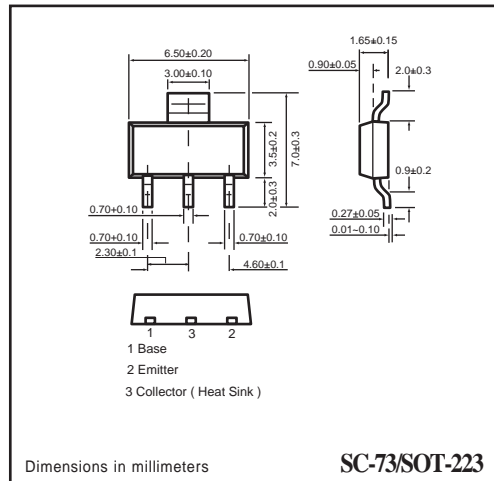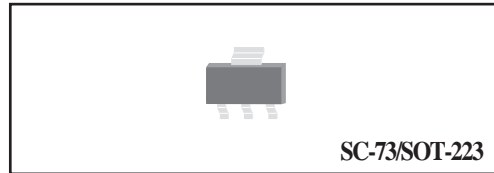* Other switching applications.

FEATURE
* Suitable for high packing density.
* High saturation current capability.
* Voltage controlled small signal switch.
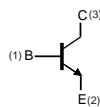
CONSTRUCTION
* NPN Switching Transistor

MARKING
BCP56

CIRCUIT

C (3)

(1) B

E (2)

SC-73/SOT-223

1 Base
2 Emitter
3 Collector (Heat Sink)

Dimensions in millimeters   **SC-73/SOT-223**

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	–	120	V
V_{CEO}	collector-emitter voltage	open base	–	80	V
V_{EBO}	emitter-base voltage	open collector	–	7.0	V
I_C	collector current (DC)		–	1000	mA
I_{CM}	peak collector current		–	1500	mA
P_{tot}	total power dissipation	$T_{amb} \leq 25\ °C$; note 1	–	2.0	W
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		–65	+150	°C

Note

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

2004-7

RATING CHARACTERISTIC CURVES (CHT3019ZPT)

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\,j-a}$	thermal resistance from junction to ambient	note 1	357	K/W

Note

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

CHARACTERISTICS

T_{amb} = 25 °C unless otherwise speciÞed.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
I_{CBO}	collector cut-off current	$I_E = 0$; $V_{CB} = 90$ V	−	10	nA
I_{EBO}	emitter cut-off current	$I_C = 0$; $V_{EB} = 5$ V	−	10	nA
h_{FE}	DC current gain	$I_C = 0.1$ mA; $V_{CE} = 10$V $I_C = 1.0$ mA; $V_{CE} = 10$V $I_C = 150$ mA; $V_{CE} = 10$V $I_C = 500$ mA; $V_{CE} = 10$V $I_C = 1.0$ A; $V_{CE} = 10$V	50 90 100 50 15	− − 300 − −	
V_{CEsat}	collector-emitter saturation voltage	$I_C = 150$ mA; $I_B = 15$ m A	−	0.2	V
		$I_C =$500 mA; $I_B = 50$ m A	−	0.5	V
V_{BEsat}	base-emitter saturation voltage	$I_C = 150$ mA; $I_B = 15$ mA	−	1.1	V
C_{ob}	collector capacitance	$I_E = i_e = 0$; $V_{CB} = 1\,0$ V; $f = 1$ MHz	−	12	pF
C_{ib}	emitter capacitance	$I_C = i_c = 0$; $V_{BE} = 500$ mV; $f = 1$ MHz	−	60	pF
f_T	transition frequency	$I_C = 50$ mA; $V_{CE} = 1\,0$ V; $f = 1.0$ MHz	100	−	MHz
F	noise Þgure	$I_C = 100$ µA; $V_{CE} = 1\,0$ V; $R_S = 1$ kΩ; $f = 1.0$ kHz	−	4.0	dB