



CHENMKO ENTERPRISE CO.,LTD

CHT3019PT

**SURFACE MOUNT
NPN Switching Transistor**

VOLTAGE 80 Volts CURRENT 1 Ampere

Lead free devices

APPLICATION

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

FEATURE

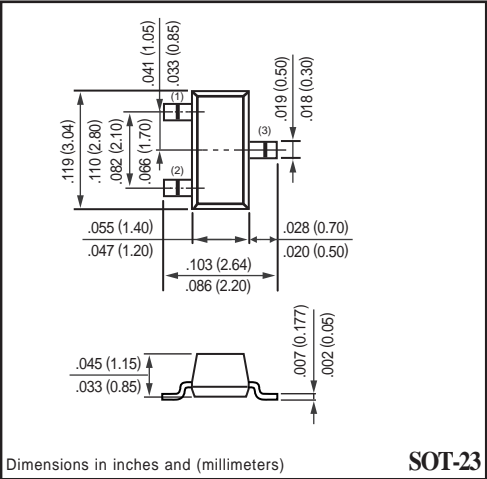
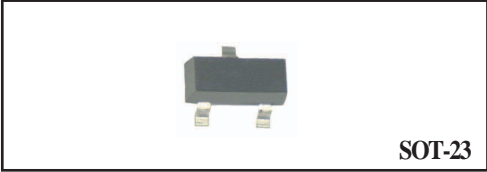
- * Small surface mounting type. (SOT-23)
- * Suitable for high packing density.
- * High saturation current capability.
- * Voltage controlled small signal switch.

CONSTRUCTION

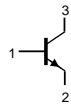
- * NPN Switching Transistor

MARKING

- * HT



CIRCUIT



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	-	120	V
V _{CEO}	collector-emitter voltage	open base	-	80	V
V _{EB0}	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} ≤ 25 °C; note 1	-	350	mW
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.

RATING CHARACTERISTIC CURVES (CHT3019PT)

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

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

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