



**CHENMKO ENTERPRISE CO.,LTD**

Lead free devices

**SURFACE MOUNT  
Low Ferquency PNP Transistor**

VOLTAGE 12 Volts CURRENT 0.5 Ampere

**2SA2119PT**

**APPLICATION**

\* For switching,for muting.

**FEATURE**

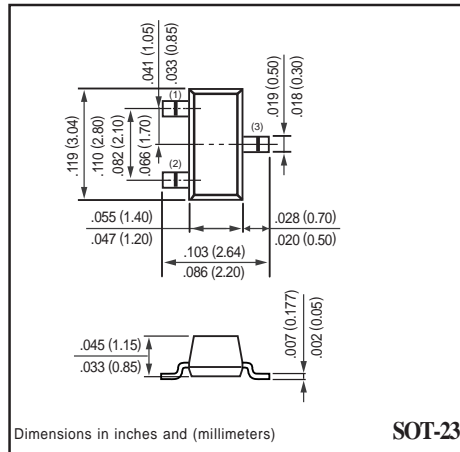
- \* Small surface mounting type. (SOT-23)
- \* A collector current is large.
- \* Collector saturation voltage is low.  
V<sub>ce(sat)</sub> <= 250mV  
At I<sub>c</sub>=200mA/I<sub>B</sub>=10mA

**CONSTRUCTION**

\* PNP Silicon Transistor



**SOT-23**



**SOT-23**

**CIRCUIT**



**MAXIMUM RATINGS** ( At T<sub>A</sub> = 25°C unless otherwise noted )

RATINGS	CONDITION	SYMBOL	MIN.	MAX.	UNITS
Collector - Base Voltage	Open Emitter	V <sub>CB0</sub>	-	-15	Volts
Collector - Emitter Voltage	Open Base	V <sub>CE0</sub>	-	-12	Volts
Collector Current DC		I <sub>C</sub>	-	-500	mAmps
Peak Collector Current		I <sub>CM</sub>	-	-1000	mAmps
Total Power Dissipation	T <sub>A</sub> ≤ 25°C; Note 1	P <sub>TOT</sub>	-	150	mW
Storage Temperature		T <sub>STG</sub>	-55	+150	°C
Junction Temperature		T <sub>J</sub>	-	+150	°C
Operating Ambient Temperature		T <sub>AMB</sub>	-55	+150	°C

**Note**

1. Transistor mounted on ceramic substrate 50mmX50mmx0.8t.

## RATING CHARACTERISTICS ( 2SA2119PT )

### 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	$V_{CB} = -15\text{V}$	-	-	-0.1	$\mu\text{A}$
$BV_{CBO}$	collector-base breakdown voltage	$I_C = -10\mu\text{A}$	-15	-	-	V
$BV_{CEO}$	collector-emitter breakdown voltage	$I_C = -1\text{mA}$	-12	-	-	V
$BV_{EBO}$	emitter-base breakdown voltage	$I_E = -10\mu\text{A}$	-6	-	-	V
$h_{FE}$	DC current transfer ratio	$V_{CE} = -2\text{V}$ , $I_C = -10\text{mA}$	270	-	680	
$V_{CEsat}$	collector-emitter saturation voltage	$I_C/I_B = -200\text{mA}/-10\text{mA}$	-	-100	-250	mV
$C_{ob}$	collector output capacitance	$I_E = 0$ ; $V_{CB} = -10\text{V}$ ; $f = 1\text{ MHz}$	-	6.5	-	pF
$f_T$	transition frequency	$I_E = -10\text{ mA}$ ; $V_{CE} = -2\text{V}$ ; $f = 30\text{ MHz}$	-	260	-	MHz

#### Note

1. Pulse test:  $t_p \leq 300\text{ }\mu\text{s}$ ;  $\delta \leq 0.02$ .

## RATING CHARACTERISTIC CURVES ( 2SA2119PT )

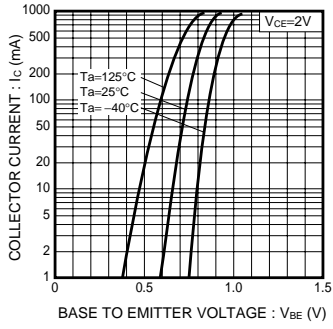


Fig.1 Grounded Emitter Propagation Characteristics

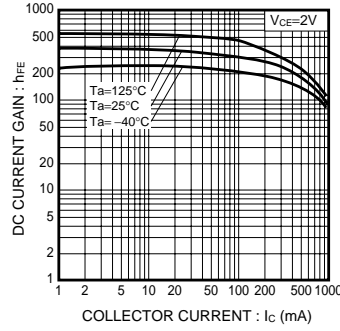


Fig.2 DC Current Gain vs. Collector Current

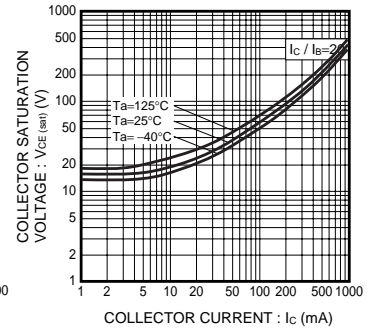


Fig.3 Collector-Emitter Saturation Voltage vs. Collector Current (I)

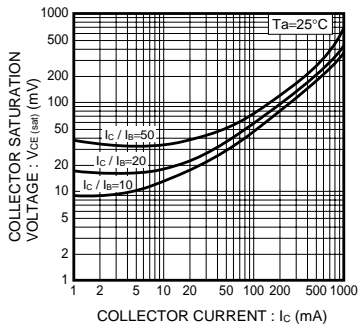


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current (II)

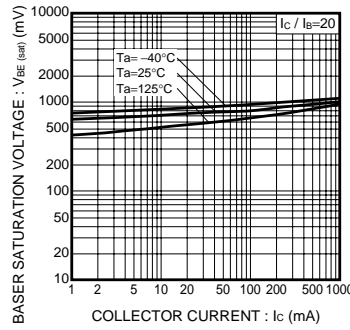


Fig.5 Base-Emitter Saturation Voltage vs. Collector Current

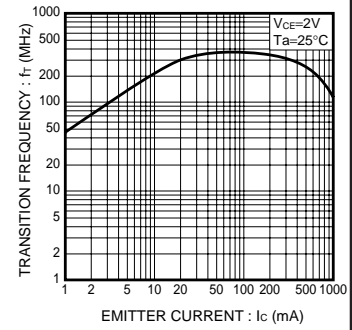


Fig.6 Gain Bandwidth Product vs. Emitter Current