



CHENMKO ENTERPRISE CO.,LTD

Lead free devices

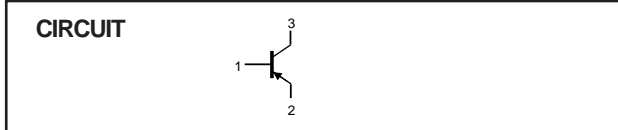
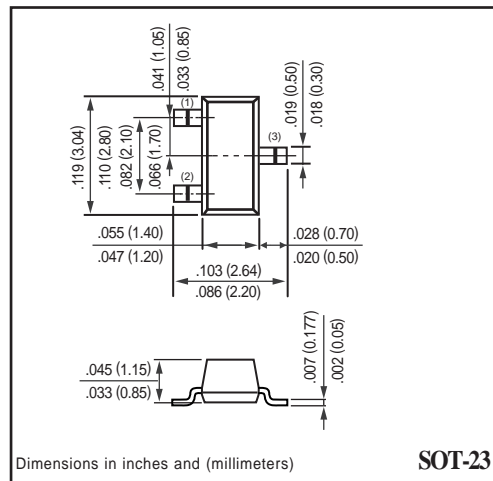
2SA2119PT

SURFACE MOUNT
Low Ferquency PNP Transistor
VOLTAGE 12 Volts CURRENT 0.5 Ampere

APPLICATION
 * For switching,for muting.

FEATURE
 * Small surface mounting type. (SOT-23)
 * A collector current is large.
 * Collector saturation voltage is low.
 $V_{CE(sat)} \leq 250\text{mA}$
 At $I_C=200\text{mA}/I_B=10\text{mA}$

CONSTRUCTION
 * PNP Silicon Transistor



MAXIMUM RATINGS (At $T_A = 25^\circ\text{C}$ unless otherwise noted)

RATINGS	CONDITION	SYMBOL	MIN.	MAX.	UNITS
Collector - Base Voltage	Open Emitter	V_{CB0}	-	-15	Volts
Collector - Emitter Voltage	Open Base	V_{CE0}	-	-12	Volts
Collector Current DC		I_C	-	-500	mAmps
Peak Collector Current		I_{CM}	-	-1000	mAmps
Total Power Dissipation	$T_A \leq 25^\circ\text{C}$; Note 1	P_{TOT}	-	150	mW
Storage Temperature		T_{STG}	-55	+150	$^\circ\text{C}$
Junction Temperature		T_J	-	+150	$^\circ\text{C}$
Operating Ambient Temperature		T_{AMB}	-55	+150	$^\circ\text{C}$

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	μA
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: $t_p \leq 300\ \mu\text{s}$; $\delta \leq 0.02$.

RATING CHARACTERISTIC CURVES (2SA2119PT)

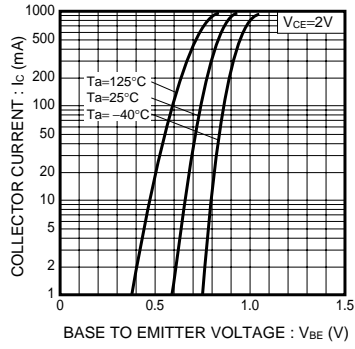


Fig.1 Grounded Emitter Propagation Characteristics

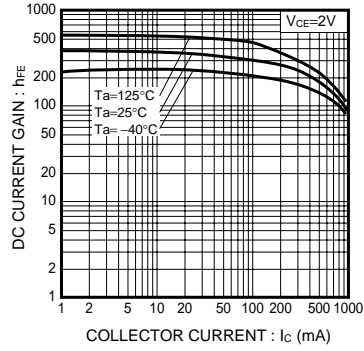


Fig.2 DC Current Gain vs. Collector Current

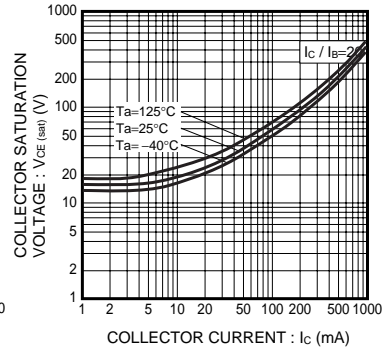


Fig.3 Collector-Emitter Saturation Voltage vs. Collector Current (I)

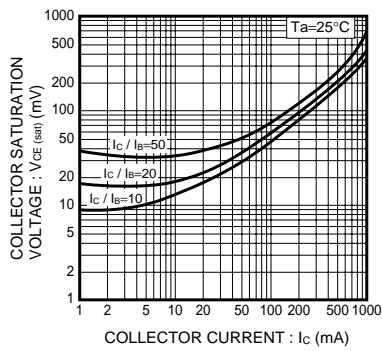


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current (II)

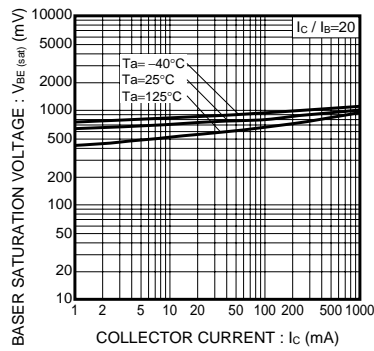


Fig.5 Base-Emitter Saturation Voltage vs. Collector Current

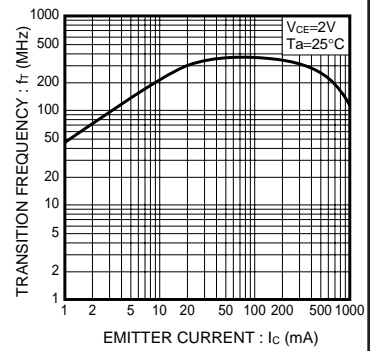


Fig.6 Gain Bandwidth Product vs. Emitter Current