



CHENMKO ENTERPRISE CO.,LTD

**SURFACE MOUNT
PNP Silicon Transistor**

VOLTAGE 50 Volts CURRENT 150 mAmpere

2SA1037KPT

Lead free devices

APPLICATION

* Medium Power Amplifier .

FEATURE

- * Surface mount package. (SOT-23)
- * Low saturation voltage $V_{CE(sat)} = -0.5V(\text{max.})(I_C = 50mA)$
- * Low cob. $C_{ob} = 4.0pF(\text{Typ.})$
- * $P_C = 150mW$ (Total), 120mW per element must not be exceeded.
- * High saturation current capability.

CONSTRUCTION

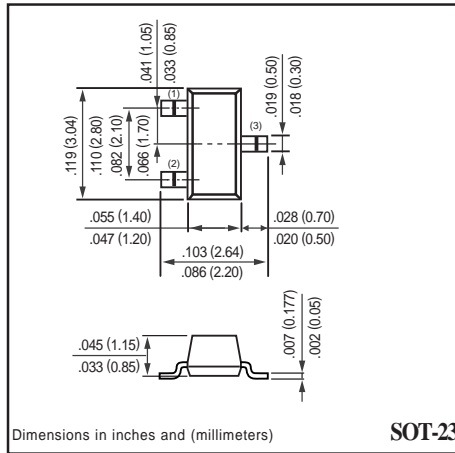
* PNP Silicon Transistor

MARKING

* NT



SOT-23



SOT-23

CIRCUIT



2SA1037KPT LIMITING VALUES

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

RATINGS	CONDITION	SYMBOL	MIN.	MAX.	UNITS
Collector - Base Voltage	Open Emitter	V_{CBO}	-	-60	Volts
Collector - Emitter Voltage	Open Base	V_{CEO}	-	-50	Volts
Emitter - Base Voltage	Open Collector	V_{EBO}	-	-6	Volts
Collector Current DC		I_C	-	-150	mAmps
Peak Collector Current		I_{CM}	-	-150	mAmps
Peak Base Current		I_{BM}	-	-15	mAmps
Total Power Dissipation	$T_A \leq 25^\circ\text{C}$; Note 1	P_{TOT}	-	250	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.
2. Measured at Pulse Width 300 us, Duty Cycle 2%.

2004-07

RATING CHARACTERISTIC CURVES (2SA1037KPT)

2SA1037KPT CHARACTERISTICS

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

PARAMETERS	CONDITION	SYMBOL	MIN.	TYPE	MAX.	UNITS
Collector-base breakdown voltage	$I_C = -50\mu\text{A}$	BV_{CBO}	-60	-	-	Volts
Collector-emitter breakdown voltage	$I_C = -1\text{mA}$	BV_{CEO}	-50	-	-	Volts
Emitter-base breakdown voltage	$I_E = -50\mu\text{A}$	BV_{EBO}	-6	-	-	Volts
Collector Cut-off Current	$I_E = 0; V_{CB} = -60\text{V}$	I_{CBO}	-	-	-0.1	
Emitter Cut-off Current	$I_C = 0; V_{EB} = -6\text{V}$	I_{EBO}	-	-	-0.1	μA
DC Current Gain	$V_{CE} = -6\text{V}$ $I_C = -1\text{mA}$	h_{FE}	120	-	560	
Collector-Emitter Saturation Voltage	$I_C = -50\text{mA}; I_B = -5\text{mA}$	V_{CEsat}	-	-	-0.5	Volts
Output Collector Capacitance	$I_E = I_C = 0; V_{CB} = -12\text{V};$ $f = 1\text{MHz}$	C_{ob}	-	4	5.0	pF
Transition Frequency	$I_E = 2\text{mA}; V_{CE} = -12\text{V};$ $f = 100\text{MHz}$	f_T	-	140	-	MHz

RATING CHARACTERISTIC CURVES (2SA1037KPT)

2SA1037KPT Typical Electrical Characteristics

Fig.1 Grounded emitter propagation characteristics

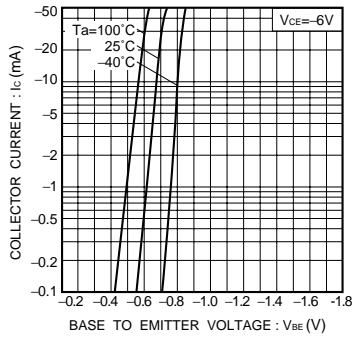


Fig.2 Grounded emitter output characteristics

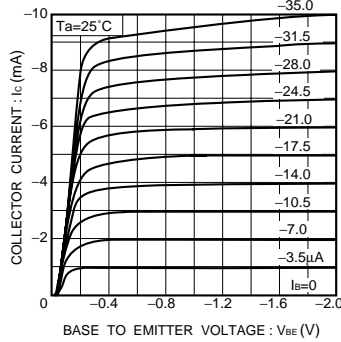


Fig.3 DC current gain vs. collector current (1)

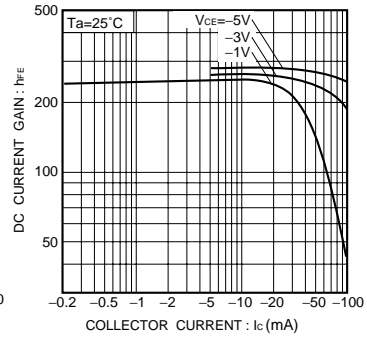


Fig.4 DC current gain vs. collector current (2)

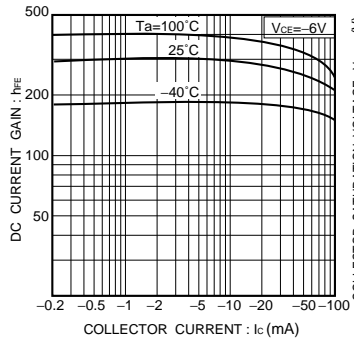


Fig.5 Collector-emitter saturation voltage vs. collector current

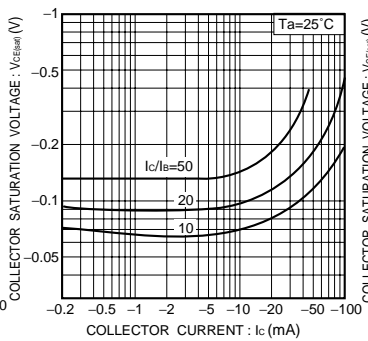


Fig.6 Collector-emitter saturation voltage vs. collector current

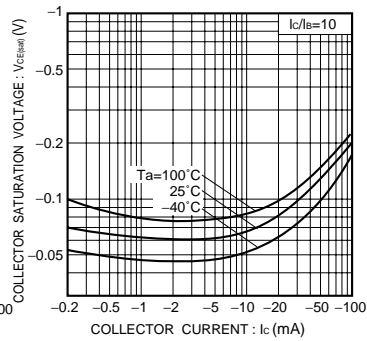


Fig.7 Gain bandwidth product vs. emitter current

