



CHENMKO ENTERPRISE CO.,LTD

Lead free devices

SURFACE MOUNT

Medium Power PNP Transistor

VOLTAGE 32 Volts CURRENT 0.5 Ampere

2SA1577PT

APPLICATION

- * Medium Power Amplifier .

FEATURE

- * Surface mount package. (SC-70/SOT-323)
- * Low saturation voltage V
- * Low cob. Cob=7.0pF(Typ) $V_{CE(sat)}=-0.4V(max.)(I_C=-100mA)$
- * $P_C=200mW$ (mounted on ceramic substrate).
- * High saturation current capability.

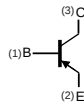
CONSTRUCTION

- * PNP Silicon Transistor
- * Epitaxial planner type

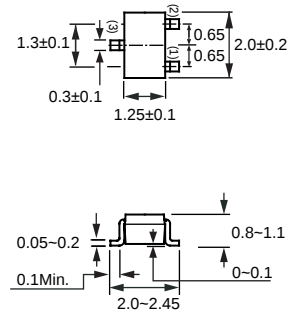
MARKING

- * HFE(P):UE
- * HFE(Q):PC
- * HFE(R):RB

CIRCUIT



SC-70/SOT-323



Dimensions in millimeters

SC-70/SOT-323

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

RATINGS	CONDITION	SYMBOL	MIN.	MAX.	UNITS
Collector - Base Voltage	Open Emitter	V_{CB0}	-	-40	Volts
Collector - Emitter Voltage	Open Base	V_{CE0}	--	-32	Volts
Emitter - Base Voltage	Open Collector	V_{EB0}	-	-5	Volts
Collector Current DC		I_C	-	-500	mAmps
Peak Collector Current		I_{CM}	-	-500	mAmps
Peak Base Current		I_{BM}	-	-10	mAmps
Total Power Dissipation	$T_A \leq 25^{\circ}C$; Note 1	P_{TOT}	-	200	mW
Storage Temperature		T_{STG}	-55	+150	$^{\circ}C$
Junction Temperature		T_J	-	+150	$^{\circ}C$
Operating Ambient Temperature		T_{AMB}	-55	+150	$^{\circ}C$

Note

1. Transistor mounted on ceramic substrate 50mmX50mmX0.8t.
2. Measured at Pulse Width 300 us, Duty Cycle 2%.

2002-10

RATING CHARACTERISTICS (2SA1577PT)

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

PARAMETERS	CONDITION	SYMBOL	MIN.	TYPE	MAX.	UNITS
Collector Cut-off Current	$I_E=0$; $V_{CB}=-20\text{V}$	I_{CBO}	-	-	-1.0	μA
Emitter Cut-off Current	$I_C=0$; $V_{EB}=-4\text{V}$	I_{CEO}	-	-	-1.0	μA
DC Current Gain	$V_{CE}=-3\text{V}$; Note 1 $I_C=-10\text{mA}$; Note 2	h_{FE}	82	-	390	
Collector-Emitter Saturation Voltage	$I_C=-100\text{mA}$; $I_B=-10\text{mA}$	V_{CEsat}	-	-	-0.4	Volts
Base-Emitter Saturatio Voltage	$I_C=-100\text{mA}$; $I_B=-10\text{mA}$	V_{BEsat}	-	-	-1.1	mVolts
Output Collector Capacitance	$I_E=I_C=0$; $V_{CB}=-10\text{V}$; $f=1\text{MHz}$	C_{ob}	-	7	-	pF
Transition Frequency	$I_C=2\text{mA}$; $V_{CE}=-10\text{V}$; $f=100\text{MHz}$	f_T	-	200	-	MHz

Note :

1. Pulse test: $t_p \leq 300\mu\text{Sec}$; $\delta \leq 0.02$.
2. h_{FE} : Classification P: 82 to 180, Q: 120 to 270, R: 180 to 390

RATING CHARACTERISTIC CURVES (2SA1577PT)

Fig.1 Grounded emitter propagation characteristics

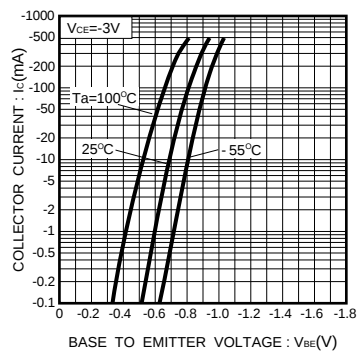


Fig.2 Grounded emitter output characteristics (1)

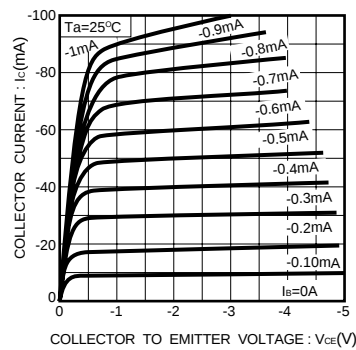
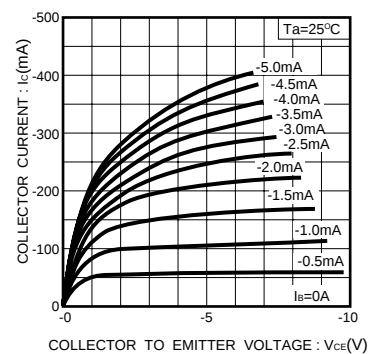


Fig.3 Grounded emitter output characteristics (2)



RATING CHARACTERISTIC CURVES (2SA1577PT)

Fig.4 Collector-emitter saturation voltage vs. collector current

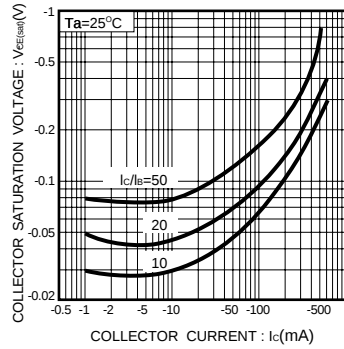


Fig.5 Collector-emitter saturation voltage vs. collector current

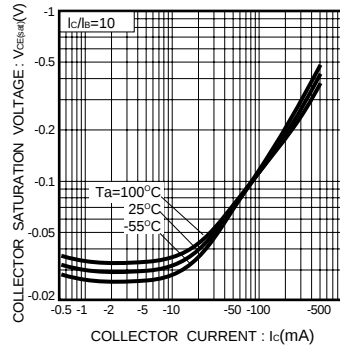


Fig.6 DC current gain vs. collector current

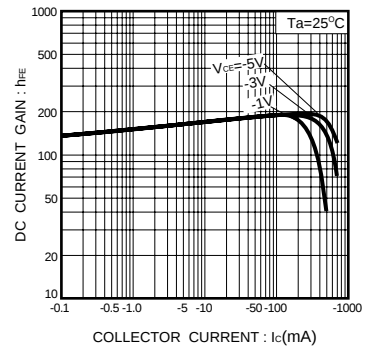


Fig.7 DC current gain vs. collector current

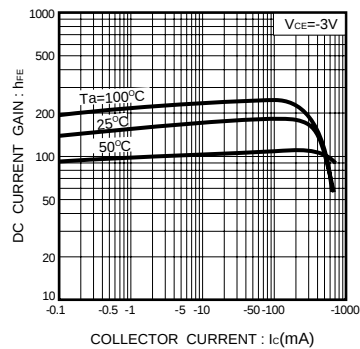


Fig.8 Gain bandwidth product vs. emitter current

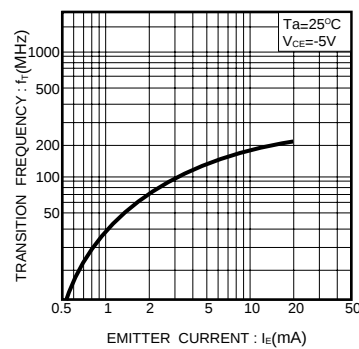


Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

