CHENMKO ENTERPRISE CO.,LTD

2SA1213PT

Lead free devices

SMALL FLAT
PNP Epitaxial Transistor

VOLTAGE 50 Volts CURRENT 2 Ampere

APPLICATION

* Power amplifier .

FEATURE

* Small flat package. (SC-62/SOT-89)
* Low saturation voltage $V_{CE(sat)}$=-0.5V(max.)(I_C=-1A)
* High speed switching time: t_{stg}= 1.0uSec (typ.)
* PC= 1.0 to 2.0W (mounted on ceramic substrate).
* High saturation current capability.

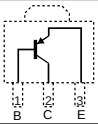
CONSTRUCTION

* PNP Switching Transistor

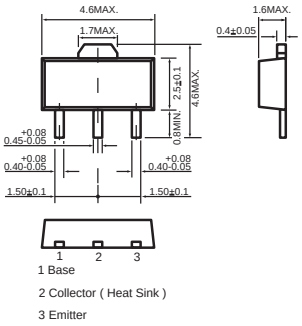
MARKING

* HFE(O):NO
* HFE(Y):NY

CIRCUIT



SC-62/SOT-89



1 Base

2 Collector (Heat Sink)

3 Emitter

Dimensions in millimeters

SC-62/SOT-89

MAXIMUM RATINGES (At T_A = 25°C unless otherwise noted)

RATINGS	CONDITION	SYMBOL	MIN.	MAX.	UNITS
Collector - Base Voltage	Open Emitter	V_{CBO}	-	-50	Volts
Collector - Emitter Voltage	Open Base	V_{CEO}	-	-50	Volts
Emitter - Base Voltage	Open Collector	V_{EBO}	-	-5	Volts
Collector Current DC		I_C	-	-2	Amps
Peak Collector Current		I_{CM}	-	-2	Amps
Peak Base Current		I_{BM}	-	-0.4	Amps
Total Power Dissipation	$T_A \leq 25^oC$; Note 1	P_{TOT}	-	1000	mW
Storage Temperature		T_{STG}	-55	+150	°C
Junction Temperature		T_J	-	+150	°C
Operating Ambient Temperature		T_{AMB}	-55	+150	°C

Note

1. Transistor mounted on ceramic substrate 50mmX50mmx0.8t.
2. Measured at Pulse Width 300 us, Duty Cycle 2%.

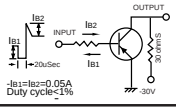
2002-10

RATING CHARACTERISTIC CURVES (2SA1213PT)

CHARACTERISTICS (At T_A = 25°C unless otherwise noted)

PARAMETERS	CONDITION	SYMBOL	MIN.	TYPE	MAX.	UNITS
Collector Cut-off Current	I_E=0; V_{CB}=-50V	I_{CBO}	-	-	-0.1	uA
Emitter Cut-off Current	I_C=0; V_{EB}=-5V	I_{CEO}	-	-	-0.1	uA
DC Current Gain	V_{CE}=-2V; Note 1 I_C=-0.5A; Note 2 I_C=-2.0A	h_{FE}	70 20	- -	240 -	
Collector-Emitter Saturation Voltage	I_C=-1A; I_B=-0.05A	V_{CEsat}	-	-	-0.5	Volts
Base-Emitter Saturatio Voltage	I_C=-1A; I_B=-0.05A	V_{BEsat}	-	-	-1.2	mVolts
Collector Capacitance	I_E=ie=0; V_{CB}=10V; f=1MHz	C_C	-	40	-	pF
Transition Frequency	I_C=-0.5A; V_{CE}=-2V; f=100MHz	f_T	-	120	-	MHz

SWITCHING TIMES (Between 10% and 90% levels)

PARAMETERS	CONDITION	SYMBOL	MIN.	TYPE	MAX.	UNITS
Turn-on Time		t_{on}	-	0.1	-	uSec
Storage Time		t_s	-	1.0	-	uSec
Fall Time		t_f	-	0.1	-	uSec

Note :
1. Pulse test: tp ≤ 300uSec; δ ≤ 0.02.
2. hFE(1) Classification O: 70 to 140, Y: 120 to 240

RATING CHARACTERISTIC CURVES (2SA1213PT)

Typical Electrical Characteristics

Figure 1. V_{CE} - I_C

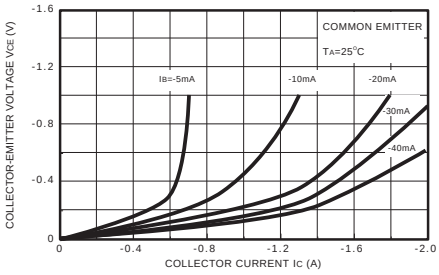


Figure 2. V_{CE} - I_C

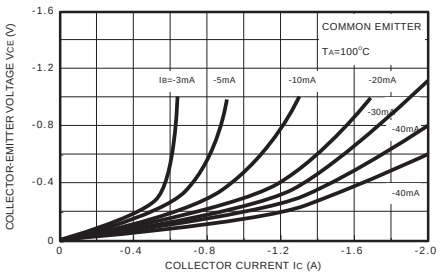


Figure 3. V_{CE} - I_C

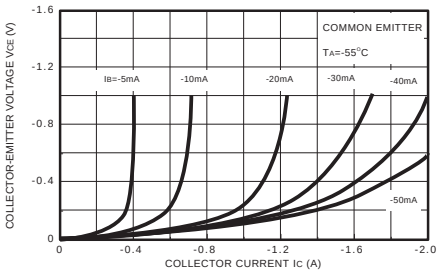


Figure 4. h_{FE} - I_C

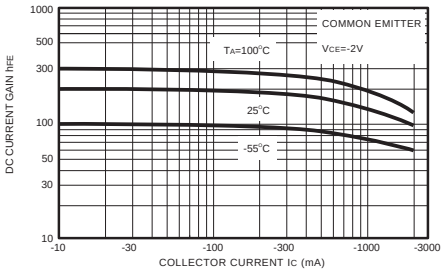


Figure 5. $V_{CE(sat)}$ - I_C

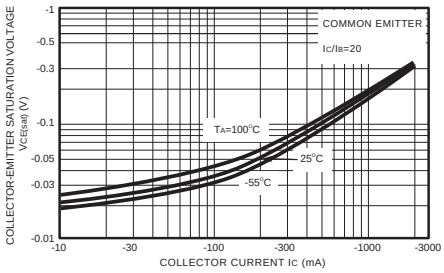
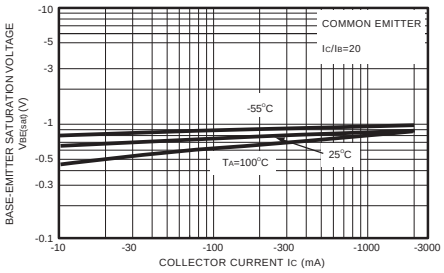


Figure 6. $V_{BE(sat)}$ - I_C



RATING CHARACTERISTIC CURVES (2SA1213PT)

Typical Electrical Characteristics

Figure 7. I_C - V_{BE}

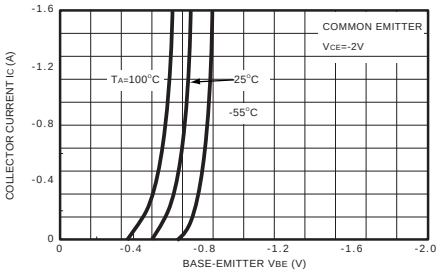


Figure 8. P_C - T_A

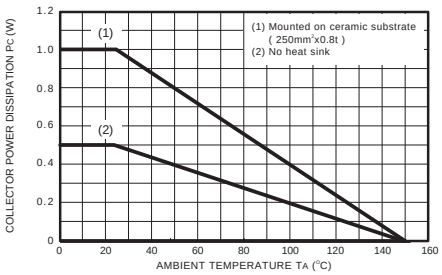


Figure 9. Safe Operation Area