CHENMKO ENTERPRISE CO.,LTD

CHP69PT

Lead free devices

SMALL FLAT
PNP Medium Power Transistor

VOLTAGE 20 Volts CURRENT 1 Ampere

APPLICATION

* General purpose switching and amplification
* Audio power amplifier

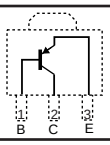
FEATURE

* Small flat package. (SC-73/SOT-223)
* Low saturation voltage $V_{CE(sat)}$=-0.5V(max.)(I_C=-1A)
* High speed switching time: t_{stg}= 1.0uSec (typ.)
* P_C= 1.35W (mounted on printed-circuit board).
* High saturation current capability.

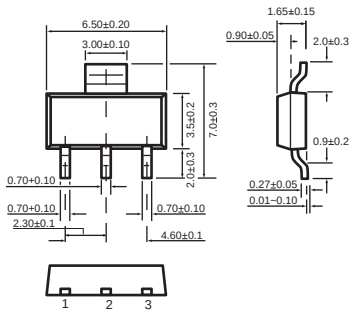
CONSTRUCTION

* PNP Switching Transistor

CIRCUIT



SC-73/SOT-223



1 Base
2 Collector (Heat Sink)
3 Emitter

Dimensions in millimeters

SC-73/SOT-223

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

RATINGS	CONDITION	SYMBOL	MIN.	MAX.	UNITS
Collector - Base Voltage	Open Emitter	V_{CBO}	-	-32	Volts
Collector - Emitter Voltage	Open Base	V_{CEO}	-	-20	Volts
Emitter - Base Voltage	Open Collector	V_{EBO}	-	-5	Volts
Collector Current DC		I_C	-	-1	Amps
Peak Collector Current		I_{CM}	-	-2	Amps
Peak Base Current		I_{BM}	-	-0.2	Amps
Total Power Dissipation	$T_A \leq 25^oC$; Note 1	P_{TOT}	-	1.35	W
Storage Temperature		T_{STG}	-65	+150	°C
Junction Temperature		T_J	-	+150	°C
Operating Ambient Temperature		T_{AMB}	-65	+150	°C

Note

1. Transistor mounted on printed-circuit board, Mounting pad for collector 10 mm^2.
2. Measured at Pulse Width 300 us, Duty Cycle 2%.

RATING CHARACTERISTIC CURVES (CHP69PT)

THERMAL CHARACTERISTICS

PARAMETERS	CONDITION	SYMBOL	MIN.	TYPE	MAX.	UNITS
Thermal Resistance 1	Note 1	$R\theta_{J-A}$	-	90	-	$^{o}C/W$
Thermal Resistance 2	Note 1	$R\theta_{J-S}$	-	10	-	$^{o}C/W$

Note :
1. Transistor mounted on printed-circuit board, Mounting pad for collector 10 mm^2.

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}=-25V I_E=0; V_{CB}=-25V; T_J=150°C	I_{CBO}	- -	- -	-100 -10	nA uA
Emitter Cut-off Current	I_C=0; V_{EB}=-5V	I_{CEO}	-	-	-100	nA
DC Current Gain	I_C=-5mA; V_{CE}=-10V I_C=-500mA; V_{CE}=-1.0V I_C=-1.0A; V_{CE}=-1.0V	h_{FE}	50 85 60	- - -	- 375 -	
DC Current Gain CHP69-16 CHP69-25	I_C=-500mA; V_{CE}=-1.0V	h_{FE}	 100 160	 - -	 250 375	
DC Current Gain CHP69-16/IN	I_C=-10mA; V_{CE}=-1.8V	h_{FE}	140	- -	230	
Collector-Emitter Saturation Voltage	I_C=-1.0A; I_B=-100mA	V_{CEsat}	-	-	-500	mVolts
Base-Emitter Saturatio Voltage	I_C=-5mA; V_{CE}=-10V I_C=-1.0A; V_{CE}=-1.0V	V_{BEsat}	- -	-620 -	- -1.0	mVolts Volts
Collector Capacitance	I_E=ie=0; V_{CB}=-5.0V; f=1MHz	C_C	-	48	-	pF
Transition Frequency	I_C=-10mA; V_{CE}=-5V; f=100MHz	f_T	40	-	-	MHz
DC Current Gain Ratio of The Complementary pairs	IICI=0.5A; IVCEI=1.0V	$h_{FE}1$ / $h_{FE}2$	-	-	1.6	

Note :
1. Pulse test: tp ≤ 300uSec; δ ≤ 0.02.

RATING CHARACTERISTIC CURVES (CHP69PT)

Typical Electrical Characteristics

Figure 1. Typical DC Current Gain

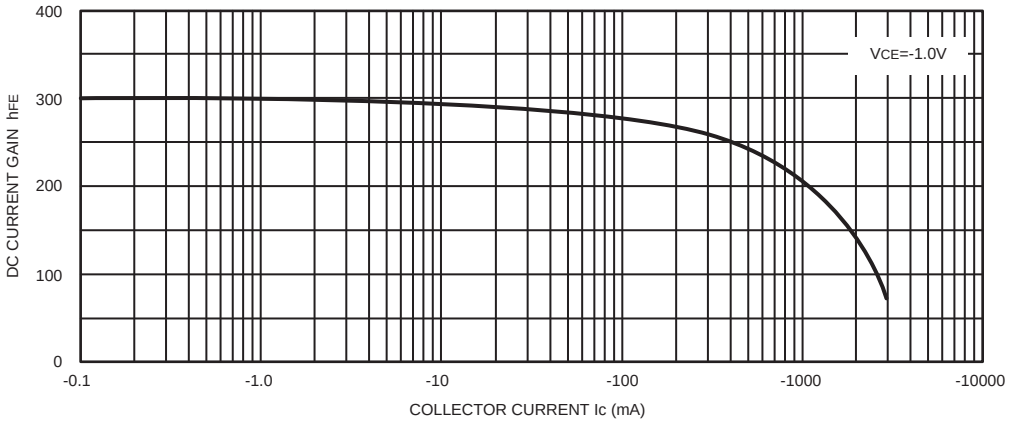


Figure 2. Typical DC Current Gain