



CHENMKO ENTERPRISE CO.,LTD

CHTA42LPT

**SURFACE MOUNT
High Voltage NPN Transistor**

VOLTAGE 300 Volts CURRENT 500 mAmpere

Lead free devices

APPLICATION

* Small Signal Amplifier .

FEATURE

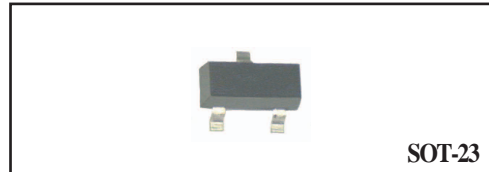
- * Surface mount package. (SOT-23)
- * Low saturation voltage $V_{CE(sat)}=0.5V(max.)(I_c=20mA)$
- * Low cob. $C_{ob}=3.0pF(Typ.)$
- * $P_D= 300mW$ (mounted on ceramic substrate).
- * High saturation current capability.

CONSTRUCTION

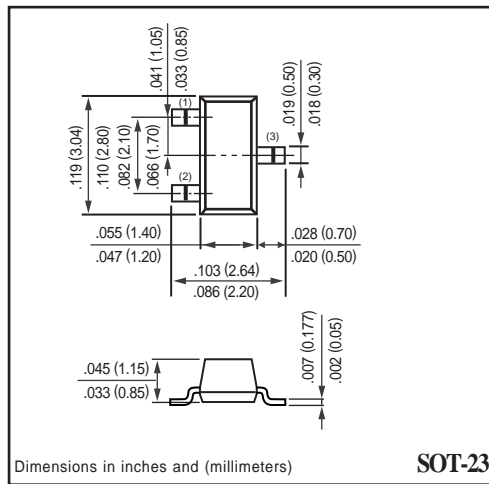
- * NPN Silicon Transistor
- * Epitaxial planner type

MARKING

* NB



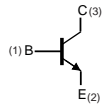
SOT-23



Dimensions in inches and (millimeters)

SOT-23

CIRCUIT



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

RATINGS	CONDITION	SYMBOL	MIN.	MAX.	UNITS
Collector - Base Voltage	Open Emitter	V_{CB0}	-	300	Volts
Collector - Emitter Voltage	Open Base	V_{CE0}	-	300	Volts
Emitter - Base Voltage	Open Collector	V_{EB0}	-	6.0	Volts
Collector Current DC		I_c	-	500	mAmps
Peak Collector Current		I_{CM}	-	500	mAmps
Peak Base Current		I_{BM}	-	15	mAmps
Total Power Dissipation	$T_A \leq 25^{\circ}C$; Note 1	P_{TOT}	-	300	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%.

RATING CHARACTERISTICS (CHTA42LPT)

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

PARAMETERS	CONDITION	SYMBOL	MIN.	TYPE	MAX.	UNITS
Collector Cut-off Current	$I_E=0; V_{CB}=200\text{V}$	I_{CBO}	-	-	0.1	μA
Emitter Cut-off Current	$I_C=0; V_{EB}=6.0\text{V}$	I_{EBO}	-	-	0.1	μA
DC Current Gain	$V_{CE}=10\text{V}$; Note 1 $I_C=1.0\text{mA}$ $I_C=10\text{mA}$ $I_C=30\text{mA}$	h_{FE}	25 40 40	- - -	- - -	
Collector-Emitter Saturation Voltage	$I_C=20\text{mA}; I_B=2\text{mA}$	$V_{CE(sat)}$	-	-	0.5	Volts
Base-Emitter Saturatio Voltage	$I_C=20\text{mA}; I_B=2\text{mA}$	$V_{BE(sat)}$	-	-	0.9	Volts
Output Collector Capacitance	$I_E=I_C=0; V_{CB}=20\text{V};$ $f=1\text{MHz}$	C_{ob}	-	-	3.0	pF
Transition Frequency	$I_C=10\text{mA}; V_{CE}=20\text{V};$ $f=100\text{MHz}$	f_T	50	-	-	MHz

Note :

1. Pulse test: $t_p \leq 300\mu\text{Sec}$; $\delta \leq 0.02$.

RATING CHARACTERISTIC CURVES (CHTA42LPT)

Figure 1. DC Current Gain

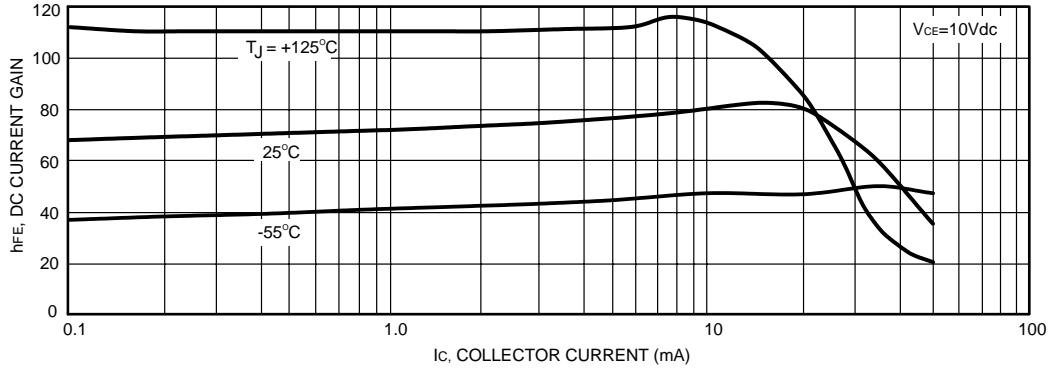


Figure 2. Capacitance

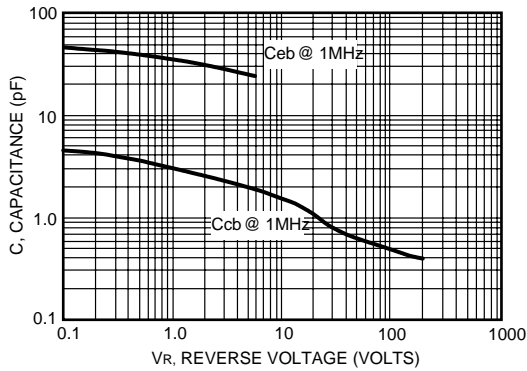


Figure 3. Current-Gain - Bandwidth

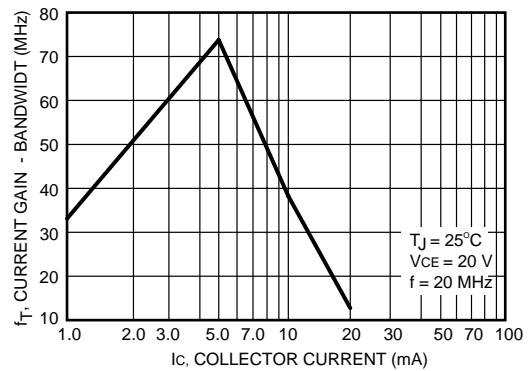


Figure 4. "ON" Voltages

