# CHENMKO ENTERPRISE CO.,LTD

**CHTA29XPT**

*SURFACE MOUNT*

**NPN Darlington Transistor**

*VOLTAGE 40 Volts CURRENT 0.5 Ampere*

Lead free devices

## APPLICATION

* Preamplifier input applications.

## FEATURE

* High current , Ic=500mA
* High DC current gain , hFE>20000

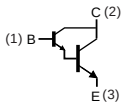
## MARKING

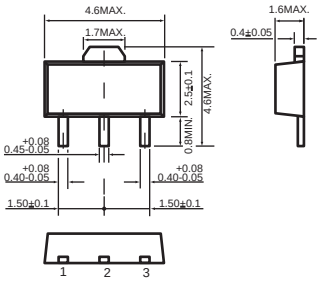
* T29



SC-62/SOT-89

## CIRCUIT




1 Base
2 Collector ( Heat Sink )
3 Emitter

Dimensions in millimeters

SC-62/SOT-89

## LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|---|---|---|---|---|---|
| $V_{CBO}$ | collector-base voltage | open emitter | – | 40 | V |
| $V_{CEO}$ | collector-emitter voltage | open base | – | 30 | V |
| $V_{EBO}$ | emitter-base voltage | open collector | – | 10 | V |
| $I_C$ | collector current (DC) | | – | 500 | mA |
| $I_{CM}$ | peak collector current | | – | 1000 | mA |
| $I_{BM}$ | peak base current | | – | 200 | mA |
| $P_{tot}$ | total power dissipation | $T_{amb} \leq 25$ °C; note 1 | – | 1300 | mW |
| $T_{stg}$ | storage temperature | | –65 | +150 | °C |
| $T_j$ | junction temperature | | – | 150 | °C |
| $T_{amb}$ | operating ambient temperature | | _65 | +150 | °C |

**Note**

1. Transistor mounted on an FR4 printed-circuit board.

# RATING CHARACTERISTIC CURVES ( CHTA29XPT )

**THERMAL CHARACTERISTICS**

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---|---|---|---|---|
| $R_{th\ j\text{-}a}$ | thermal resistance from junction to ambient | note 1 | 104 | K/W |

**Note**

1. Transistor mounted on an FR4 printed-circuit board.

**CHARACTERISTICS**

$T_{amb}$ = 25 °C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|---|---|---|---|---|---|
| $I_{CBO}$ | collector cut-off current | $V_{CB}$ = 30 V | – | 100 | nA |
| $I_{EBO}$ | emitter cut-off current | $V_{EB}$ = 10 V | – | 100 | nA |
| $h_{FE}$ | DC current gain | $I_C$ = 1 mA; $V_{CE}$ = 5V<br>$I_C$ = 10 mA; $V_{CE}$ =5V<br>$I_C$ = 100 mA; $V_{CE}$ = 5V<br>$I_C$ = 500 mA; $V_{CE}$ = 5V | 4000<br>10000<br>20000<br>4000 | –<br>–<br>– | |
| $V_{CE(sat)}$ | collector-emitter saturation voltage | $I_C$ = 100 mA; $I_B$ = 0.1 mA | – | 1.0 | V |
| $V_{BE(sat)}$ | base-emitter saturation voltage | $I_C$ = 100 mA; $I_B$ = 0.1 mA | – | 1.5 | V |
| $V_{BE(ON)}$ | base-emitter saturation voltage | $I_C$ = 10 mA; $V_{CE}$ =5V | – | 1.4 | V |
| $f_T$ | transition frequency | $I_C$ = 30 mA; $V_{CE}$ = 5 V;<br>f = 100MHz | 220(typ) | – | MHz |