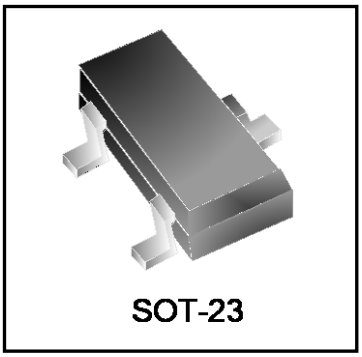
# WT2712

**NPN Silicon Transistor**



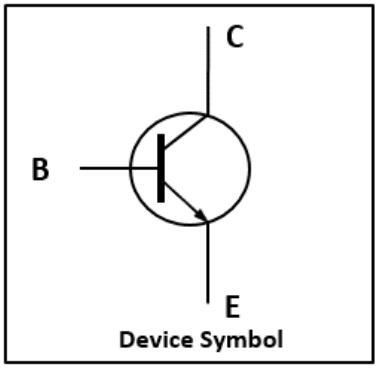

## Features

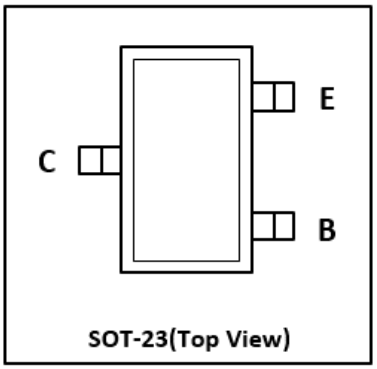
- Audio Frequency General Purpose Amplifier Applications
- Complementary to WT1162

## Mechanical Characteristics

- SOT-23 package
- Marking : Making Code
- RoHS Compliant

## Schematic & PIN Configuration




## Absolute Maximum Rating

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Collector Base Voltage | $V_{CBO}$ | 60 | V |
| Collector Emitter Voltage | $V_{CEO}$ | 50 | V |
| Emitter Base Voltage | $V_{EBO}$ | 5 | V |
| Collector Current Continuous | $I_C$ | 150 | mA |
| Collector Power Dissipation | $P_C$ | 150 | mW |
| Junction Temperature | $T_J$ | 150 | °C |
| Storage Temperature | $T_{stg}$ | -50 ~ 150 | °C |

## Electrical Characteristics ($T_{amb}$=25°C unless otherwise noted)

| Parameter | Symbol | Test Conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C$ = 100μA, $I_E$ = 0 | 60 | - | - | V |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C$ = 1mA, $I_B$ = 0 | 50 | - | - | V |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E$ = 100μA, $I_C$ = 0 | 5 | - | - | V |
| Collector Cut-off Current | $I_{CBO}$ | $V_{CB}$ = 60V, $I_E$ = 0 | - | - | 100 | nA |
| Emitter Cut-off Current | $I_{EBO}$ | $V_{EB}$ = 5V, $I_C$ = 0 | - | - | 100 | nA |
| DC Current Gain | $h_{FE}$ | $V_{CE}$ = 6V, $I_C$ = 2mA | 200 | - | 400 | - |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C$ = 100mA, $I_B$ = 10mA | - | - | 0.25 | V |
| Transition Frequency | $f_T$ | $V_{CE}$=10V, $I_C$=1mA | 80 | - | - | MHz |
| Collector Output Capacitance | $C_{ob}$ | $V_{CB}$ = 10V, $I_E$ = 0, f=1MHz | - | 2.0 | - | pF |
| Noise Figure | NF | $V_{CE}$=6V, $I_C$=0.1mA, f=1kHz, $R_g$=10kΩ | | - | 10 | dB |

## Typical Characteristics

Figure 1. Static Characteristics

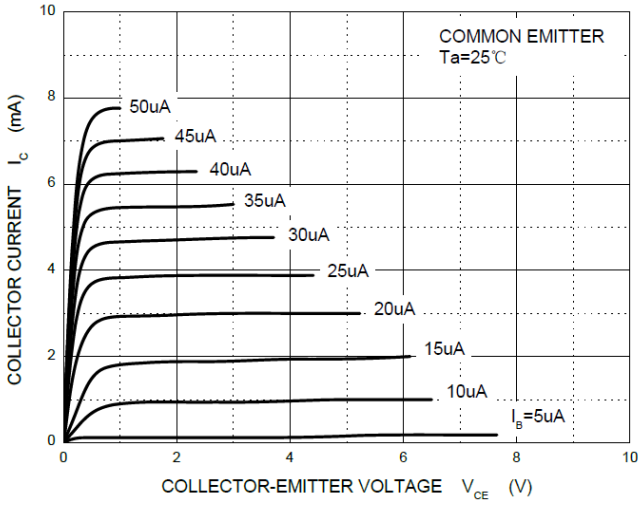



Figure 2. $h_{FE}$ vs. $I_C$

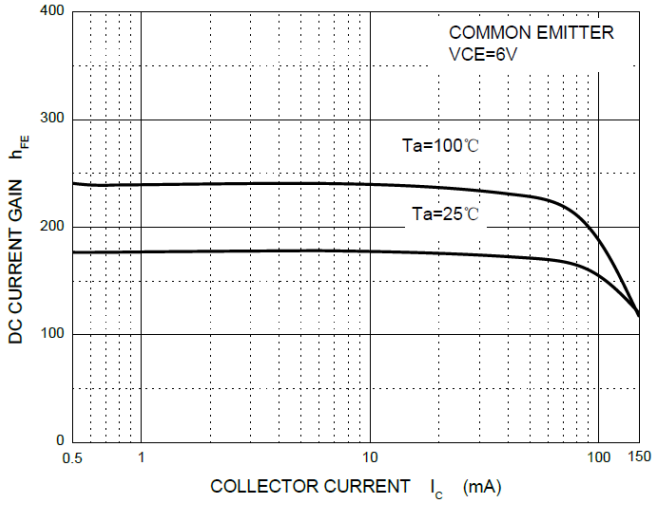


Figure 3. $V_{CE(sat)}$ vs. $I_C$

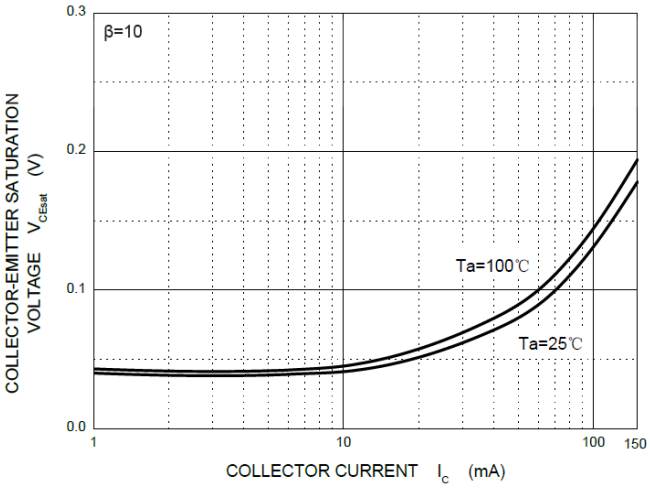



Figure 4. $V_{BE(sat)}$ vs. $I_C$

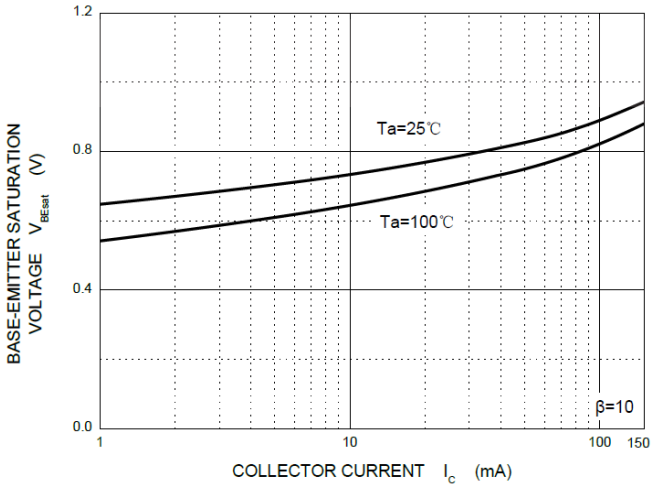



Figure 5. $I_C$ vs. $V_{BE}$

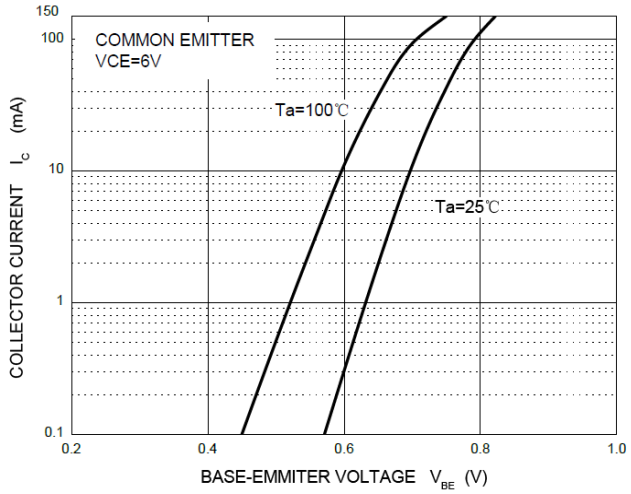



Figure 6. $f_T$ vs. $I_C$

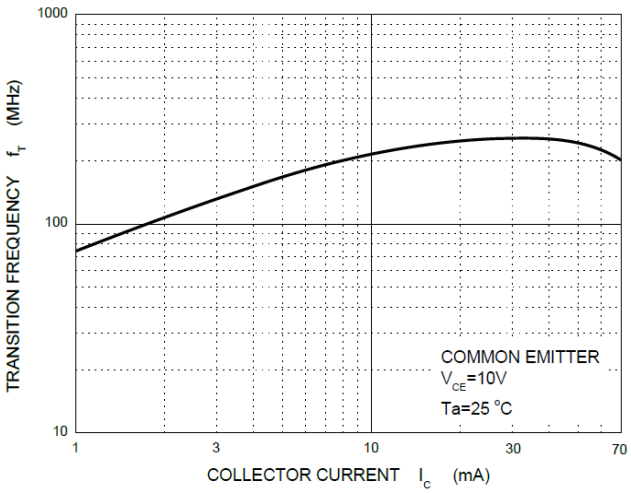



Figure 7. $C_{ob}$ / $C_{ib}$ vs. $V_{CB}$ / $V_{EB}$

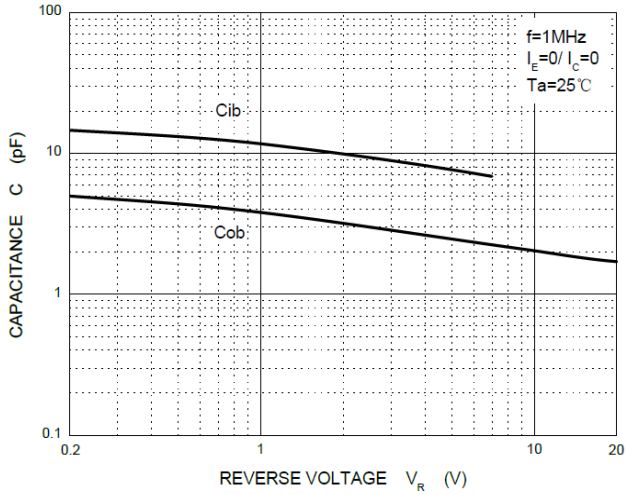
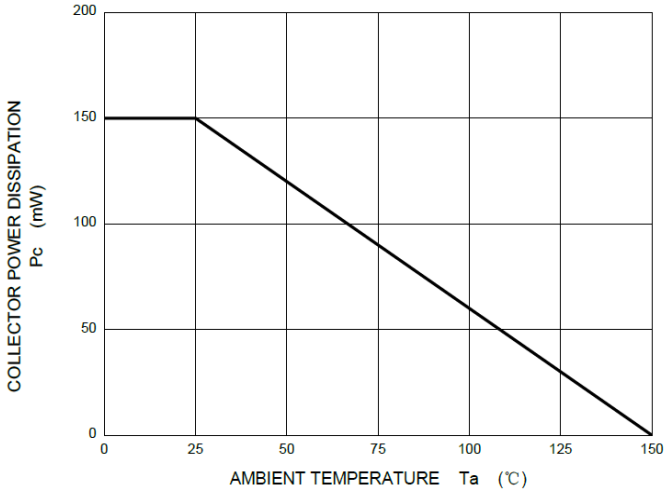
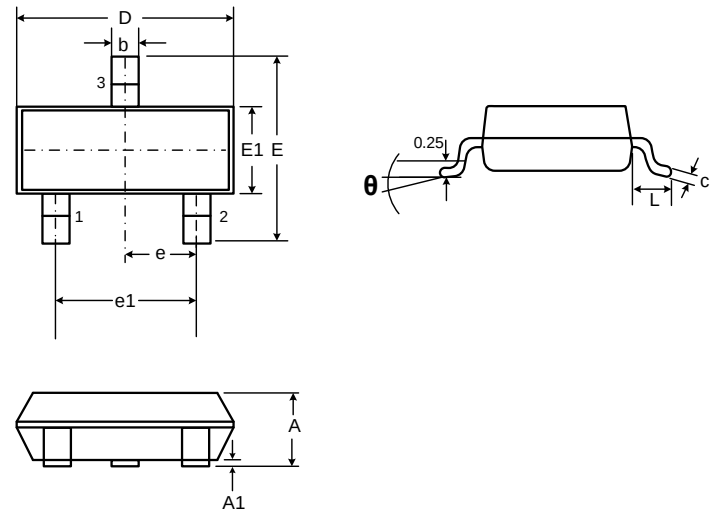


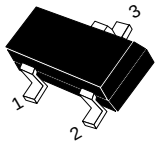

Figure 8. $P_C$ vs. $T_a$



## Outline Drawing – SOT-23

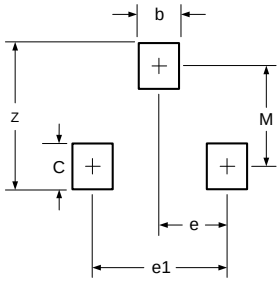
### PACKAGE OUTLINE




SOT-23

| DIMENSIONS | | | | |
|---|---|---|---|---|
| SYMBOL | MILLIMETER | | INCHES | |
| | MIN | MAX | MIN | MAX |
| A | 0.90 | 1.15 | 0.035 | 0.045 |
| A1 | 0.00 | 0.10 | 0.000 | 0.004 |
| b | 0.30 | 0.50 | 0.012 | 0.020 |
| c | 0.08 | 0.15 | 0.003 | 0.006 |
| D | 2.80 | 3.00 | 0.110 | 0.118 |
| E | 2.25 | 2.55 | 0.089 | 0.100 |
| E1 | 1.20 | 1.40 | 0.047 | 0.055 |
| e | 0.95 BSC | | 0.0374 BSC | |
| e1 | 1.80 | 2.00 | 0.071 | 0.079 |
| L | 0.45 | 0.65 | 0.018 | 0.026 |
| θ | 0 | 8° | 0 | 8° |




| DIMENSIONS | | |
|---|---|---|
| DIM | INCHES | MILLIMETERS |
| M | 0.0795 | 2.02 |
| C | 0.0315 | 0.80 |
| Z | 0.111 | 2.82 |
| e | 0.037 BSC | 0.95 BSC |
| e1 | 0.075 BSC | 1.9 BSC |
| b | 0.0315 | 0.80 |

**Notes**

**1**. Dimensioning and tolerances per ANSI Y14.5M, 1985.
**2**. Controlling Dimension: Inches
**3**. Pin 3 is the cathode (Unidirectional Only).
**4**. Dimensions are exclusive of mold flash and metal burrs.

## Marking Codes

| Rank | WT2712 |
|---|---|
| Marking Code | LG |

## Package Information

Qty：3k/Reel

## CONTACT INFORMATION

No.1001, Shiwan (7) Road, Pudong District, Shanghai, P.R.China.201207
Tel: 86-21-68969993 Fax: 86-21-50757680 Email: market@way-on.com
WAYON website: **http://www.way-on.com**
For additional information, please contact your local Sales Representative.