

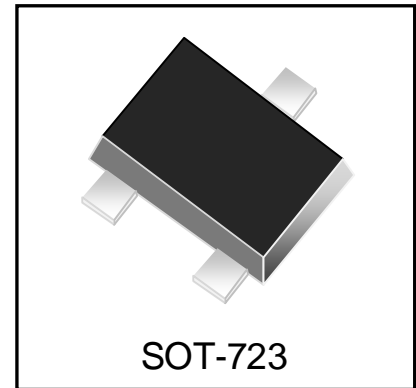
NPN Transistor

Features

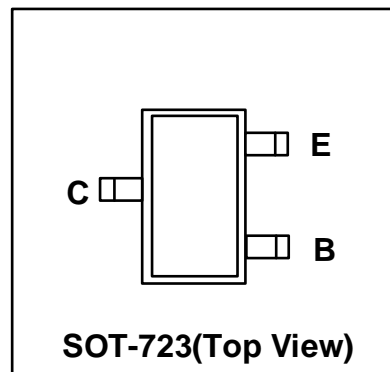
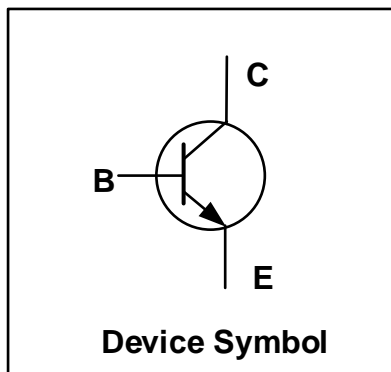
- Complementary to WT2907AH
- Epitaxial Planar Die Construction
- Ideal for Low Power Amplification and Switching

Mechanical Characteristics

- SOT-723 Package
- Marking : Making Code
- RoHS Compliant



Schematic & PIN Configuration



Absolute Maximum Rating

| Parameter | Symbol | Value | Unit |
|---|-----------------|-----------|------|
| Collector Base Voltage | V_{CBO} | 75 | V |
| Collector Emitter Voltage | V_{CEO} | 40 | V |
| Emitter Base Voltage | V_{EBO} | 6 | V |
| Collector Current | I_c | 600 | mA |
| Collector Power Dissipation | P_c | 300 | mW |
| Junction Temperature | T_j | 150 | °C |
| Storage Temperature | T_{stg} | -55 ~ 150 | °C |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 417 | °C/W |

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

| Parameter | Symbol | Test Conditions | Min. | Typ. | Max. | Unit |
|--------------------------------------|---------------|--|------|------|------|------|
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = 10\mu A, I_E = 0$ | 75 | - | - | V |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = 10mA, I_B = 0$ | 40 | - | - | V |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = 10\mu A, I_C = 0$ | 6 | - | - | V |
| Collector Cut-Off Current | I_{CBO} | $V_{CB} = 60V, I_E = 0$ | - | - | 10 | nA |
| Collector Cut-Off Current | I_{CEX} | $V_{CE} = 60V, V_{EB(off)} = -3V$ | - | - | 10 | nA |
| DC Current Gain | $h_{FE(1)}$ | $V_{CE} = 10V, I_C = 0.1mA$ | 35 | - | - | |
| | $h_{FE(2)}$ | $V_{CE} = 10V, I_C = 1.0mA$ | 50 | - | - | |
| | $h_{FE(3)}$ | $V_{CE} = 10V, I_C = 10mA$ | 75 | - | - | |
| | $h_{FE(4)}$ | $V_{CE} = 10V, I_C = 150mA$ | 100 | - | 300 | |
| | $h_{FE(5)}$ | $V_{CE} = 10V, I_C = 500mA$ | 40 | - | - | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 500mA, I_B = 50mA$ | - | - | 1 | V |
| | | $I_C = 150mA, I_B = 15mA$ | - | - | 0.3 | V |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = 500mA, I_B = 50mA$ | - | - | 2.0 | V |
| | | $I_C = 150mA, I_B = 15mA$ | - | - | 1.2 | V |
| Transition Frequency | f_T | $V_{CE}=20V, I_C=20mA, f=100MHz$ | 300 | - | - | MHz |
| Delay Time | t_d | $V_{CC} = 30V, V_{BE(off)} = -0.5V,$ $I_C = 150mA, I_{B1} = 15mA$ | - | - | 10 | ns |
| Rise Time | t_r | | - | - | 25 | ns |
| Storage Time | t_s | $V_{CC} = 30V, I_C = 150mA$ $I_{B1} = -I_{B2} = 15mA$ | - | - | 225 | ns |
| Fall Time | t_f | | - | - | 60 | ns |

Typical Characteristics

Figure 1. Static Characteristics

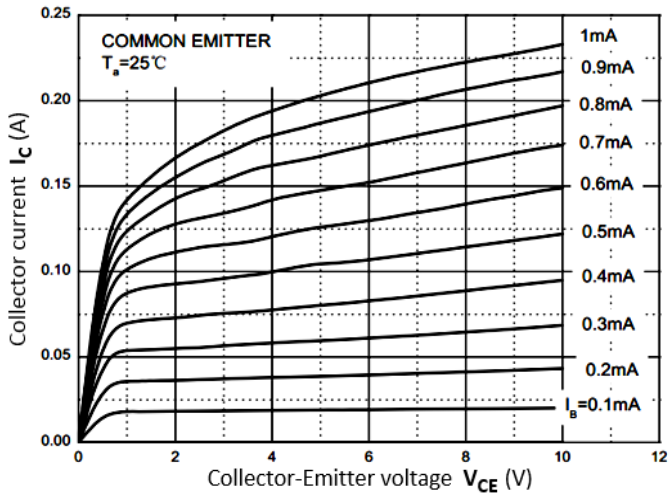


Figure 2. h_{FE} vs. I_C

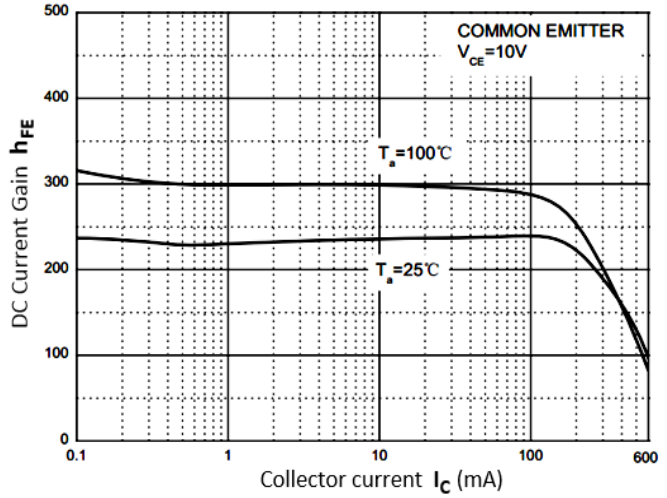


Figure 3. $V_{CE(sat)}$ vs. I_C

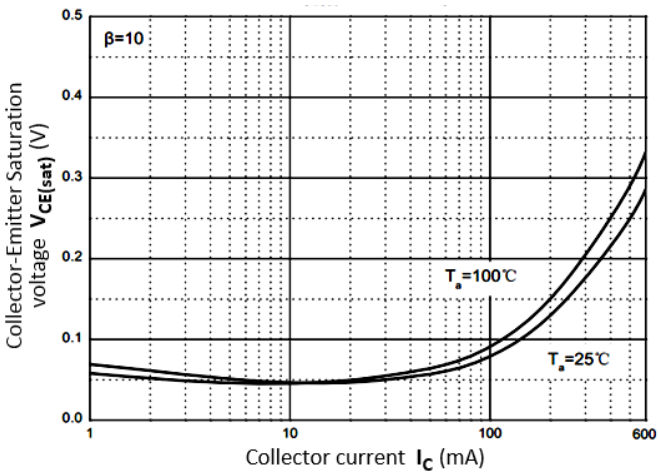


Figure 4. $V_{BE(sat)}$ vs. I_C

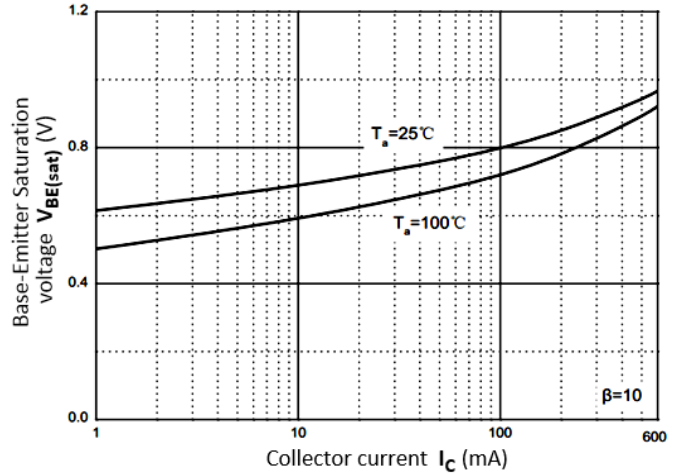


Figure 5. I_C vs. V_{BE}

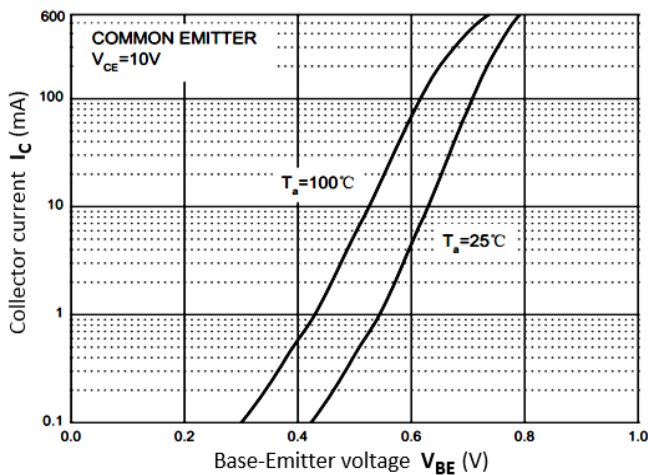


Figure 6. C_{ob}/C_{ib} vs. V_{CB}/V_{EB}

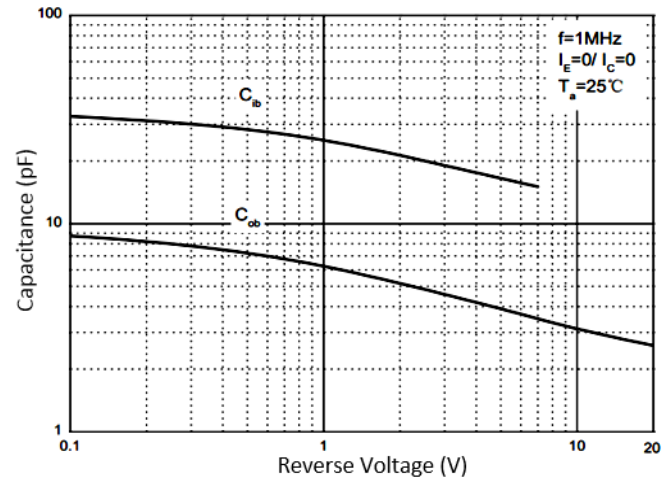


Figure 7. f_T vs. I_C

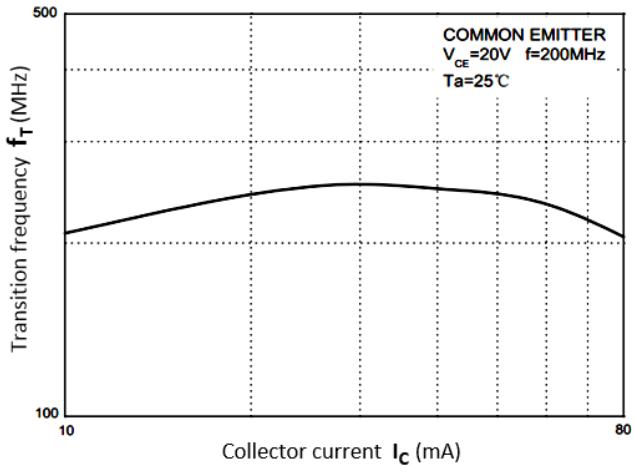
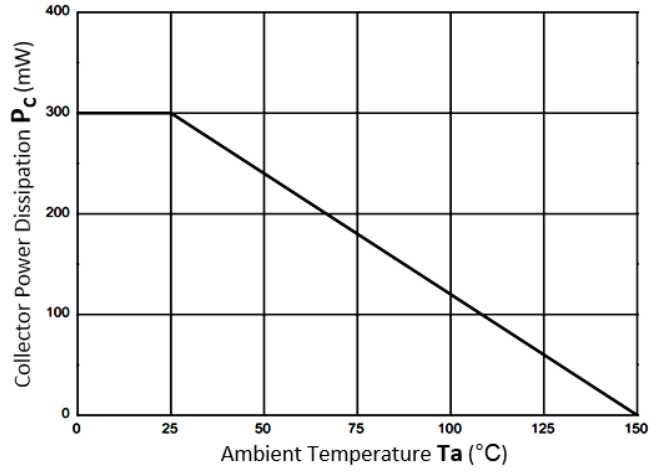


Figure 8. P_C vs. T_a



Outline Drawing – SOT-723

PACKAGE OUTLINE

SOT-723

| DIMENSIONS | | | | |
|------------|-------------|-------|-----------|--------|
| SYMBOL | MILLIMETERS | | INCHES | |
| | MIN | MAX | MIN | MAX |
| A | 0.450 | 0.550 | 0.018 | 0.022 |
| b | 0.150 | 0.270 | 0.0059 | 0.0106 |
| b1 | 0.250 | 0.370 | 0.010 | 0.015 |
| L | 0.150 | 0.250 | 0.006 | 0.010 |
| C | 0.070 | 0.170 | 0.0028 | 0.0067 |
| D | 1.150 | 1.250 | 0.045 | 0.049 |
| E | 1.150 | 1.250 | 0.045 | 0.049 |
| E1 | 0.750 | 0.850 | 0.030 | 0.033 |
| e | 0.400BSC | | 0.016 BSC | |
| θ | 7° | 11° | 7° | 11° |

| DIMENSIONS | | |
|------------|--------|-------------|
| DIM | INCHES | MILLIMETERS |
| C | 0.0157 | 0.40 |
| M | 0.039 | 1.0 |
| e | 0.0157 | 0.40 |
| e1 | 0.0314 | 0.80 |
| b | 0.0157 | 0.40 |

Notes

- Dimensioning and tolerances per ANSI Y14.5M, 1985.
- Controlling Dimension: Millimeters.

Marking Codes

| | |
|--------------|----------|
| Part Number | WT2222AH |
| Marking Code | |

Package Information

Qty: 8k/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.

WAYON® is registered trademark of Wayon Corporation.

Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.