

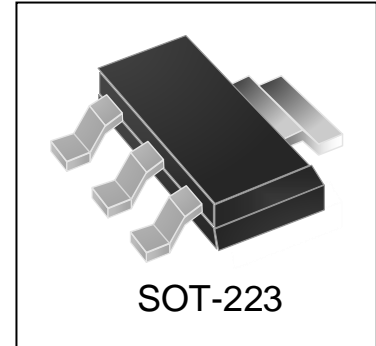
## PNP Silicon Transistor

## Features

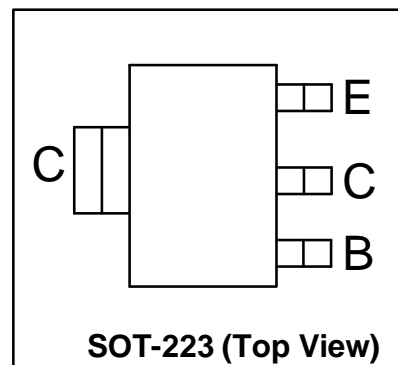
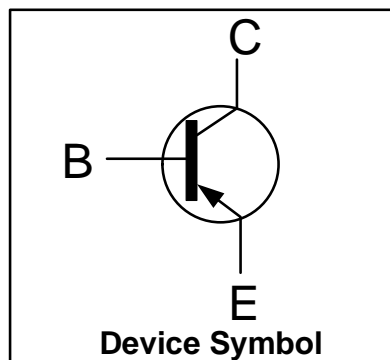
- 4 Amps Continuous Current (10 Amps Peak Current)
- Extremely Low Saturation Voltages
- Excellent Gain Characteristics Specified Up to 3A
- $P_{tot} = 3W$

## Mechanical Characteristics

- SOT-223 Package
- Marking : Marking Code
- RoHS Compliant



## Schematic &amp; PIN Configuration



## Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	-180	V
Collector-Emitter Voltage	$V_{CEO}$	-140	V
Emitter-Base Voltage	$V_{EBO}$	-6	V
Continuous Collector Current	$I_C$	-4	A
Peak Pulse Current	$I_{CM}$	-10	A
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	3	W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^{\circ}C$

## Thermal Resistance

Parameter	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient <sup>1</sup>	$R_{\theta JA}$	42	$^{\circ}C/W$
Thermal Resistance from Junction to Ambient <sup>2</sup>		78	$^{\circ}C/W$

**Electrical Characteristics (T<sub>amb</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	BV <sub>CBO</sub>	I <sub>C</sub> = -100μA, I <sub>E</sub> =0	-180	-210	-	V
Collector-Emitter Breakdown Voltage	BV <sub>CER</sub>	I <sub>C</sub> = -1μA, R <sub>B</sub> ≤1kΩ	-180	-210	-	V
Collector-Emitter Breakdown Voltage	BV <sub>CEO</sub>	I <sub>C</sub> = -10mA, I <sub>B</sub> =0	-140	-170	-	V
Emitter-Base Breakdown Voltage	BV <sub>EBO</sub>	I <sub>E</sub> = -100μA, I <sub>C</sub> =0	-6	-8	-	V
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> = -150V	-	-	-50	nA
		V <sub>CB</sub> = -150V, T <sub>amb</sub> = 100°C	-	-	-1	μA
Collector Cutoff Current	I <sub>CER</sub> R ≤1kΩ	V <sub>CB</sub> = -150V	-	-	-50	nA
		V <sub>CB</sub> = -150V, T <sub>amb</sub> = 100°C	-	-	-1	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> = -6V	-	-	-10	nA
Static Forward Current Transfer ratio <sup>3</sup>	h <sub>FE(1)</sub>	I <sub>C</sub> = -10mA, V <sub>CE</sub> = -5V	100	200	-	-
	h <sub>FE(2)</sub>	I <sub>C</sub> = -1A, V <sub>CE</sub> = -5V	100	200	300	
	h <sub>FE(3)</sub>	I <sub>C</sub> = -3A, V <sub>CE</sub> = -5V	75	140	-	
	h <sub>FE(4)</sub>	I <sub>C</sub> = -10A, V <sub>CE</sub> = -5V	-	10	-	
Collector-Emitter Saturation Voltage <sup>3</sup>	V <sub>CE(sat)</sub>	I <sub>C</sub> = -100mA, I <sub>B</sub> = -10mA	-	-30	-60	mV
		I <sub>C</sub> = -500mA, I <sub>B</sub> = -50mA	-	-70	-120	
		I <sub>C</sub> = -1A, I <sub>B</sub> = -100mA	-	-110	-150	
		I <sub>C</sub> = -3A, I <sub>B</sub> = -300mA	-	-275	-370	
Base-Emitter Saturation Voltage <sup>3</sup>	V <sub>BE(sat)</sub>	I <sub>C</sub> = -3A, I <sub>B</sub> = -300mA	-	-970	-1110	mV
Base-Emitter Turn-on Voltage <sup>3</sup>	V <sub>BE(on)</sub>	I <sub>C</sub> = -3A, V <sub>CE</sub> = -5V	-	-830	-950	mV
Transitional Frequency	f <sub>T</sub>	I <sub>C</sub> = -100mA, V <sub>CE</sub> = -10V, f = 50MHz	-	110	-	MHz
Output Capacitance	C <sub>obo</sub>	V <sub>CB</sub> = -20V, f = 1MHz	-	40	-	pF
Switching Time	t <sub>ON</sub>	V <sub>CC</sub> = -50V, I <sub>C</sub> = -1A, I <sub>B1</sub> = -100mA, I <sub>B2</sub> = 200mA	-	68	-	nS
	t <sub>OFF</sub>		-	1030	-	

**Note:**

1. For a device surface mounted on 52mm x 52mm x 1.6mm FR4 PCB with high coverage of single sided 2oz copper, in still air conditions.
2. For a device surface mounted on 25mm x 25mm x 1.6mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.
3. Measured under pulsed conditions. Pulse Width=300μs. Duty cycle ≤2%.

Typical Characteristics

Figure 1.  $V_{CE(sat)}$  vs.  $I_c$

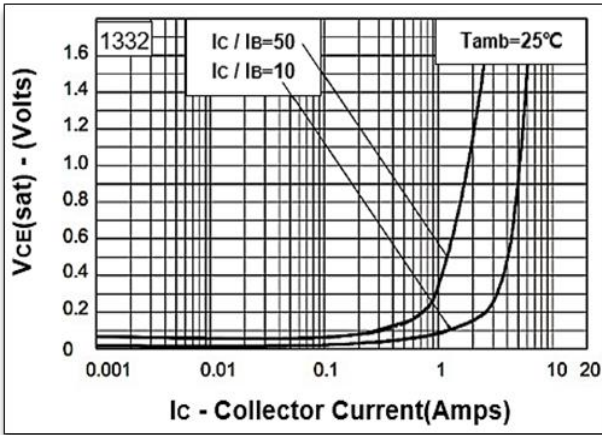


Figure 2.  $V_{CE(sat)}$  vs.  $I_c$

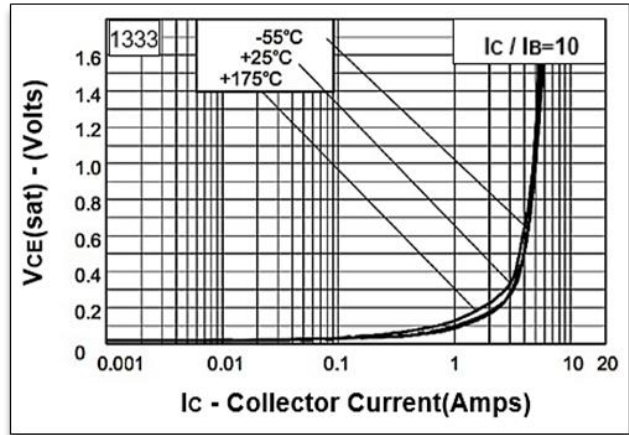


Figure 3.  $h_{FE}$  vs.  $I_c$

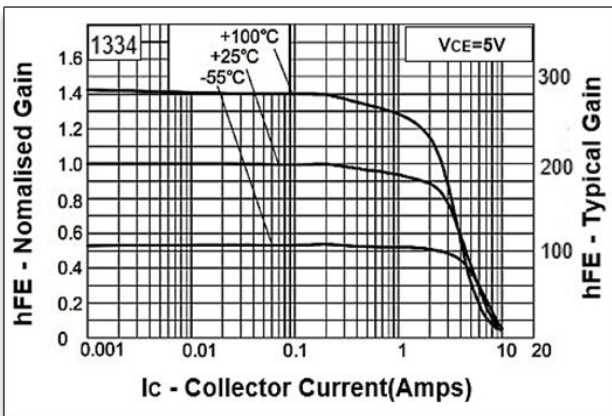


Figure 4.  $V_{BE(sat)}$  vs.  $I_c$

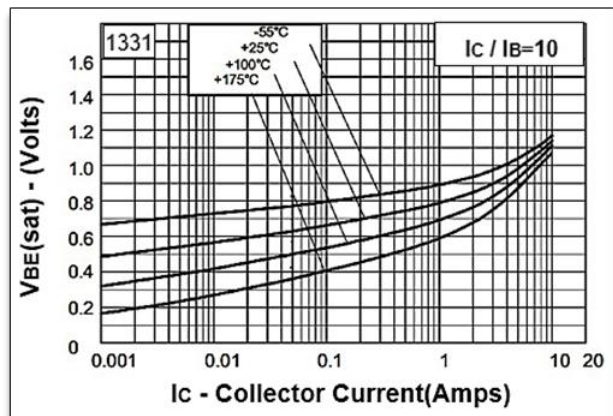


Figure 5.  $V_{BE(on)}$  vs.  $I_c$

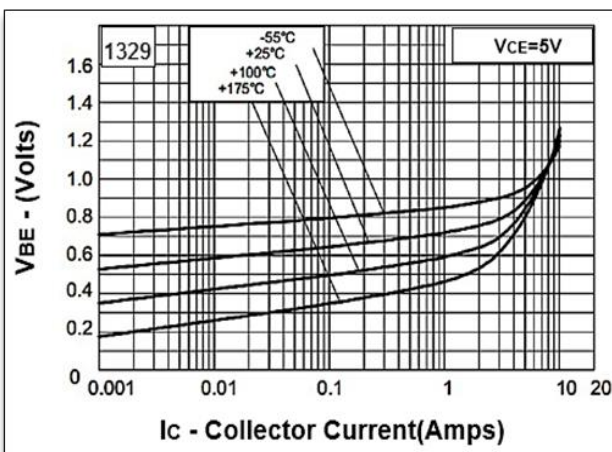
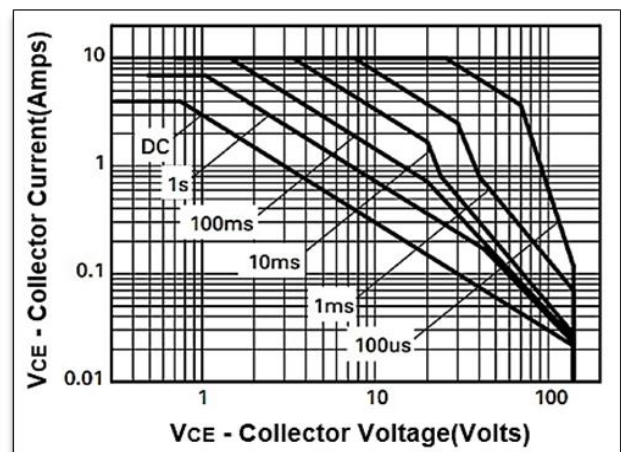


Figure 6. Safe Operating Area



Outline Drawing – SOT-223

### PACKAGE OUTLINE

Unit:mm

### Land Pattern

Dimensions	Value(mm)
X1	3.3
X2	1.2
Y1	1.6
Y2	1.6
C1	6.4
C2	2.3

Marking Codes

Part Number	WT955
Marking Code	

Package Information

Qty: 2.5k/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](mailto:market@way-on.com)

WAYON website: <http://www.way-on.com>

For additional information, please contact your local Sales Representative.

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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.

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