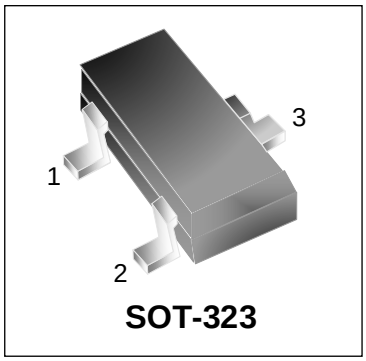
WT2222AG

Features

NPN Small Signal Transistor

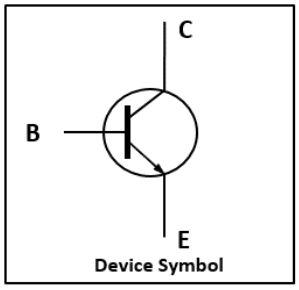
- Epitaxial Planar Die Construction
- Low Saturation Voltage

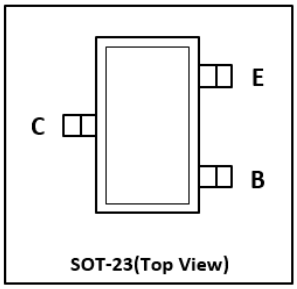


Mechanical Characteristics

- SOT-323 Package
- Marking : Making Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant & HF
- Device meets MSL3 requirement

Schematic & PIN Configuration





Absolute Maximum Rating (@TA = +25°C, unless otherwise specified.)

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
Continuous Collector Current	I_C	0.6	A

Thermal Characteristics (@TA = +25°C, unless otherwise specified.)

Power Dissipation	P_D	310	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	403	°C/W
Operating and Storage Temperature Range	T_J ,T_{STG}	-55 to +150	°C

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10μA, 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 = 10μA, 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
Emitter Cut-Off Current	I_{EBO}	V_{EB} = 5V, I_C = 0	-	-	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	-	-	
	$h_{FE(6)}$	V_{CE} = 1.0V, I_C = 150mA	35	-	-	
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

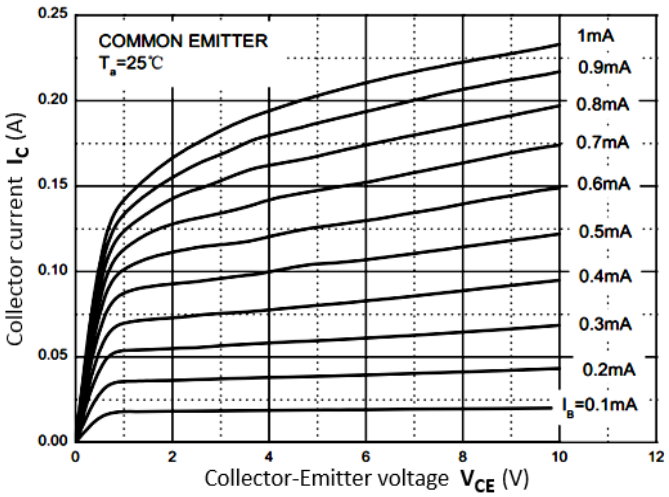


Figure 2. h_{FE} vs. I_C

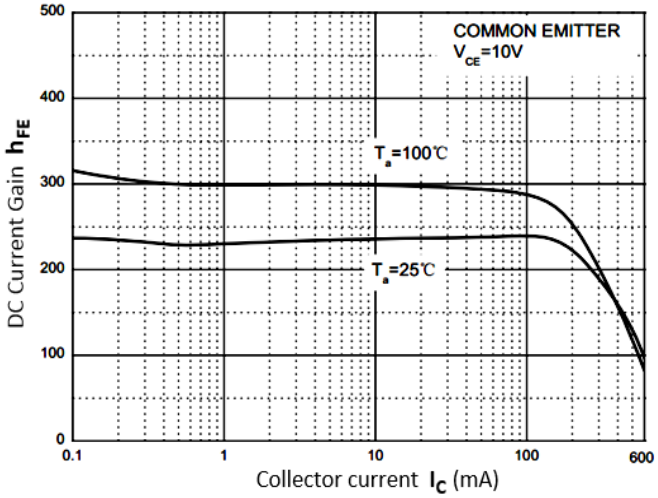


Figure 3. $V_{CE(sat)}$ vs. I_C

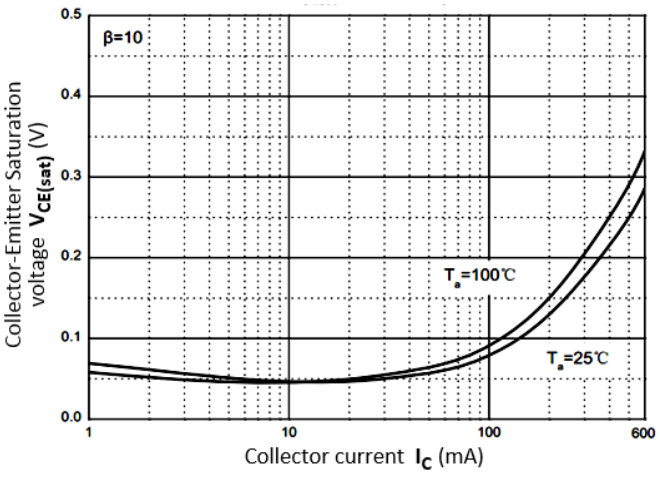


Figure 4. $V_{BE(sat)}$ vs. I_C

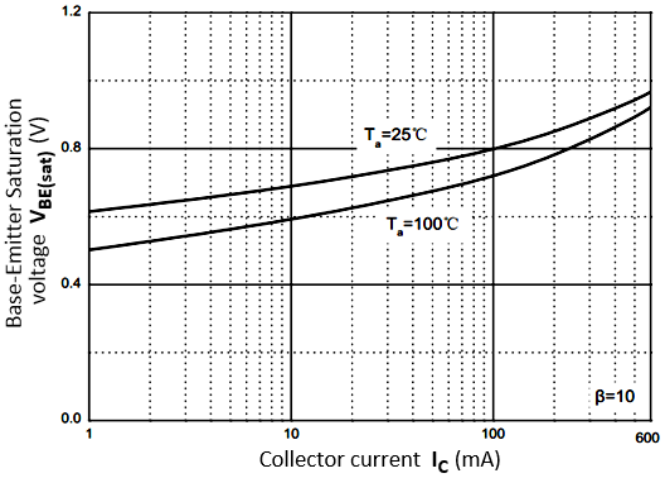


Figure 5. I_C vs. V_{BE}

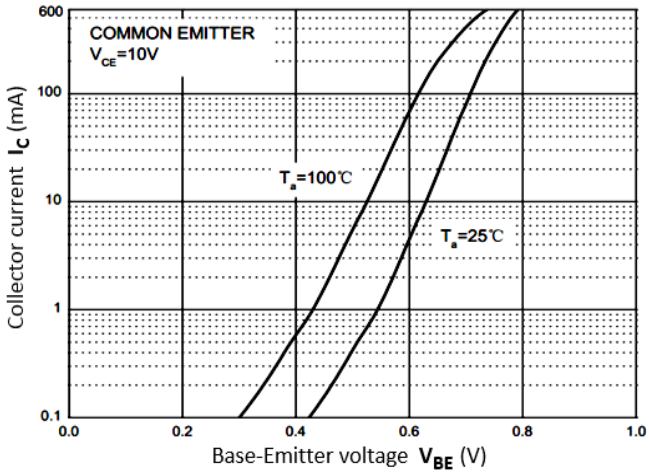


Figure 6. C_{ob} / C_{ib} vs. V_{CB} / V_{EB}

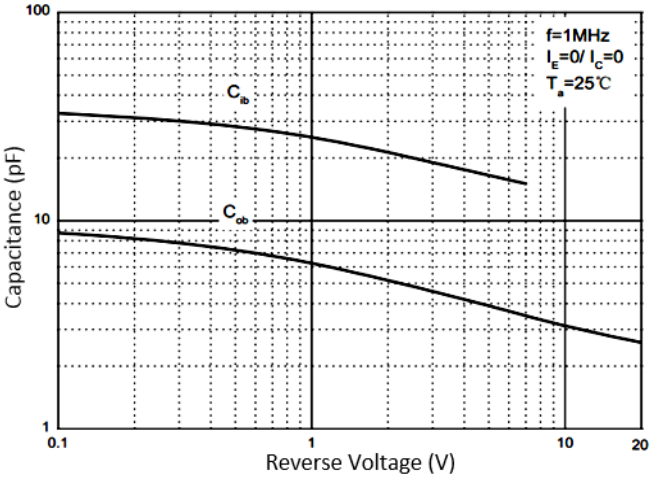
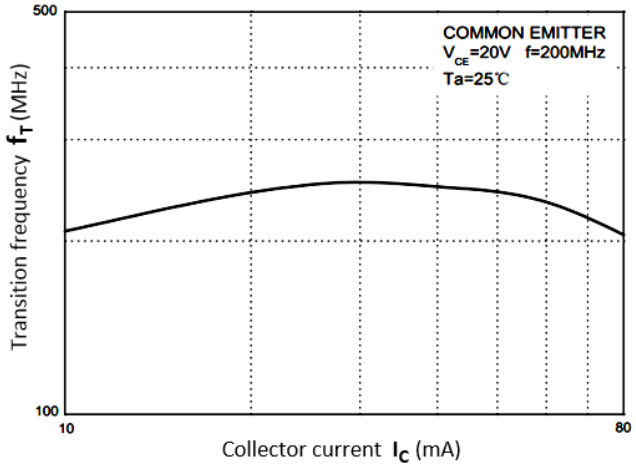
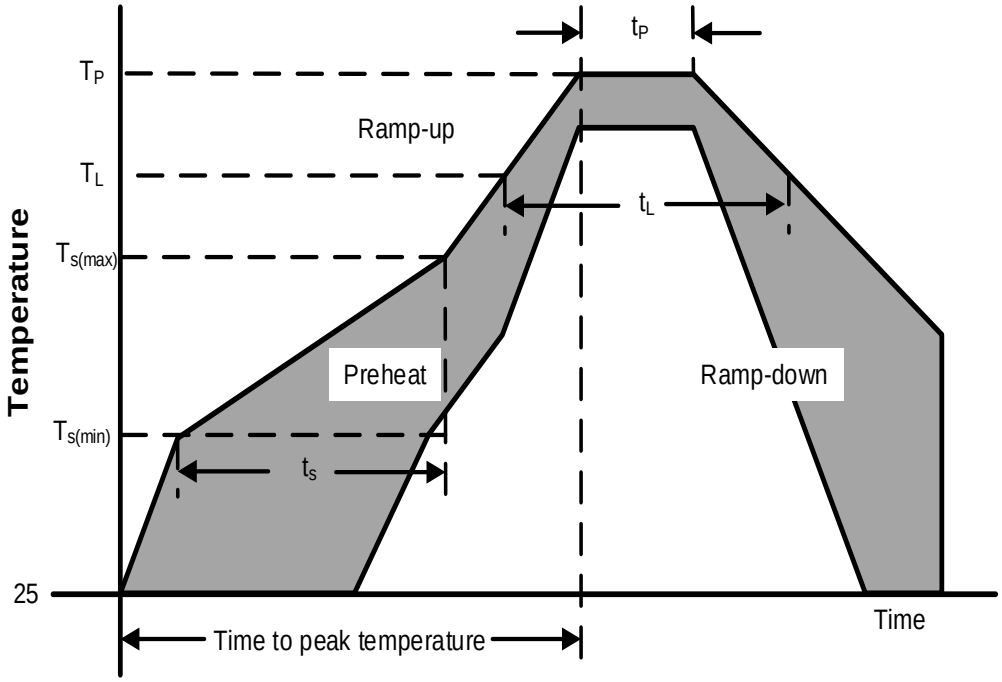


Figure 7. f_T vs. I_C



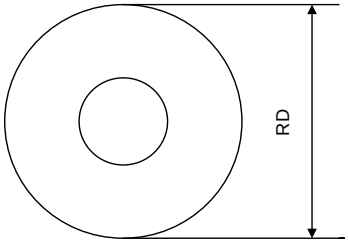
Soldering Parameters

Reflow Condition		Pb – Free assembly
Pre Heat	Temperature Min ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (ts)	60 – 190 secs
Average ramp up rate (Liquidus Temp) (T_L) to peak		5°C/second max
$T_{S(max)}$ to T_L——Ramp-up Rate		5°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260+0/-5 °C
Time within actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		280°C

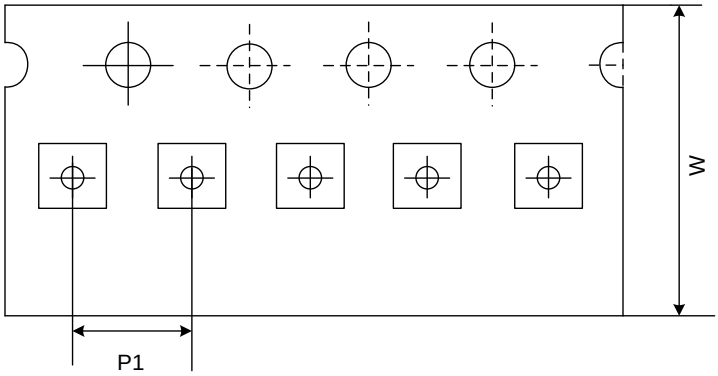


Tape And Reel Information

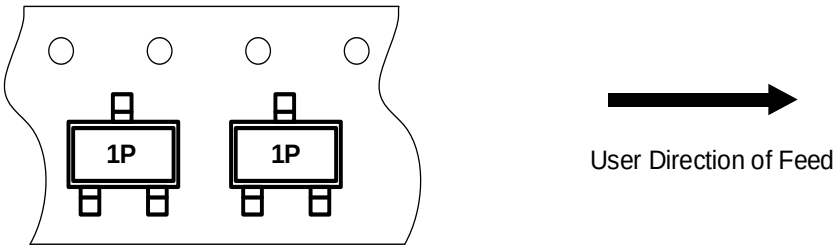
Reel Dimensions



Tape Dimensions



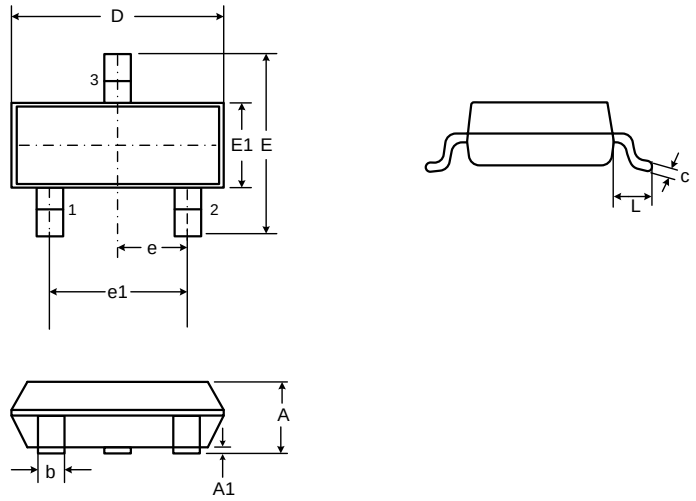
Quadrant Assignments For PIN1 Orientation In Tape

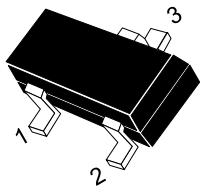


RD	Reel Dimensions	7 inch
W	Overall width of the carrier tape	8 mm
P1	Pitch between successive cavity centers	4mm

Outline Drawing –SOT-323

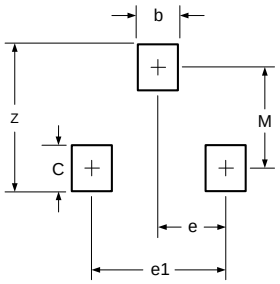
PACKAGE OUTLINE





SOT-323

DIMENSIONS				
SYMBOL	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.90	1.10	0.035	0.043
A1	0.00	0.10	0.000	0.004
b	0.20	0.40	0.008	0.016
c	0.08	0.15	0.003	0.006
D	2.00	2.20	0.079	0.087
E	2.15	2.45	0.085	0.096
E1	1.15	1.35	0.045	0.053
e	0.65TYP		0.026TYP	
e1	1.20	1.40	0.047	0.055
L	0.525REF		0.021REF	

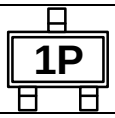


DIMENSIONS		
DIM	INCHES	MILLIMETERS
M	0.075	1.90
C	0.035	0.90
Z	0.110	2.80
e	0.025 BSC	0.65 BSC
e1	0.051BSC	1.3 BSC
b	0.024	0.60

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

Part Number	WT2222AG
Marking Code	

Package Information

Qty：3k/Reel

CONTACT INFORMATION.

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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.