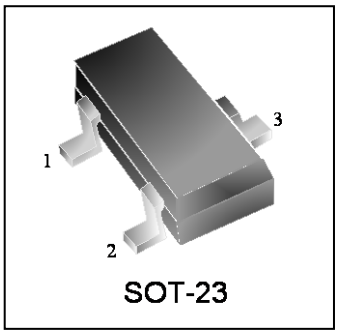
WT857B-AT

Features

PNP Small Signal Transistor

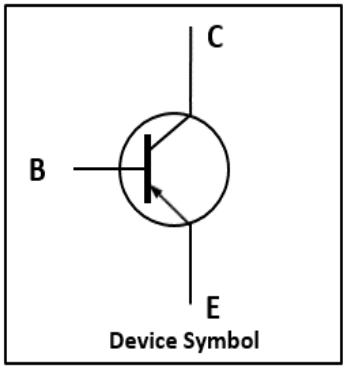
- General Purpose Amplifier Applications
- Ideally Suited for Automatic Insertion
- Collector Current IC = -100mA
- AEC-Q101 Qualified

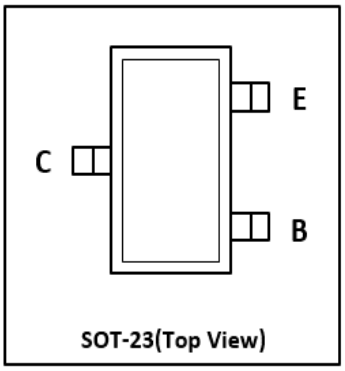


Mechanical Characteristics

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

Schematic & PIN Configuration





Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	-50	V
Collector Emitter Voltage	V_{CEO}	-45	V
Emitter Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-0.1	A
Peak Collector Current	I_{CM}	-0.2	A
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

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 = -10μA, I_E = 0	-50	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = -10mA, I_B = 0	-45	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = -1μA, I_C = 0	-5	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB} = -30V, I_E = 0	-	-	-15	nA
Emitter Cut-off Current	I_{EBO}	V_{EB} = -5V, I_C = 0	-	-	-100	nA
DC Current Gain	h_{FE}	V_{CE} = -5V, I_C = -2mA	220	-	475	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = -10mA, I_B = -0.5mA	-	-	-0.3	V
		I_C = -100mA, I_B = -5mA	-	-	-0.65	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = -10mA, I_B = -0.5mA	-	-0.7	-	V
		I_C = -100mA, I_B = -5mA	-	-0.9	-1.1	V
Base-Emitter Voltage	V_{BE}	V_{CE} = -5V, I_C = -2mA	-0.6	-	-0.75	V
		V_{CE} = -5V, I_C = -10mA	-	-	-0.82	V
Transition Frequency	f_T	V_{CE}= -5V, I_C= -10mA , f=100MHz	100	200	-	MHz
Collector Capacitance	C_{ob}	V_{CB}= -10V,f=1MHz	-	-	4.5	pF

Typical Characteristics

Figure 1.Static Characteristics

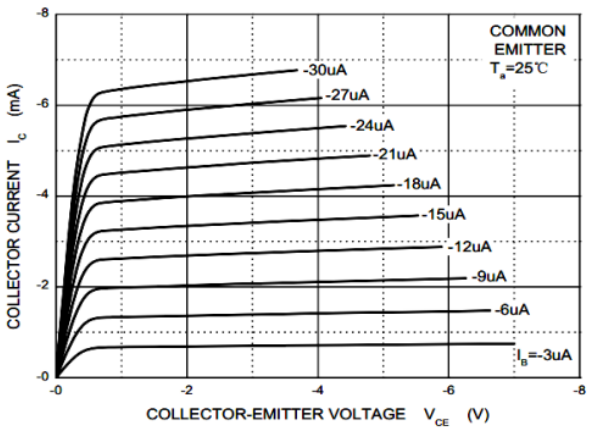


Figure 2. h_{FE} vs. I_C

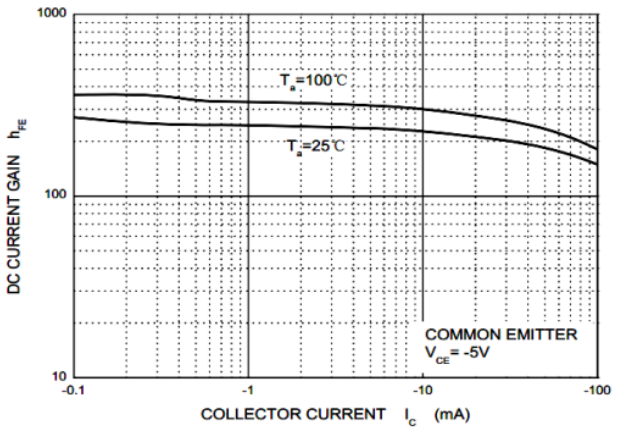


Figure 3. $V_{CE(sat)}$ vs. I_C

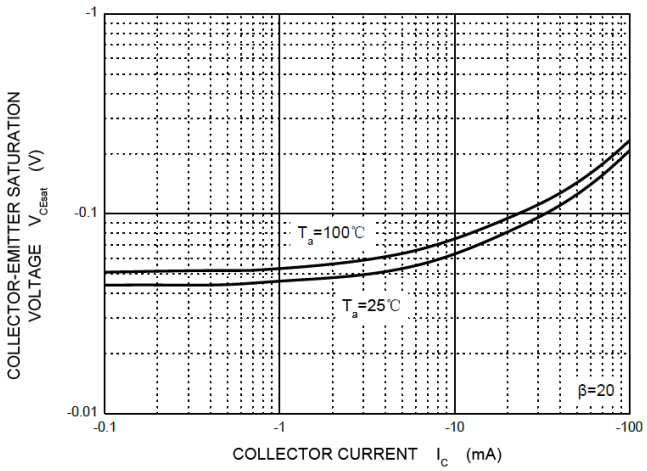


Figure 4. $V_{BE(sat)}$ vs. I_C

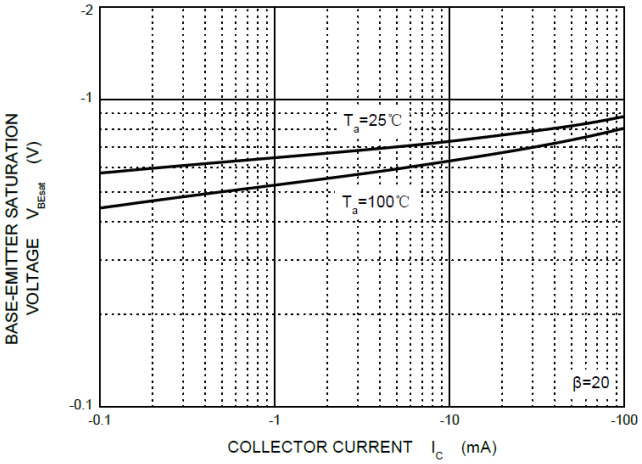


Figure 5. I_C vs. V_{BE}

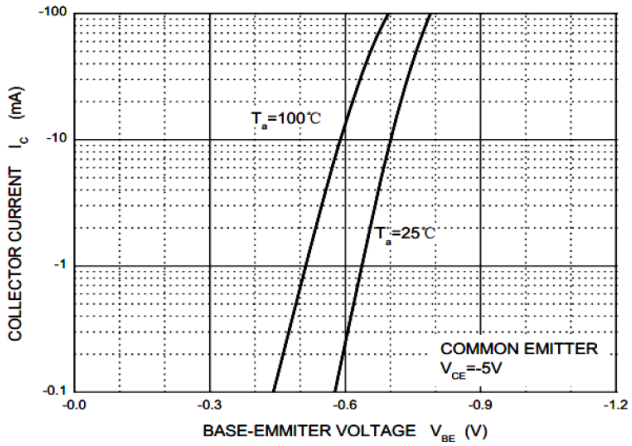


Figure 6. f_T vs. I_C

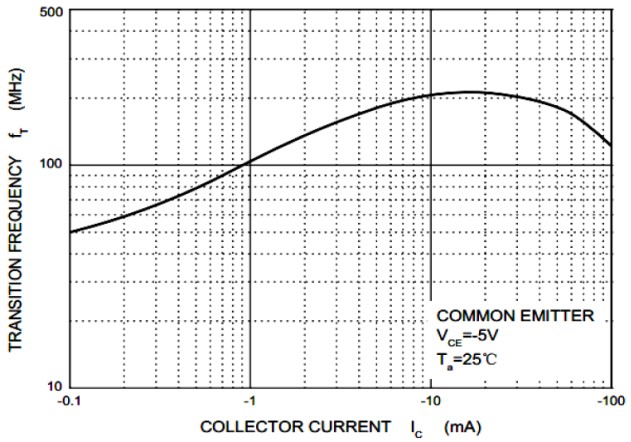
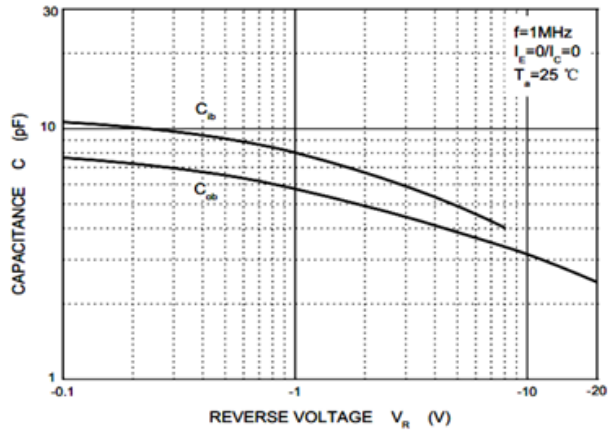
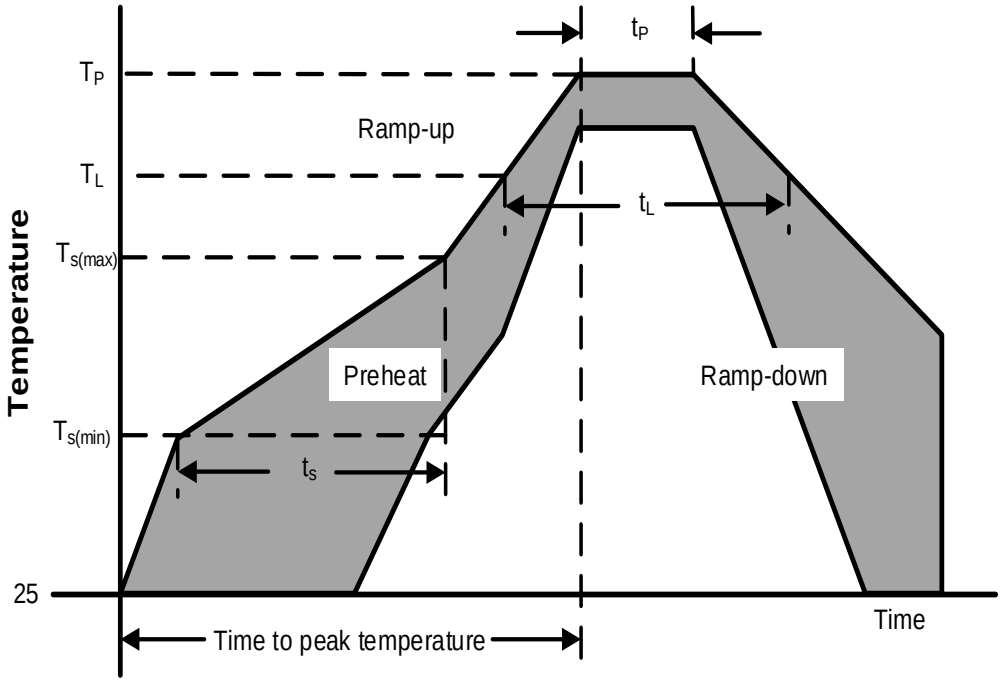


Figure 7. C_{ob} / C_{ib} vs. V_{CB} / V_{EB}



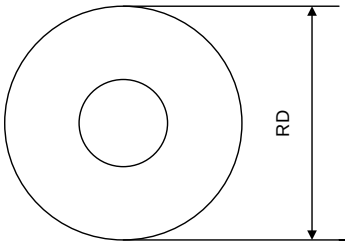
Soldering Parameters

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

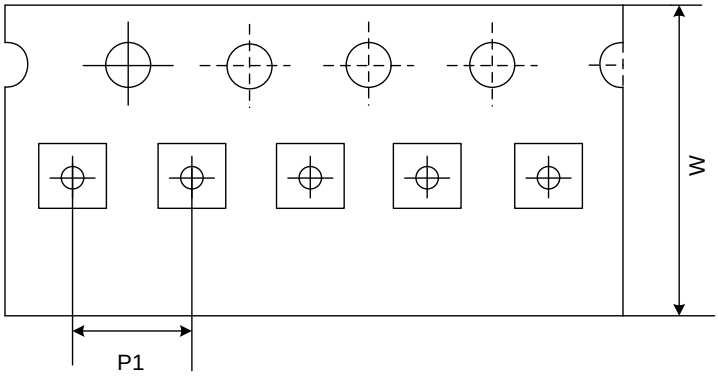


Tape And Reel Information

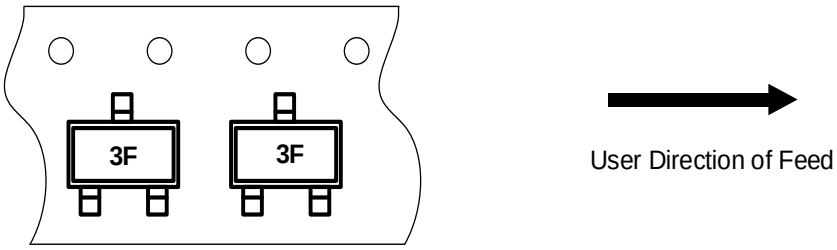
Reel Dimensions



Tape Dimensions



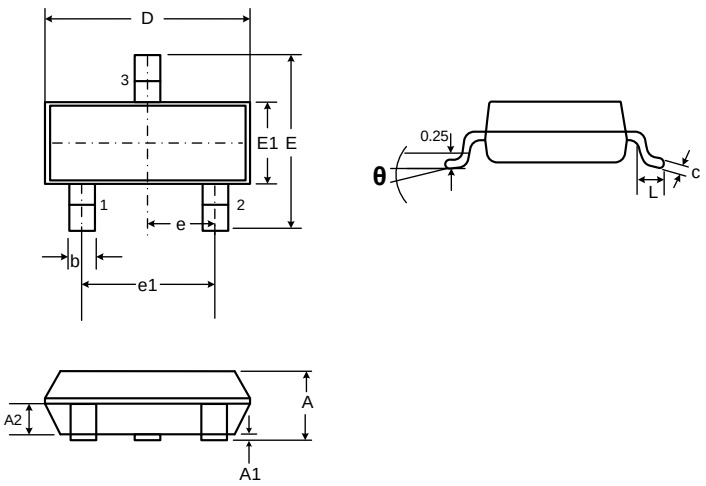
Quadrant Assignments For PIN1 Orientation In Tape

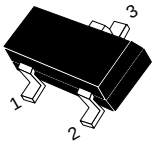


RD	Reel Dimensions	7 inch
W	Overall width of the carrier tape	8 mm
P1	Pitch between successive cavity centers	4mm

Outline Drawing – SOT-23

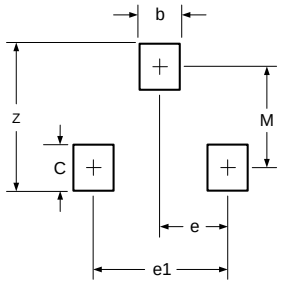
PACKAGE OUTLINE





SOT-23

DIMENSIONS				
SYMBOL	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.90	1.15	0.035	0.045
A1	0.00	0.10	0.000	0.004
A2	0.60	0.70	0.024	0.028
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		0.037 BSC	
e1	1.80	2.00	0.071	0.079
L	0.30	0.50	0.012	0.020
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:
Controlling Dimension: Millimeter.

Marking Codes

Part Number	WT857B-AT
Marking Code	

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**

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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.