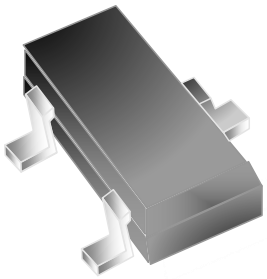
WT3906T

PNP Silicon Transistor

Features

- Epitaxial Planar Die Construction
- Complementary NPN Type Available (WT3904T)

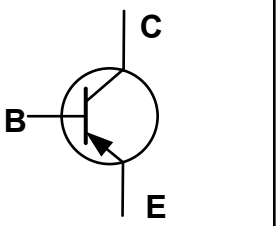


SOT-523

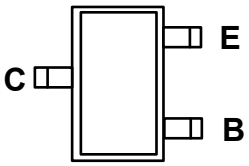
Mechanical Characteristics

- SOT-523 Package
- Marking : Making Code
- RoHS Compliant

Schematic & PIN Configuration



Device Symbol



SOT-523(Top View)

Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	-40	V
Collector Emitter Voltage	V_{CEO}	-40	V
Emitter Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-200	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 ~ 150	°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	833	°C/W

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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	-40	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C = -1mA, I_B = 0	-40	-	-	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E = -10μA, I_C = 0	-5	-	-	V
Collector cut-off current	I_{CBO}	V_{CB} = -30V, I_E = 0	-	-	-100	nA
Collector cut-off current	I_{CEX}	V_{CE} = -30V, $V_{BE(off)}$ = -3V	-	-	-50	
Emitter cut-off current	I_{EBO}	V_{EB} = -5V,I_C = 0	-	-	-100	
DC current gain	$h_{FE(1)}$	V_{CE} = -1V, I_C = -0.1mA	60	-	-	-
	$h_{FE(2)}$	V_{CE} = -1V, I_C = -1mA	80	-	-	
	$h_{FE(3)}$	V_{CE} = -1V, I_C = -10mA	100	-	300	
	$h_{FE(4)}$	V_{CE} = -1V, I_C = -50mA	60	-	-	
	$h_{FE(5)}$	V_{CE} = -1V, I_C = -100mA	30	-	-	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = -10mA,I_B = -1mA	-	-	-0.25	V
		I_C = -50mA,I_B = -5mA	-	-	-0.4	
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C = -10mA,I_B = -1mA	-0.65	-	-0.85	V
		I_C = -50mA,I_B = -5mA	-	-	-0.95	
Transition frequency	f_T	V_{CE}= -20V, I_C= -10mA, f=100MHz	250	-	-	MHz
Collector output capacitance	C_{ob}	V_{CB}= -5V, I_E= 0, f= 1MHz	-	-	4.5	pF
Base input capacitance	C_{ib}	V_{EB}= -0.5V, I_E= 0, f= 1MHz	-	-	10	pF
Delay time	t_d	V_{CC} = -3V, V_{BC} = -0.5V, I_C = -10mA, I_{B1} = -1mA	-	-	35	ns
Rise time	t_r		-	-	35	ns
Storage time	t_s	V_{CC} = -3V, I_C = -10mA, I_{B1} = I_{B2} = -1mA	-	-	225	ns
Fall time	t_f		-	-	75	ns

Typical Characteristics

Figure 1.Static Characteristic

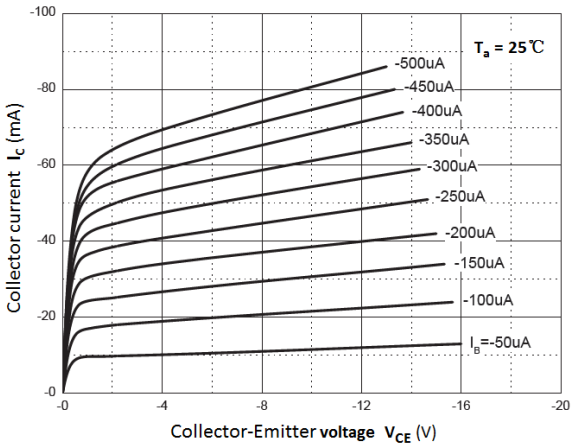


Figure 2. h_{FE} vs. I_C

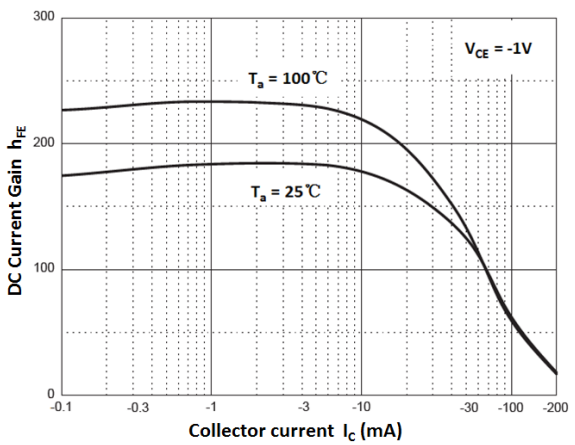


Figure 3. $V_{CE(sat)}$ vs. I_C

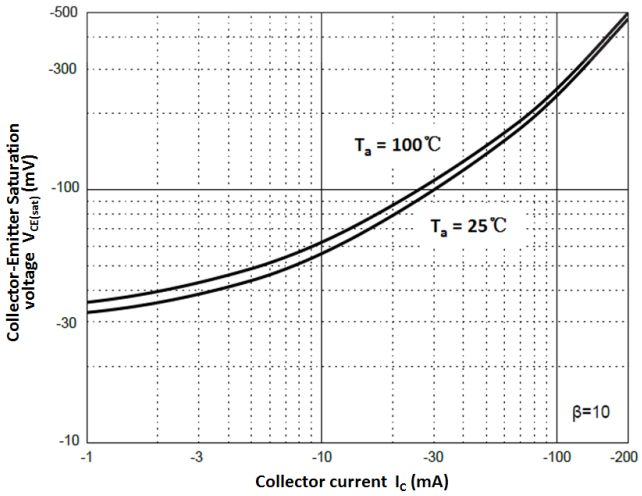


Figure 4. $V_{BE(sat)}$ vs. I_C

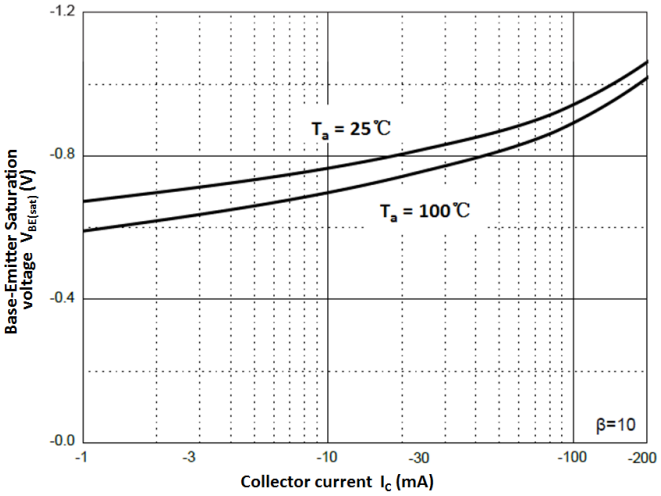


Figure 5. I_C vs. V_{BE}

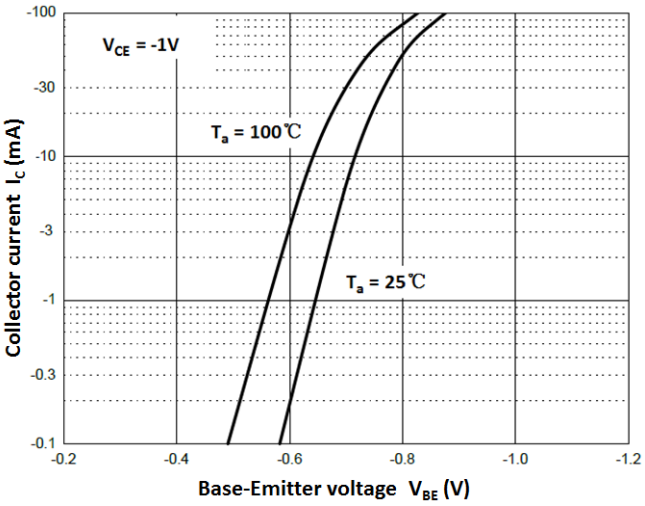


Figure 6. C_{ob} / C_{ib} vs. V_{CB} / V_{EB}

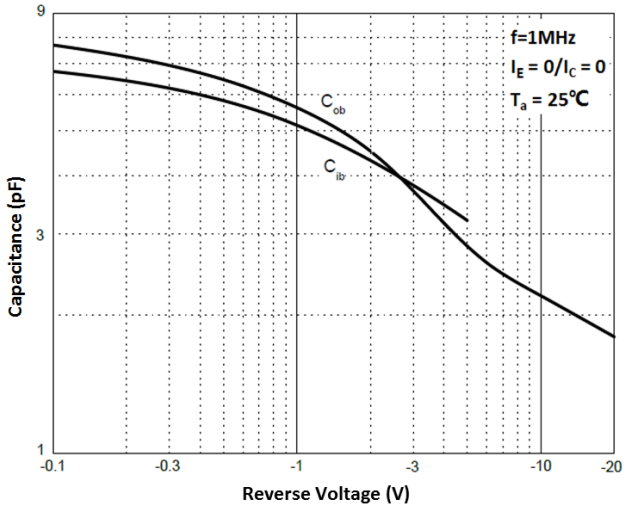


Figure 7. f_T vs. I_C

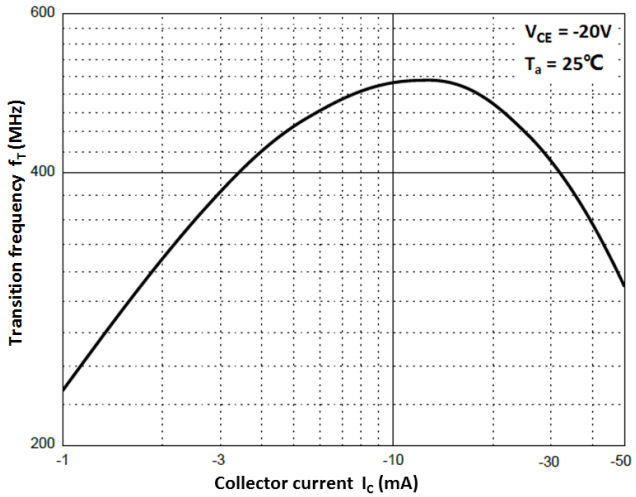
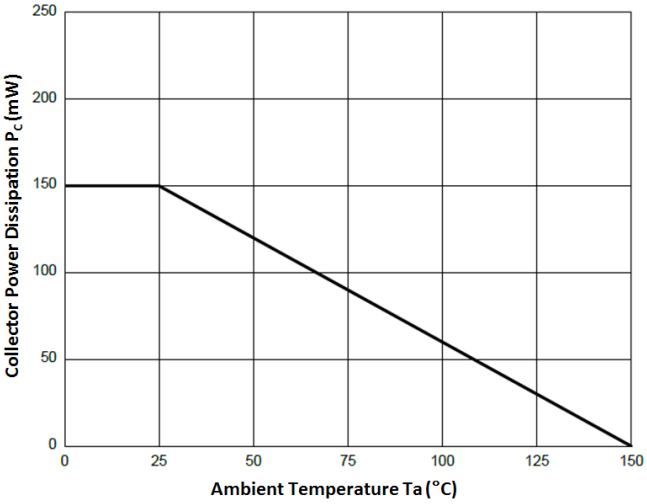
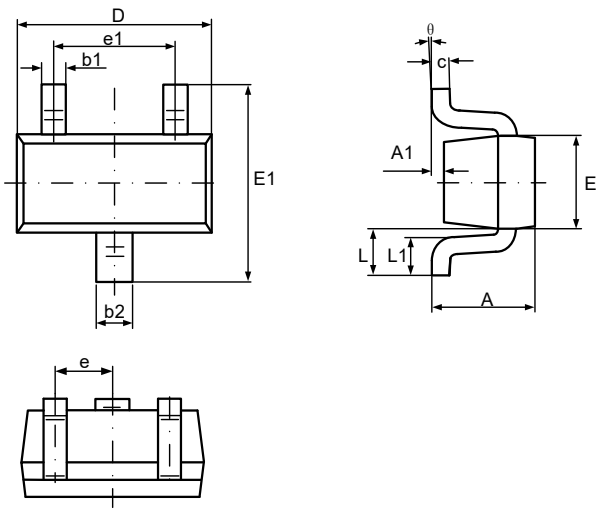


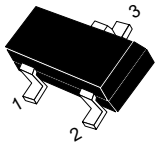
Figure 8. P_C vs. T_a



Outline Drawing – SOT-523

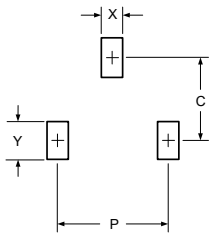
PACKAGE OUTLINE





SOT-523

SYMBOL	MILIMETER	
	MIN	MAX
A	0.65	0.90
A1	0.00	0.10
b1	0.10	0.30
b2	0.20	0.40
c	0.10	0.20
D	1.45	1.70
E	0.60	0.90
E1	1.45	1.85
e1	0.90	1.10
e	0.45	0.55
L	0.30	0.50
L1	0.20	0.46
θ	0°	8°

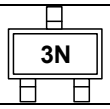


DIM	MILLIMETERS
C	1.30
P	1.00
X	0.50
Y	0.60

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	WT3906T
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**
For additional information, please contact your local Sales Representative.

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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.