



WT3906T

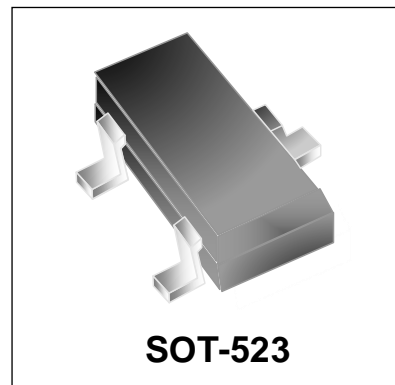
PNP Silicon Transistor

Features

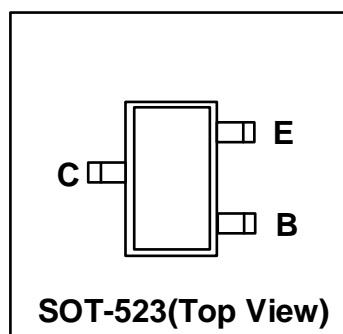
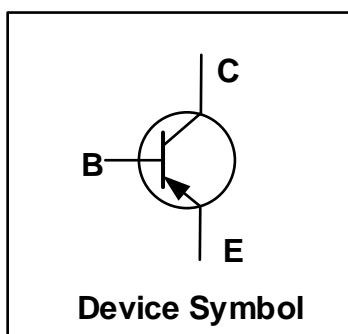
- Epitaxial Planar Die Construction
- Complementary NPN Type Available (WT3904T)

Mechanical Characteristics

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



Schematic & PIN Configuration



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

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		-	-	225	ns
Fall time	t _f	I _{B1} = I _{B2} = -1mA	-	-	75	ns

Typical Characteristics

Figure 1. Static Characteristic

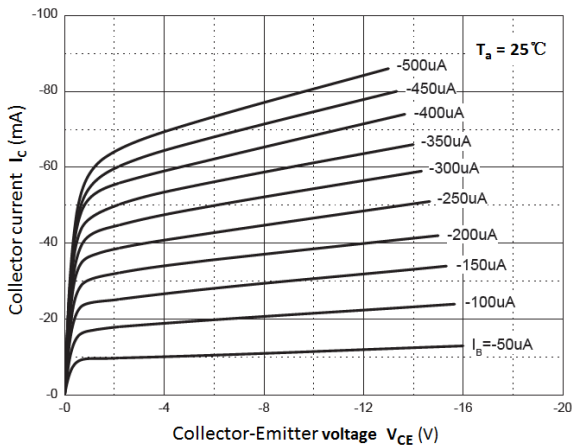


Figure 2. h_{FE} vs. I_C

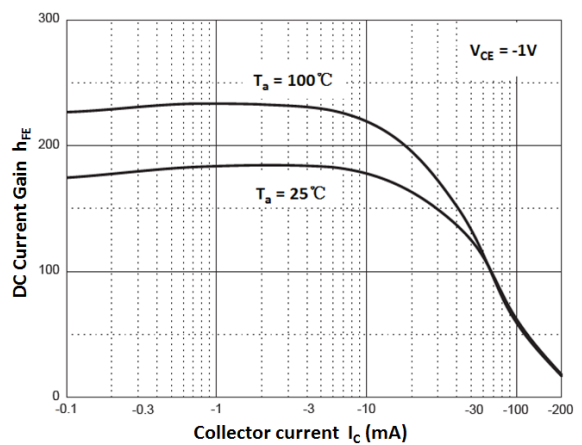


Figure 3. $V_{CE(sat)}$ vs. I_c

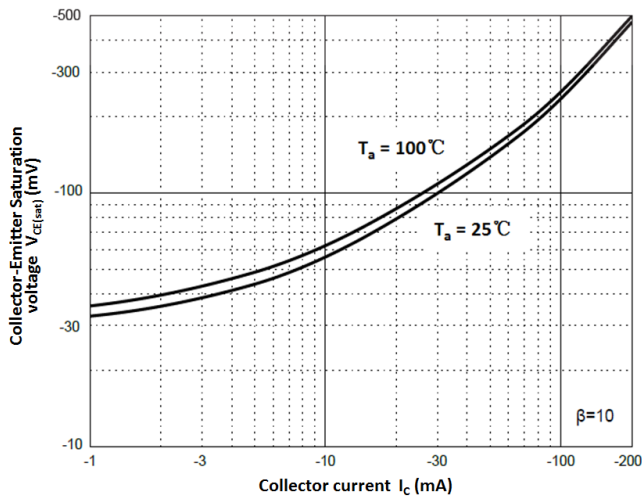


Figure 4. $V_{BE(sat)}$ vs. I_c

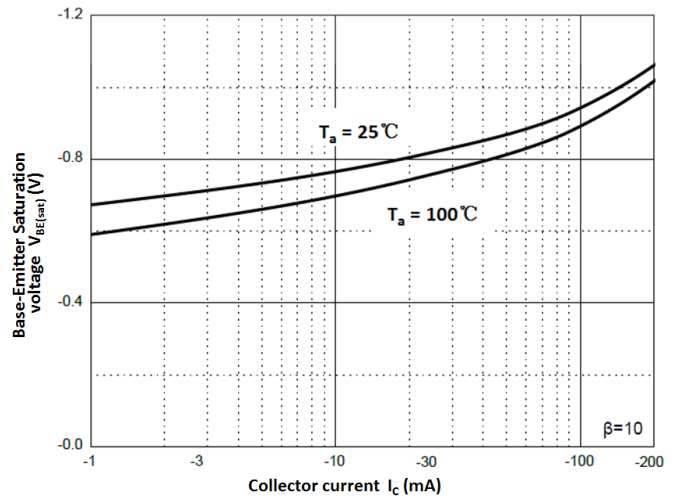


Figure 5. I_c vs. V_{BE}

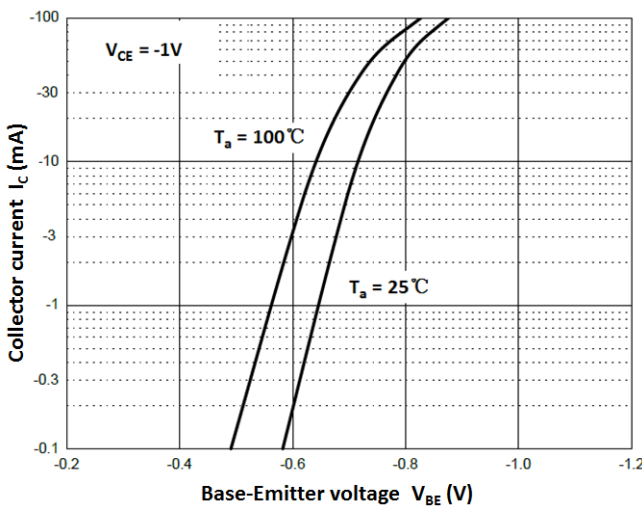


Figure 6. C_{ob} / C_{ib} vs. V_{CB} / V_{EB}

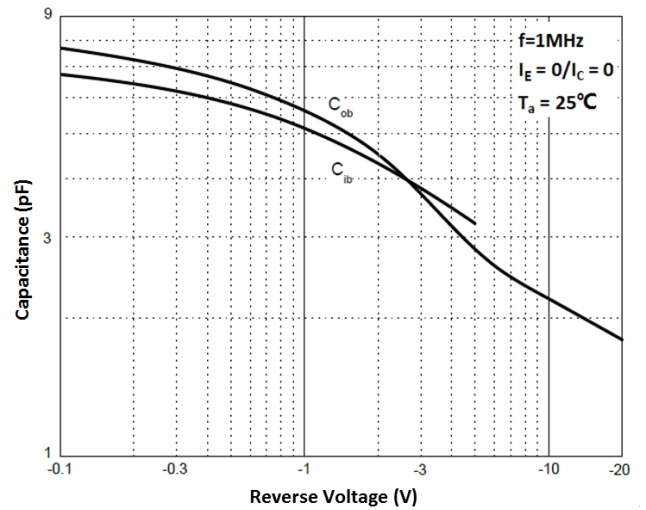


Figure 7. f_T vs. I_c

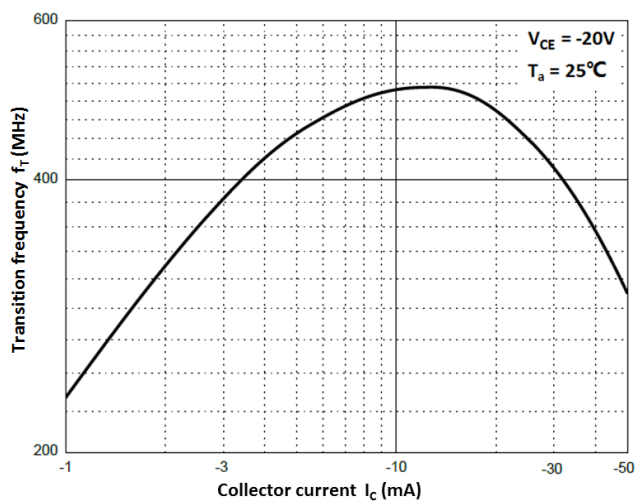
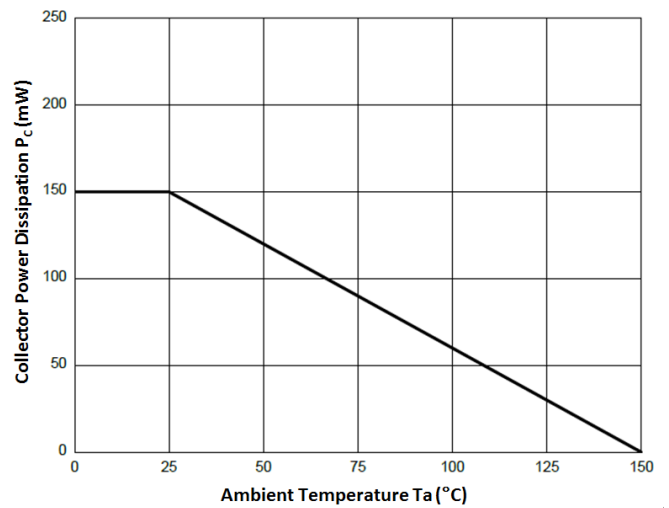


Figure 8. P_c vs. T_a



Outline Drawing – SOT-523

PACKAGE OUTLINE

SOT-523

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.325	0.010	0.013
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500TYP.		0.020TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400REF.		0.016REF.	
L1	0.26	0.46	0.01	0.018
theta	0	8°	0	8°

DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	.055	1.40
P	.039	1.00
P1	.020	0.400REF.50
G	.024	0.60
X	.016	0.40
Y	.031	0.80
Z	.087	2.20

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

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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.