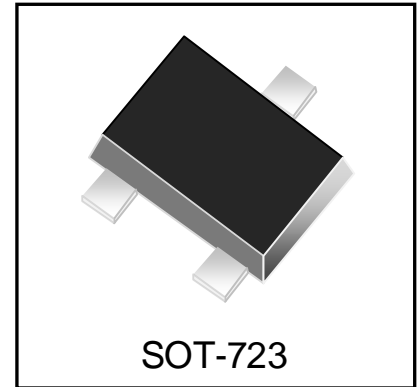


Features

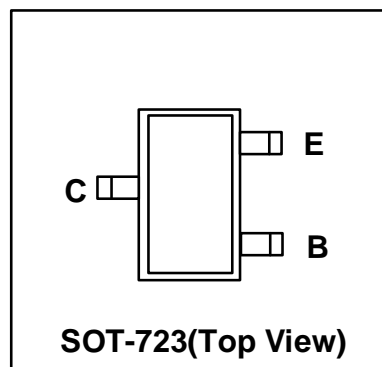
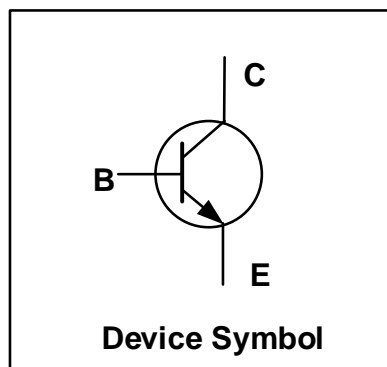
- Complementary to WT3906H
- Epitaxial Planar Die Construction
- Ideal for Low Power Amplification and Switching

Mechanical Characteristics

- SOT-723 Package
- Marking : Making Code
- RoHS Compliant



Schematic & PIN Configuration



Absolute Maximum Rating ($T_{amb}=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	60	V
Collector Emitter Voltage	V_{CEO}	40	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current Continuous	I_C	0.2	A
Collector Power Dissipation	P_C	0.1	W
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 ~ 150	$^{\circ}\text{C}$

Electrical Characteristics ($T_{amb}=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	40	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	6	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 30\text{V}, I_E = 0$	-	-	100	nA
Collector Cut-off Current	I_{CEX}	$V_{CE} = 30\text{V}, V_{BE(off)} = 3\text{V}$	-	-	50	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$	-	-	100	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 1\text{V}, I_C = 0.1\text{mA}$	40	-	-	-
	$h_{FE(2)}$	$V_{CE} = 1\text{V}, I_C = 1\text{mA}$	70	-	-	-
	$h_{FE(3)}$	$V_{CE} = 1\text{V}, I_C = 10\text{mA}$	100	-	300	-
	$h_{FE(4)}$	$V_{CE} = 1\text{V}, I_C = 50\text{mA}$	60	-	-	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}, I_B = 1\text{mA}$	-	-	0.2	V
		$I_C = 50\text{mA}, I_B = 5\text{mA}$	-	-	0.3	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 10\text{mA}, I_B = 1\text{mA}$	0.65	-	0.85	V
		$I_C = 50\text{mA}, I_B = 5\text{mA}$	-	-	0.95	
Transition Frequency	f_T	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	300	-	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 5\text{V}, I_E = 0, f=1\text{MHz}$	-	3	-	pF
Collector Input Capacitance	C_{ib}	$V_{EB} = 0.5\text{V}, I_C = 0, f=1\text{MHz}$	-	7	-	pF
Delay Time	t_d	$V_{CC} = 3\text{V}, V_{BE(off)} = -0.5\text{V}, I_C = 10\text{mA}, I_{B1}=1\text{mA}$	-	31	-	ns
Rise Time	t_r		-	31	-	ns
Storage Time	t_s	$V_{CC} = 3\text{V}, I_C = 10\text{mA}, I_{B1}=I_{B2}=1\text{mA}$	-	180	-	ns
Fall Time	t_f		-	45	-	ns

Typical Characteristics

Figure 1. Static Characteristic

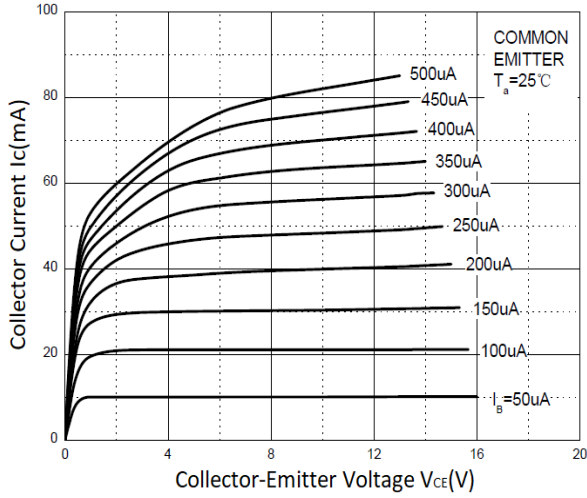


Figure 2. h_{fe} vs. I_c

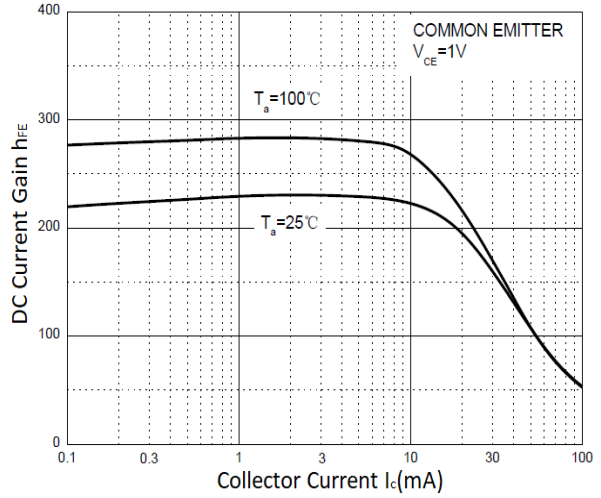


Figure 3. V_{CEsat} vs. I_c

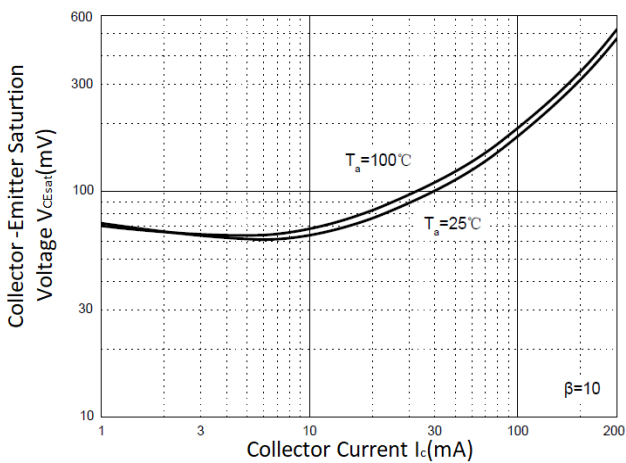


Figure 4. V_{BEsat} vs. I_c

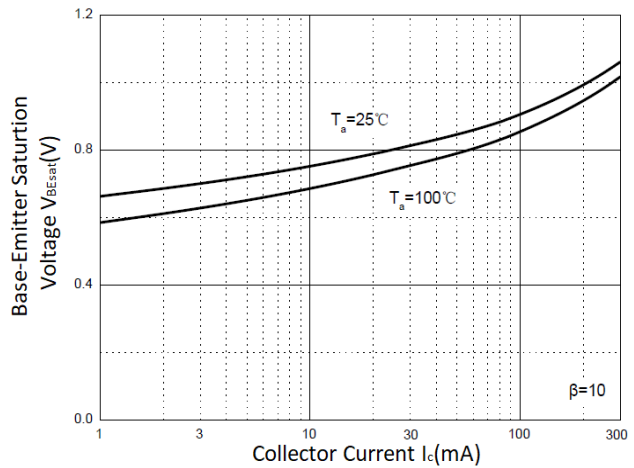


Figure 5. I_c vs. V_{BE}

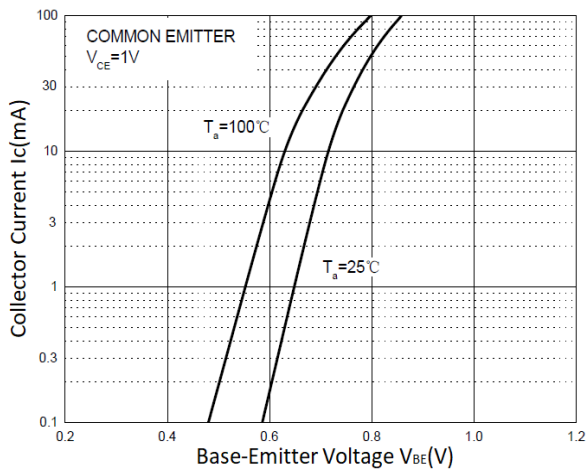


Figure 6. C_{ob} / C_{ib} vs. V_{CB} / V_{EB}

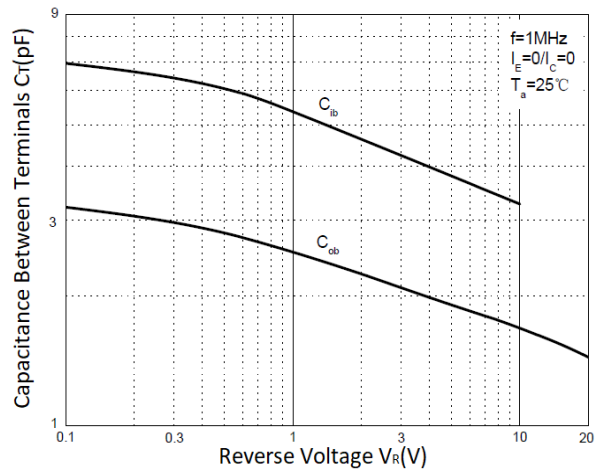


Figure 7. f_T vs. I_C

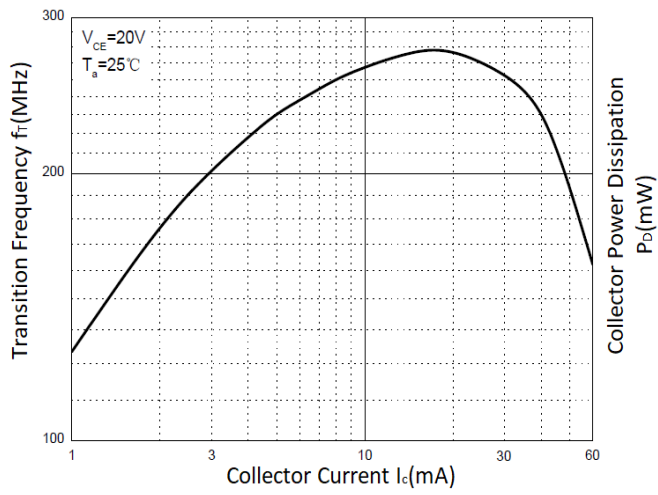
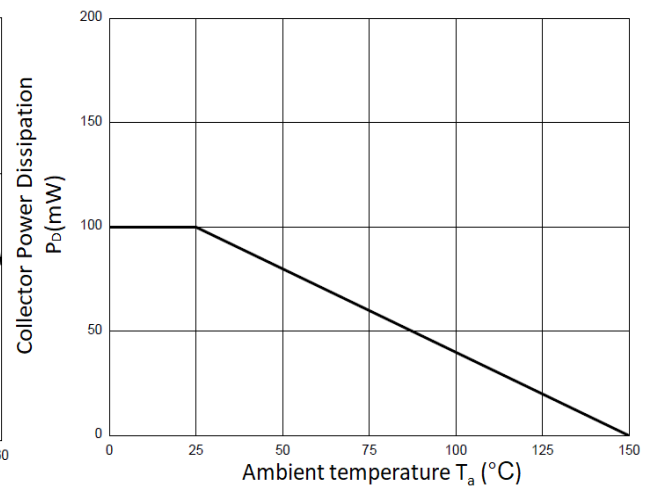


Figure 8. P_D vs. T_a



Outline Drawing – SOT-723

PACKAGE OUTLINE

SOT-723

DIMENSIONS				
SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.450	0.550	0.018	0.022
b	0.150	0.270	0.0059	0.0106
b1	0.250	0.370	0.010	0.015
L	0.150	0.250	0.006	0.010
C	0.070	0.170	0.0028	0.0067
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.400BSC		0.016 BSC	
θ	7°	11°	7°	11°

DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	0.0157	0.40
M	0.039	1.0
e	0.0157	0.40
e1	0.0314	0.80
b	0.0157	0.40

Notes

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Millimeters.

Marking Codes

Part Number	WT3904H
Marking Code	

Package Information

Qty: 8k/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.