

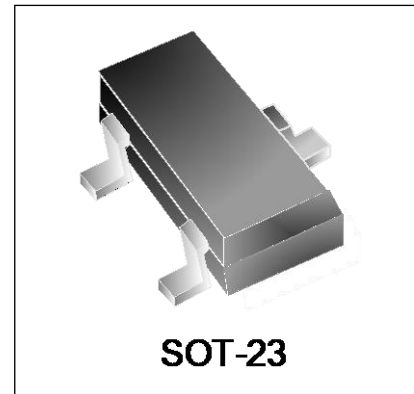
NPN Silicon Transistor

Features

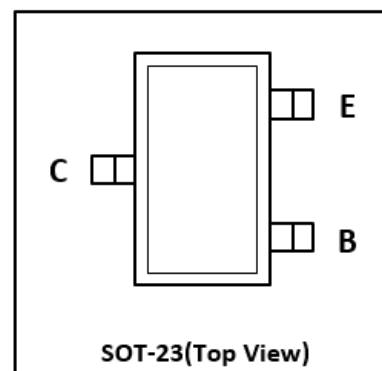
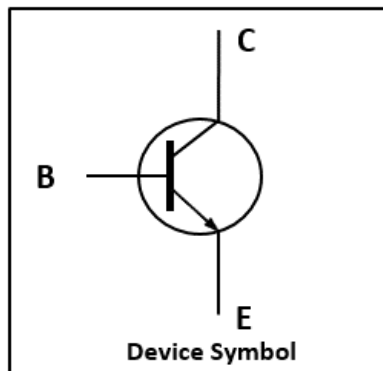
- Silicon NPN Transistors

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}	80	V
Collector Emitter Voltage	V_{CEO}	60	V
Emitter Base Voltage	V_{EBO}	7.0	V
Collector Current	I_C	1.0	A
Collector Power Dissipation	P_C	500	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 ~ 150	°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	250	°C/W

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}$, $I_E = 0$	80	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}$, $I_B = 0$	60	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}$, $I_C = 0$	7	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 60\text{V}$, $I_E = 0$	-	-	100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5\text{V}$, $I_C = 0$	-	-	100	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5\text{V}$, $I_C = 1\text{mA}$	100	-	-	
	$h_{FE(2)}$	$V_{CE} = 5\text{V}$, $I_C = 500\text{mA}$	100	-	300	
	$h_{FE(3)}$	$V_{CE} = 5\text{V}$, $I_C = 1\text{A}$	80	-	-	
	$h_{FE(4)}$	$V_{CE} = 5\text{V}$, $I_C = 2\text{A}$	30	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}$, $I_B = 50\text{mA}$	-	-	0.20	V
		$I_C = 1\text{A}$, $I_B = 100\text{mA}$	-	-	0.30	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 1\text{A}$, $I_B = 100\text{mA}$	-	-	1.10	V
Base-Emitter Turn-On Voltage	$V_{BE(on)}$	$V_{CE} = 5\text{V}$, $I_C = 1\text{A}$	-	-	1.00	V
Transition Frequency	f_T	$V_{CE} = 10\text{V}$, $I_C = 50\text{mA}$, $f = 100\text{MHz}$	150	-	-	MHz
Output Capacitance	C_{obo}	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$	-	-	10	pF

Typical Characteristics

Figure 1. Static Characteristics

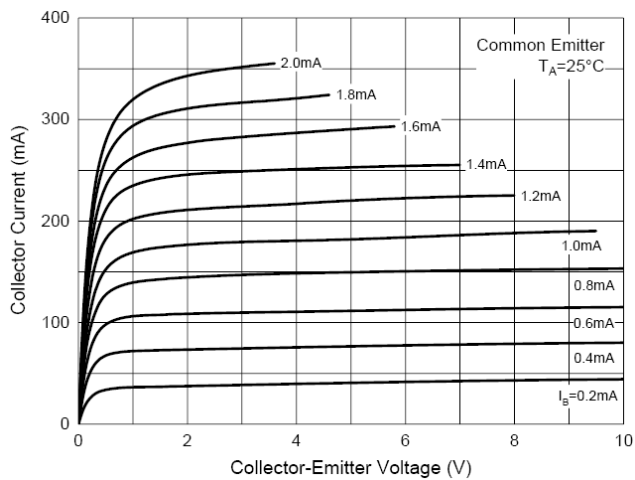
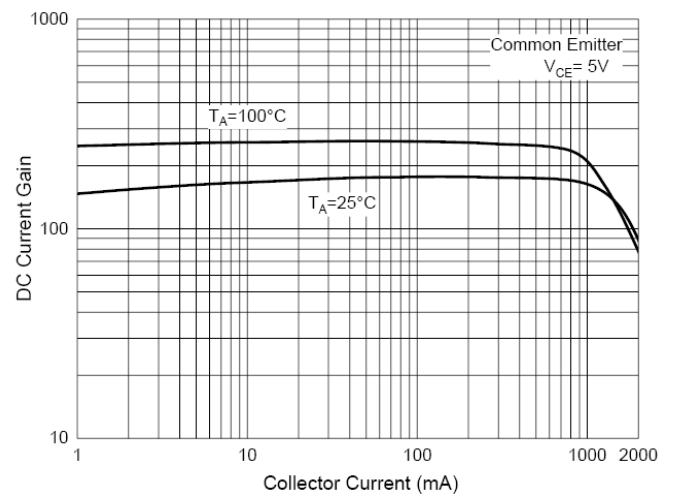
Figure 2. h_{FE} vs. I_C 

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

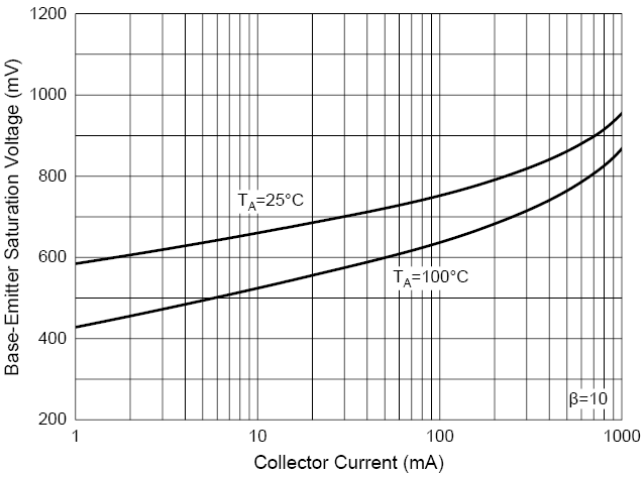


Figure 4. $V_{CE(sat)}$ vs. I_C

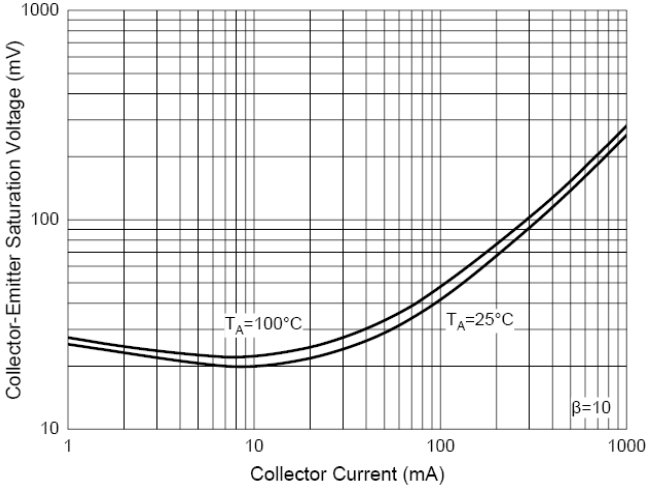


Figure 5. I_C vs. V_{BE}

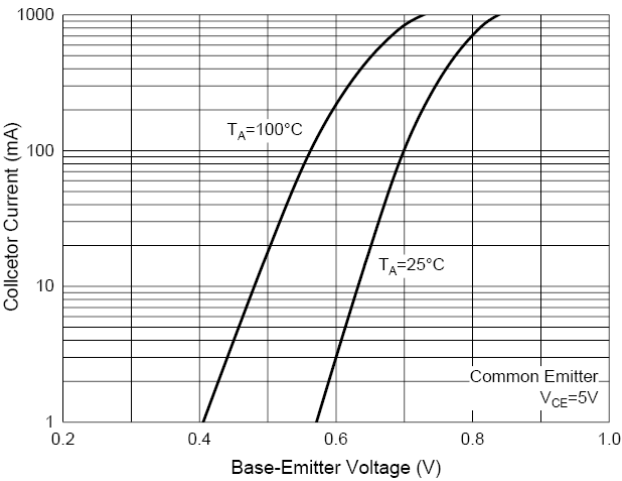
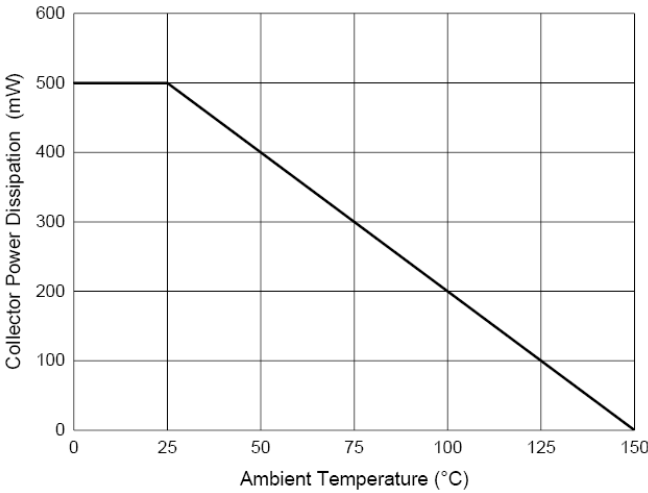
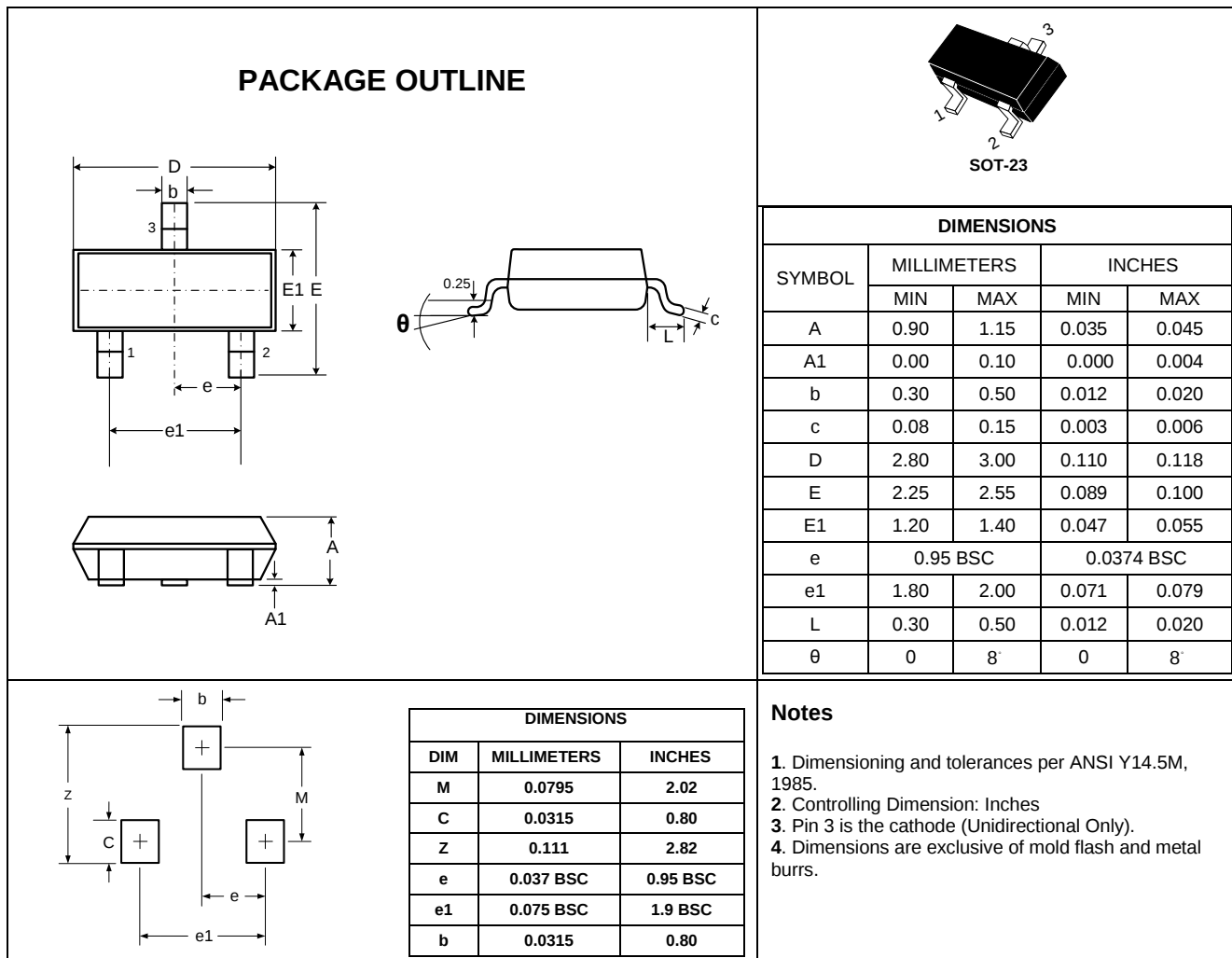


Figure 6. P_C vs. T_a



Outline Drawing – SOT-23



Marking Codes

Part Number	WT491
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.