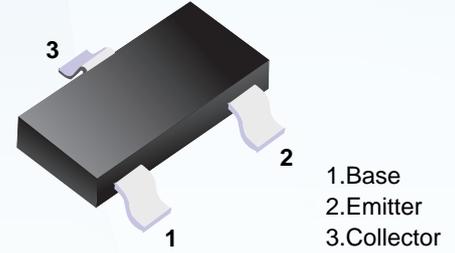


## PNP Transistors



■ Simplified outline(SOT-23)

### ■ Features

- Collector Current Capability  $I_c = -0.5A$
- Collector Emitter Voltage  $V_{CE0} = -80V$

### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	-80	V
Collector - Emitter Voltage	$V_{CE0}$	-80	
Emitter - Base Voltage	$V_{EB0}$	-4	
Collector Current - Continuous	$I_c$	-0.5	A
Collector Power Dissipation	$P_c$	225	mW
Derate Above $25^\circ C$		1.8	mW/ $^\circ C$
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	556	$^\circ C/W$
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature range	$T_{stg}$	-55 to 150	

### ■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CB0}$	$I_c = -100 \mu A, I_E = 0$	-80			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_c = -1 mA, I_B = 0$	-80			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E = -100 \mu A, I_c = 0$	-4			
Collector-base cut-off current	$I_{CB0}$	$V_{CB} = -80 V, I_E = 0$			-0.1	$\mu A$
Collector cut-off current	$I_{CES}$	$V_{CE} = -60 V, I_E = 0$			-0.1	
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4V, I_c = 0$			-0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = -100 mA, I_B = -10mA$			-0.25	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = -100 mA, I_B = -10mA$			-1.2	
Base - emitter on voltage	$V_{BE(on)}$	$V_{CE} = -1V, I_c = -100mA$			-1.2	
DC current gain	$h_{FE}$	$V_{CE} = -1V, I_c = -10mA$	100			
		$V_{CE} = -1V, I_c = -100mA$	100			
Transition frequency	$f_T$	$V_{CE} = -1V, I_c = -100mA, f = 100MHz$	50			MHz

Note. Pulse Test: Pulse Width  $\leq 300 \mu s$ , Duty Cycle  $\leq 2.0\%$ .

■ Typical Characteristics

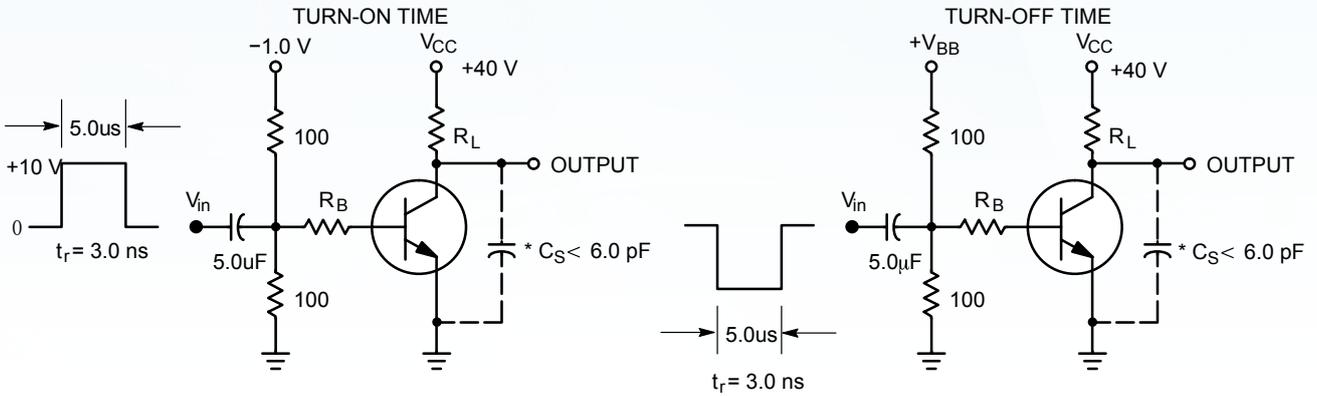


Figure 1. Switching Time Test Circuits

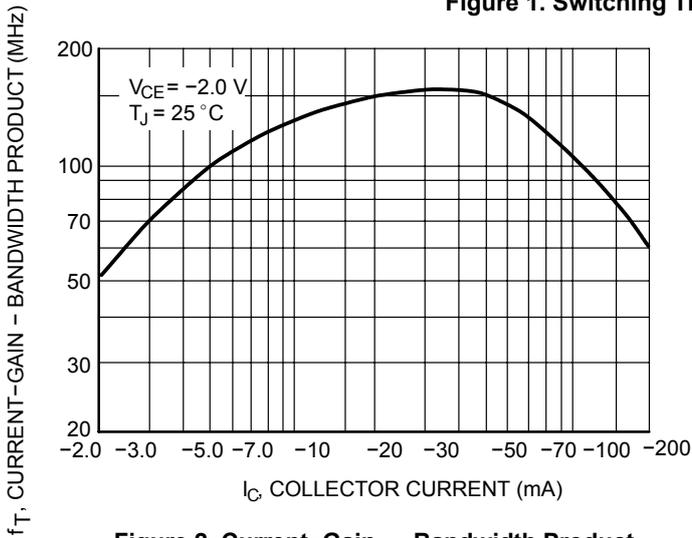


Figure 2. Current-Gain — Bandwidth Product

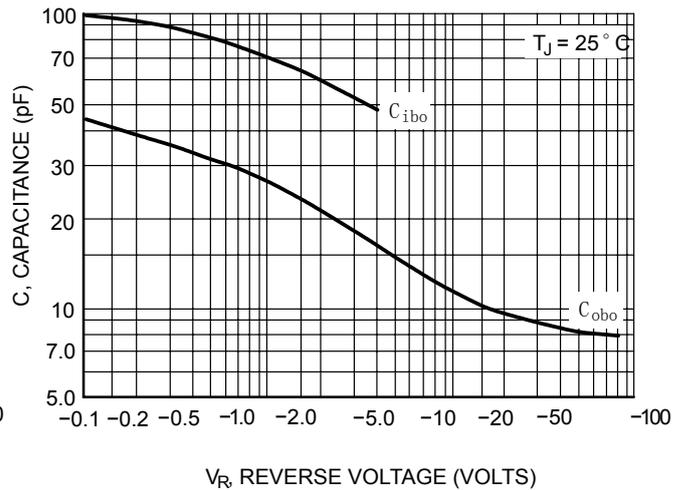


Figure 3. Capacitance

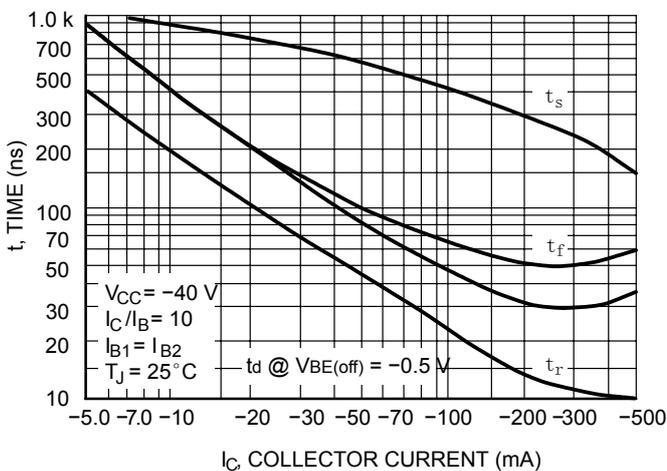


Figure 4. Switching Time

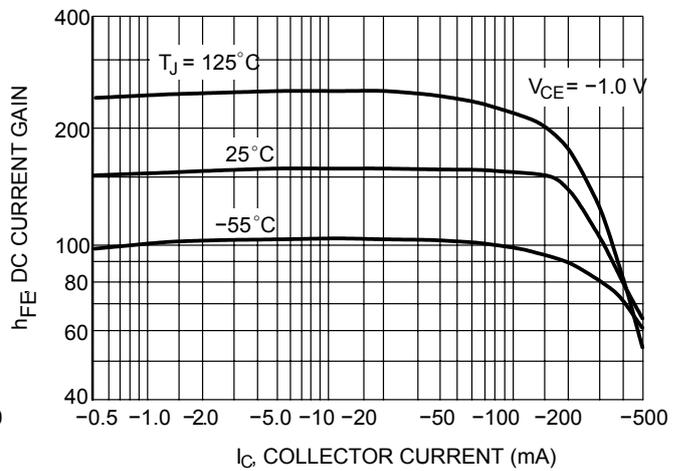


Figure 5. DC Current Gain

■ Typical Characteristics

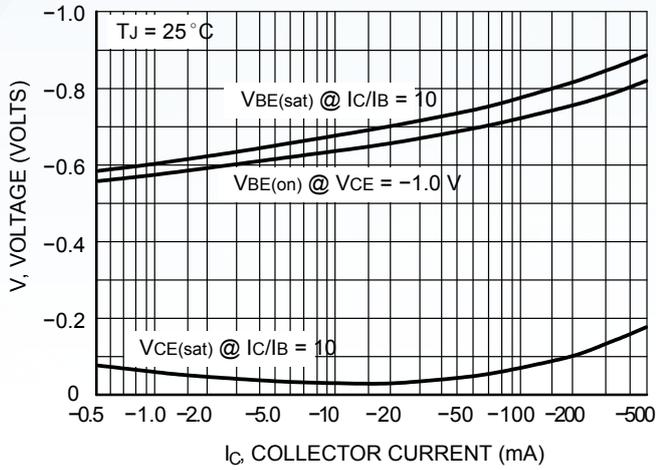


Figure 6. "ON" Voltages

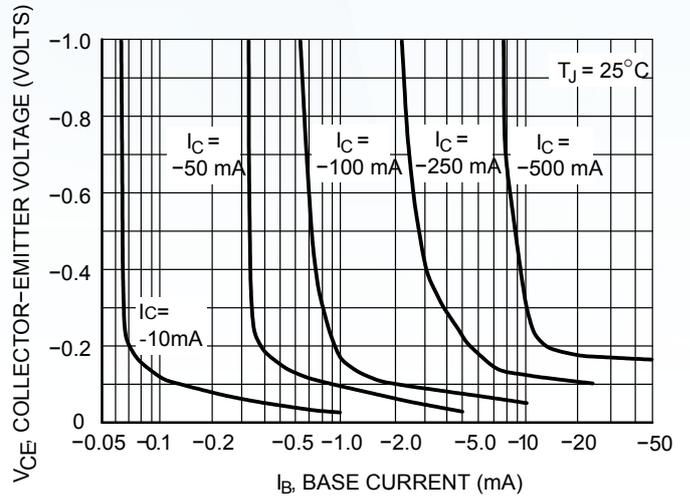


Figure 7. Collector Saturation Region

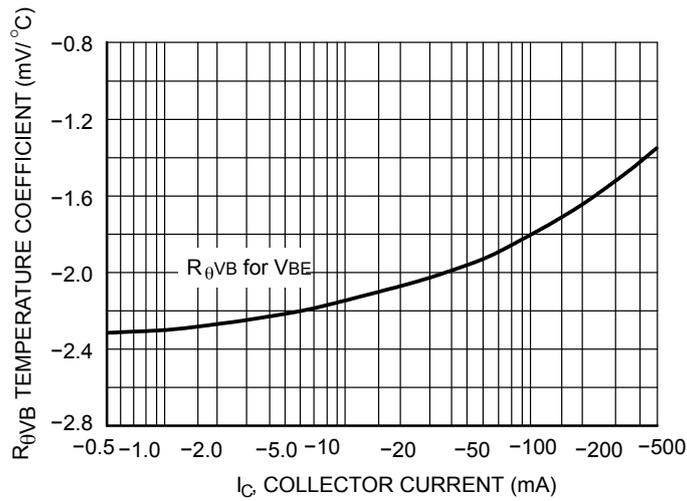
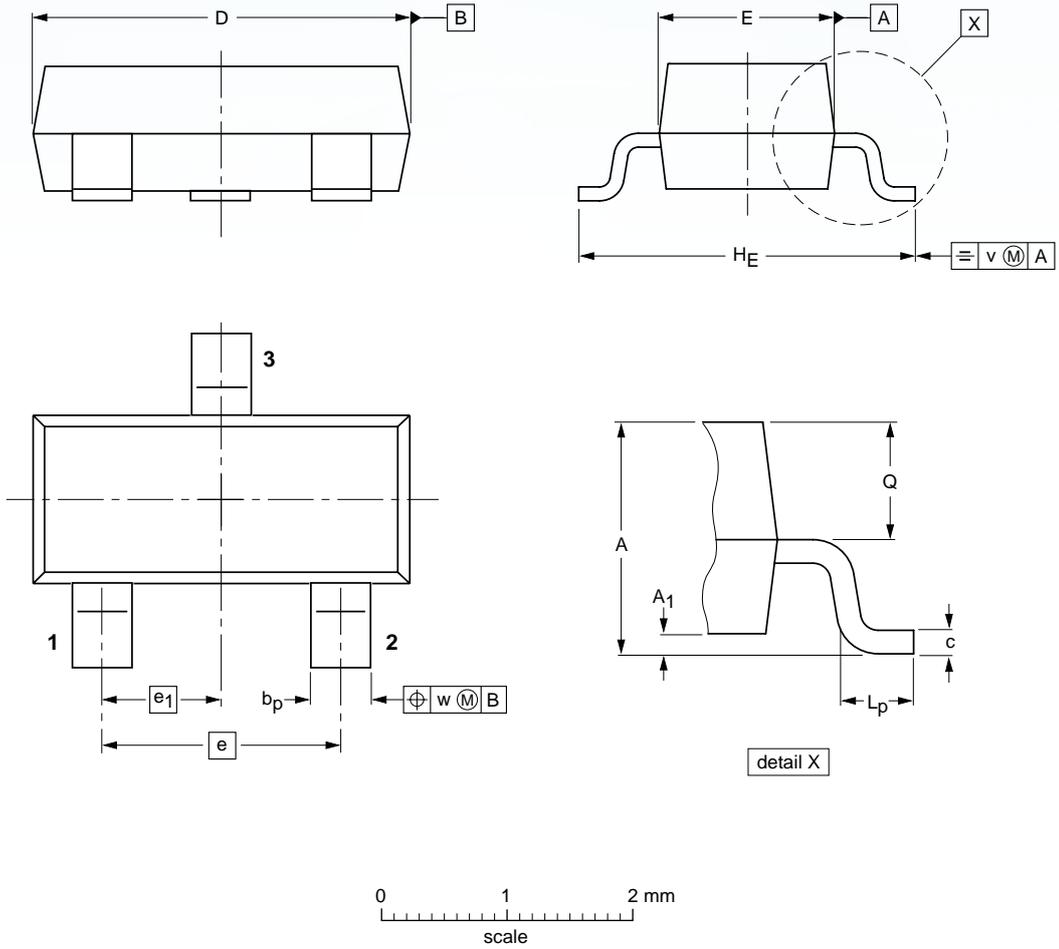


Figure 8. Base-Emitter Temperature Coefficient

■ SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

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