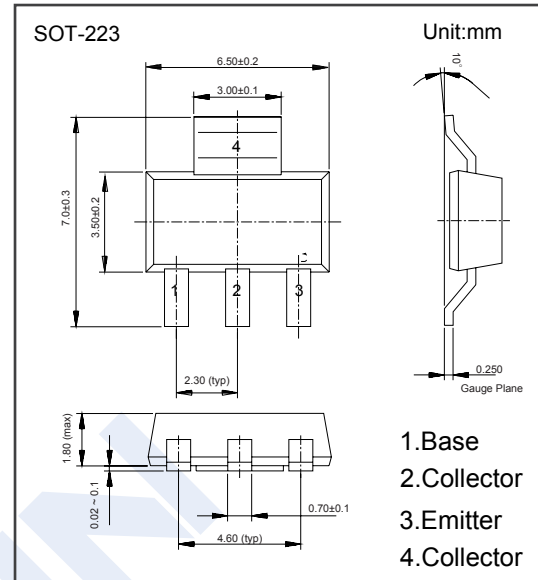


NPN Transistors

FZT851 (KZT851)

■ Features

- Collector Current Capability $I_c=6A$
- Collector Emitter Voltage $V_{CE0}=60V$
- Complementary to FZT951

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	150	V
Collector - Emitter Voltage	V_{CE0}	60	
Emitter - Base Voltage	V_{EB0}	6	
Collector Current - Continuous	I_c	6	A
Collector Current - Pulse	I_{cP}	20	
Collector Power Dissipation	P_c	3	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	

NPN Transistors

FZT851 (KZT851)

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

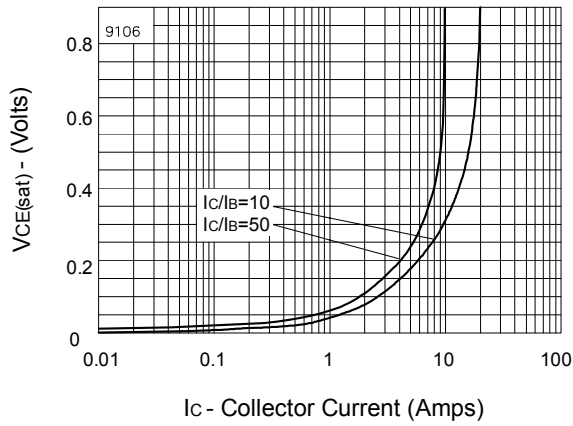
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_C = 100 \mu\text{A}$, $I_E = 0$	150			V
Collector-emitter breakdown voltage	V_{CER}	$I_C = 1\text{mA}$, $R_B \leq 1\text{k}\Omega$	150			
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 10 \text{mA}$, $I_B = 0$	60			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100 \mu\text{A}$, $I_C = 0$	6			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 120 \text{V}$, $I_E = 0$			0.1	uA
		$V_{CB} = 120 \text{V}$, $I_E = 0$, $T_a = 100^\circ\text{C}$			1	
Collector- emitter cut-off current $R_B \leq 1\text{k}\Omega$	I_{CER}	$V_{CB} = 120 \text{V}$, $I_E = 0$			0.1	
		$V_{CB} = 120 \text{V}$, $I_E = 0$, $T_a = 100^\circ\text{C}$			1	
Emitter cut-off current	I_{EBO}	$V_{EB} = 6\text{V}$, $I_C = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 0.1 \text{A}$, $I_B = 5\text{mA}$ (Note.1)			50	mV
		$I_C = 1 \text{A}$, $I_B = 50\text{mA}$ (Note.1)			100	
		$I_C = 2 \text{A}$, $I_B = 50\text{mA}$ (Note.1)			170	
		$I_C = 6 \text{A}$, $I_B = 300\text{mA}$ (Note.1)			375	
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 6 \text{A}$, $I_B = 300\text{mA}$ (Note.1)			1.2	V
Base-Emitter Turn On Voltage	$V_{BE(on)}$	$V_{CE} = 6\text{V}$, $I_C = 1\text{A}$ (Note.1)			1.15	
DC current gain (Note.1)	$h_{FE(1)}$	$V_{CE} = 1\text{V}$, $I_C = 10\text{mA}$	100		300	
	$h_{FE(2)}$	$V_{CE} = 1\text{V}$, $I_C = 2\text{A}$	100		300	
	$h_{FE(3)}$	$V_{CE} = 1\text{V}$, $I_C = 5\text{A}$	75			
	$h_{FE(4)}$	$V_{CE} = 1\text{V}$, $I_C = 10\text{A}$	25			
Switching Times	t_{on}	$I_C = 1\text{A}$, $I_{B1} = 100\text{mA}$		45		ns
	t_{off}	$I_{B2} = 100\text{mA}$, $V_{CC} = 10\text{V}$		1100		
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{V}$, $f = 1\text{MHz}$		45		pF
Transition frequency	f_T	$V_{CE} = 10\text{V}$, $I_C = 100\text{mA}$, $f = 50\text{MHz}$		130		MHz

Note.1: Pulse width=300us. Duty cycle $\leq 2\%$

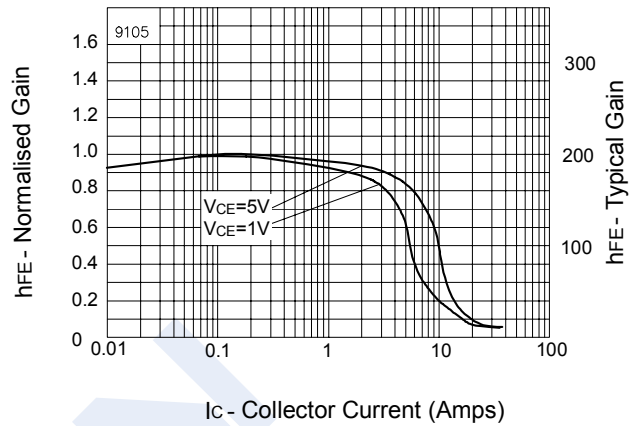
NPN Transistors

FZT851 (KZT851)

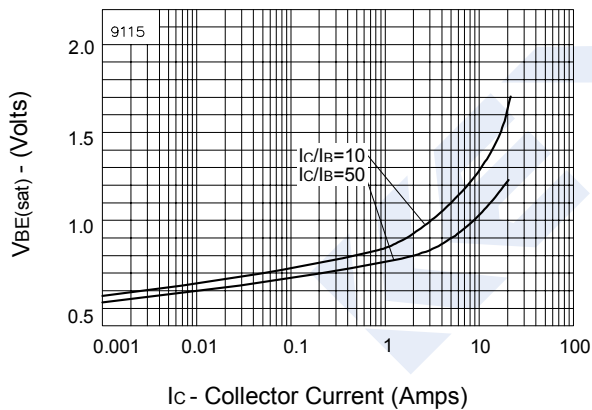
■ Typical Characteristics



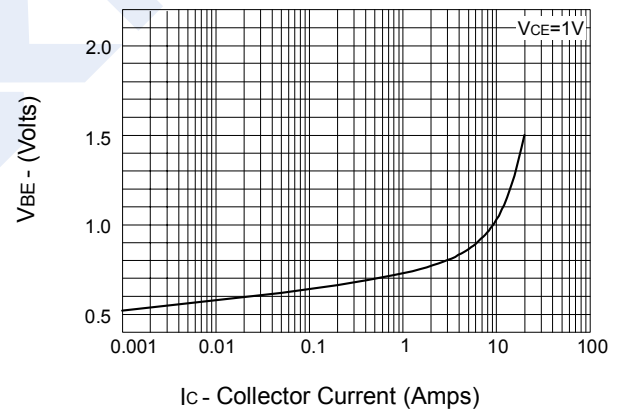
VCE(sat) v IC



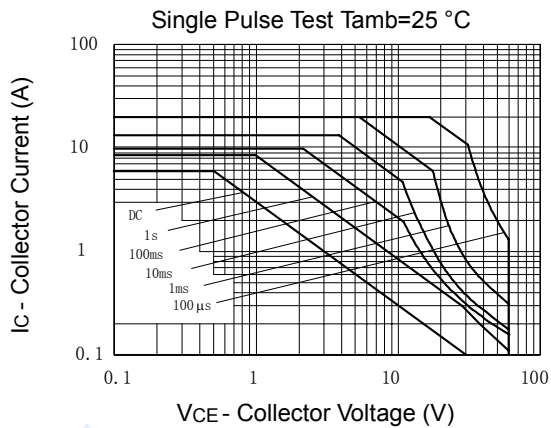
hFE v IC



VBE(sat) v IC



VBE(on) v IC



Safe Operating Area