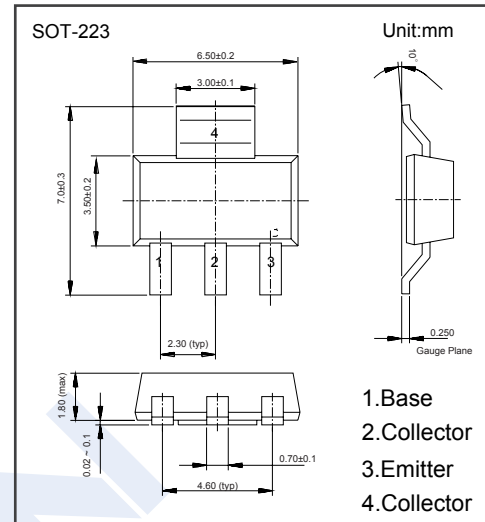


NPN Transistors

FZT1049A (KZT1049A)

■ Features

- Collector Current Capability $I_C=5A$
- Collector Emitter Voltage $V_{CE0}=30V$
- Low Saturation Voltage



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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	80	V
Collector - Emitter Voltage	V_{CEO}	30	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	5	A
Collector Current - Pulse	I_{CP}	20	
Base Current	I_B	500	mA
Collector Power Dissipation	P_C	2.5	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	

NPN Transistors

FZT1049A (KZT1049A)

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

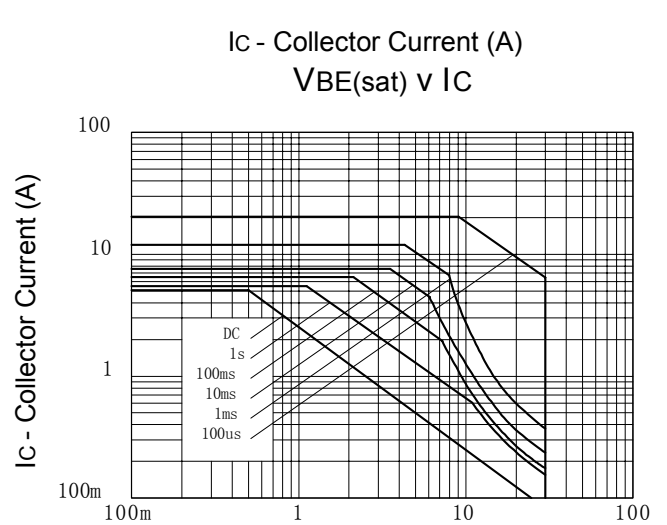
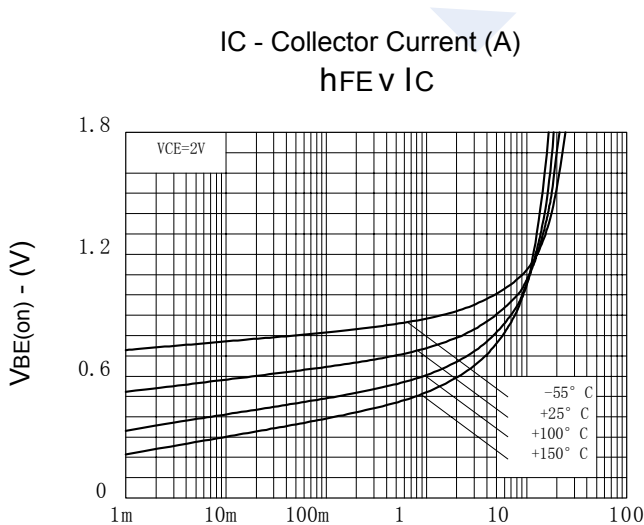
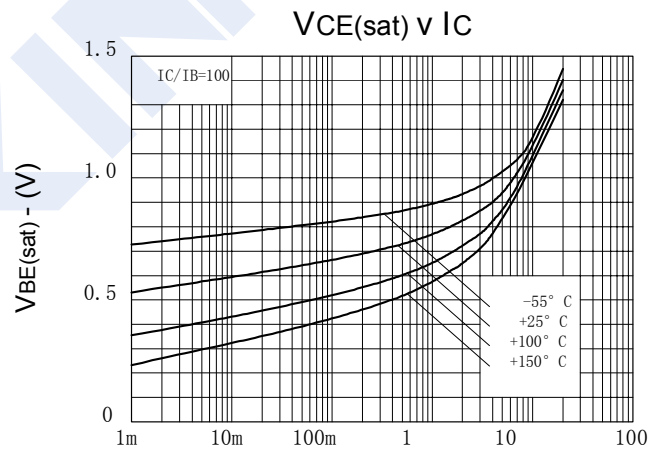
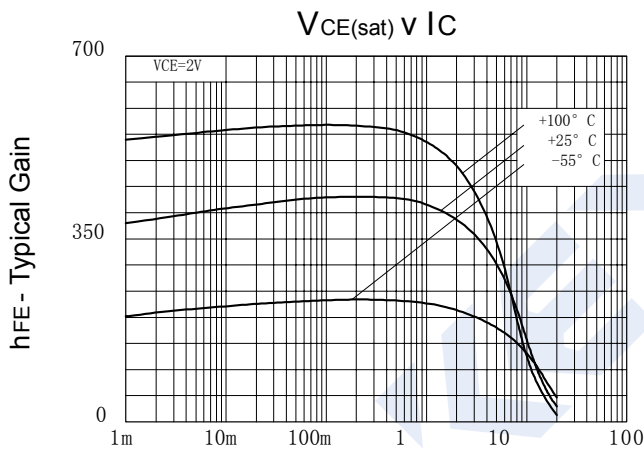
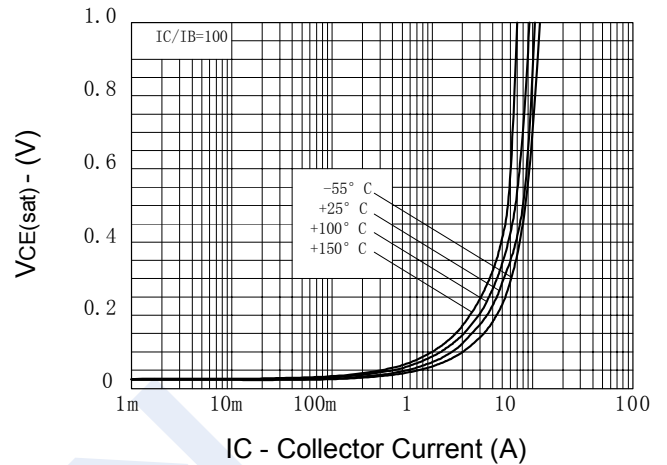
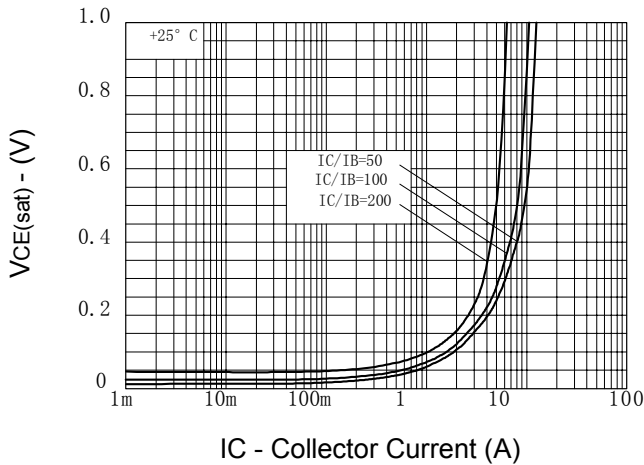
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_C = 100 \mu\text{A}, I_E = 0$	80			V
Collector- emitter breakdown voltage	V_{CES}	$I_C = 100 \mu\text{A}, I_B = 0$	80			
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 10 \text{ mA}, I_B = 0$	30			
Collector- emitter breakdown voltage	V_{CEV}	$I_C = 100 \mu\text{A}, V_{EB} = 1\text{V}$	80			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100 \mu\text{A}, I_C = 0$	5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 80 \text{ V}, I_E = 0$			100	nA
Collector-emitter cut-off current	I_{CES}	$V_{CE} = 35 \text{ V}, I_B = 0$			100	
Emitter cut-off current	I_{EBO}	$V_{EB} = 5 \text{ V}, I_C = 0$			100	
Collector-emitter saturation voltage (Note.1)	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 10\text{mA}$			60	mV
		$I_C = 1 \text{ A}, I_B = 10\text{mA}$			100	
		$I_C = 3 \text{ A}, I_B = 30\text{mA}$			250	
		$I_C = 5 \text{ A}, I_B = 50\text{mA}$			330	
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 5 \text{ A}, I_B = 50\text{mA}$ (Note.1)			1.05	V
Base - emitter turn-on voltage	$V_{BE(on)}$	$V_{CE} = 2\text{V}, I_C = 5 \text{ A}$ (Note.1)			1	
DC current gain (Note.1)	$h_{FE(1)}$	$V_{CE} = 2\text{V}, I_C = 10\text{mA}$	280			
	$h_{FE(2)}$	$V_{CE} = 2\text{V}, I_C = 500\text{mA}$	300			
	$h_{FE(3)}$	$V_{CE} = 2\text{V}, I_C = 1 \text{ A}$	300		1200	
	$h_{FE(4)}$	$V_{CE} = 2\text{V}, I_C = 5 \text{ A}$	180			
	$h_{FE(5)}$	$V_{CE} = 2\text{V}, I_C = 20 \text{ A}$	40			
Switching Times	t_{on}	$I_C = 4\text{A}, V_{CC} = 10\text{V}, I_B = 40\text{mA}$		125		ns
	t_{off}			380		
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{V}, f = 1\text{MHz}$			60	pF
Transition frequency	f_T	$V_{CE} = 10\text{V}, I_C = 50\text{mA}, f = 100\text{MHz}$		180		MHz

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

NPN Transistors

FZT1049A (KZT1049A)

■ Typical Characteristics



I_C - Collector Current (A)
 $V_{BE(on)}$ v I_C

V_{CE} - Collector Emitter Voltage (V)
Safe Operating Area