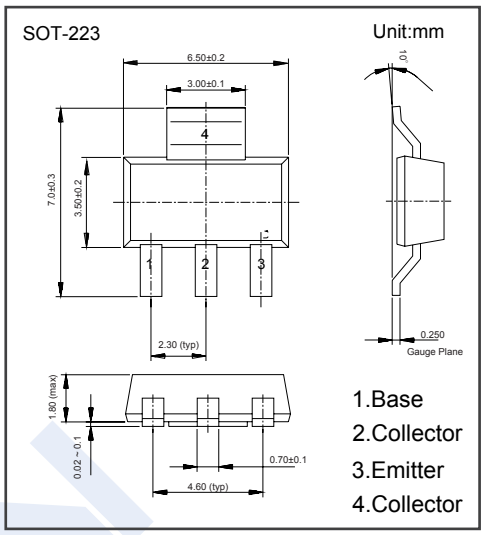
NPN Transistors

FZT849 (KZT849)



■ Features

- Collector Current Capability I_C=7A
- Collector Emitter Voltage V_{CEO}=30V
- Very low saturation voltages
- Complementary to FZT949

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	80	V
Collector - Emitter Voltage	V_{CEO}	30	
Emitter - Base Voltage	V_{EBO}	6	
Collector Current - Continuous	I_C	7	A
Collector Current - Pulse	I_{CP}	20	
Collector Power Dissipation	P_C	3	W
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100 μA, I_E= 0	80			V
Collector- emitter breakdown voltage	V_{CER}	I_C= 1 uA, $R_B \leqslant$ 1KΩ	80			
Collector- emitter breakdown voltage	V_{CEO}	I_C= 10 mA, I_B= 0	30			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μ A, I_C= 0	6			
Collector-base cut-off current	I_{CBO}	V_{CB}= 70 V , I_E= 0			0.05	nA
		V_{CB}= 70 V , I_E= 0 , Ta = 100℃			1	uA
Collector-emitter cut-off current (R ⩽ 1KΩ)	I_{CER}	V_{CB}= 70 V , I_E= 0			50	nA
		V_{CB}= 70 V , I_E= 0 , Ta = 100℃			1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 6V , I_C=0			10	nA
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA, I_B=20mA (Note.1)			50	mV
		I_C=1 A, I_B=20mA (Note.1)			110	
		I_C=2 A, I_B=20mA (Note.1)			214	
		I_C=6.5 A, I_B=300mA (Note.1)			350	
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=6.5 A, I_B=300mA (Note.1)			1.2	V
Base - emitter turn-on voltage	$V_{BE(on)}$	V_{CE}= 1V, I_C= 6.5A (Note.1)			1.13	
DC current gain (Note.1)	$h_{FE(1)}$	V_{CE}= 1V, I_C= 10mA	100			
	$h_{FE(2)}$	V_{CE}= 1V, I_C= 1 A	100		300	
	$h_{FE(3)}$	V_{CE}= 1V, I_C= 7 A	100			
	$h_{FE(4)}$	V_{CE}= 2V, I_C= 20 A	30			
Switching Times	t_{on}	I_C=1 A, V_{CC}=10V I_{B1}=100mA, I_{B2}=100mA		45		ns
	t_{off}			630		
Collector output capacitance	C_{ob}	V_{CB}= 10V, f=1MHz (Note.1)		75		pF
Transition frequency	f_T	V_{CE}= 10V, I_C= 100mA,f=50MHz		100		MHz

Note.1:Pulse Width=300us. Duty cycle ⩽2%

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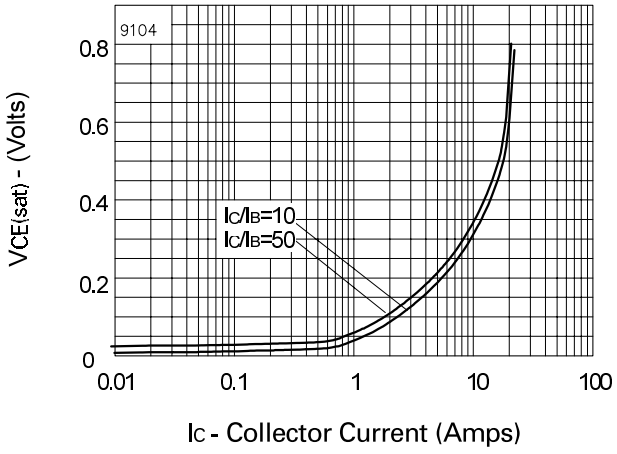
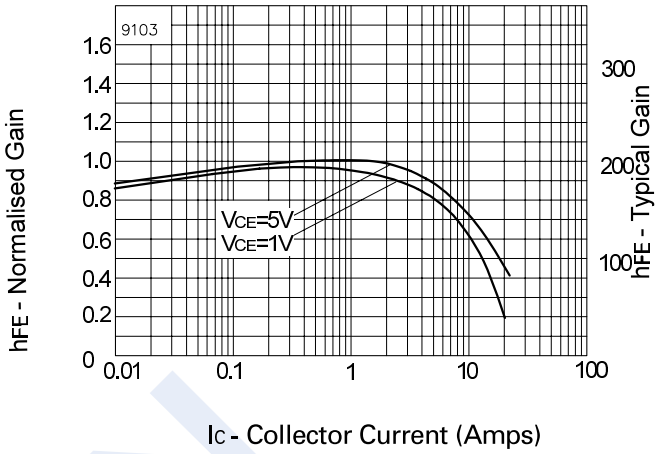
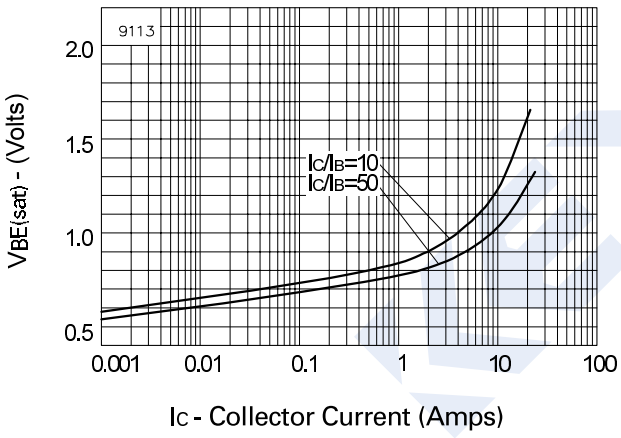
■ Typical Characterisitics



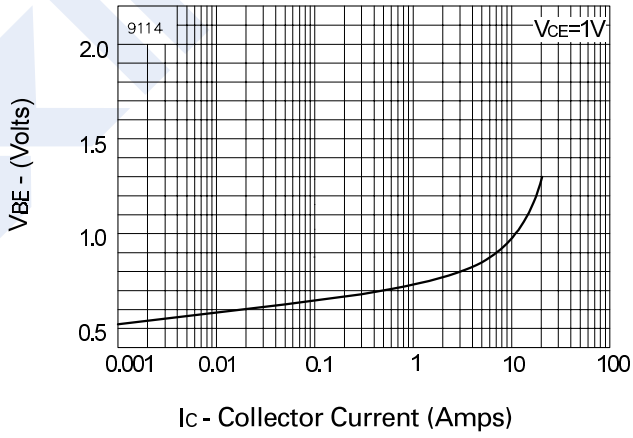
VCE(sat) v IC



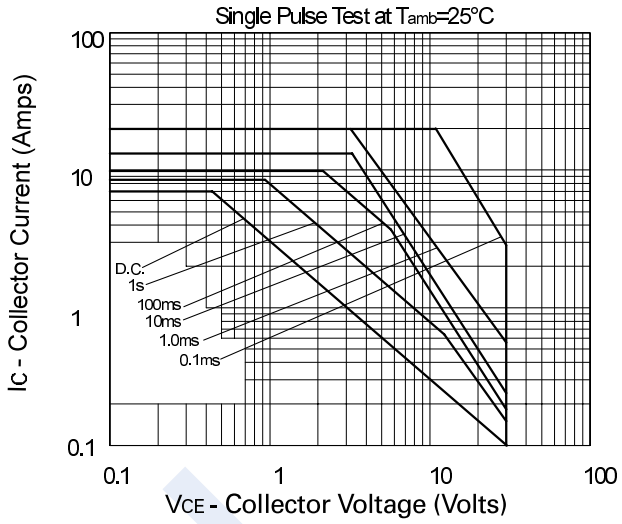
hFE v IC



VBE(sat) v IC



VBE(on) v IC



Safe Operating Area