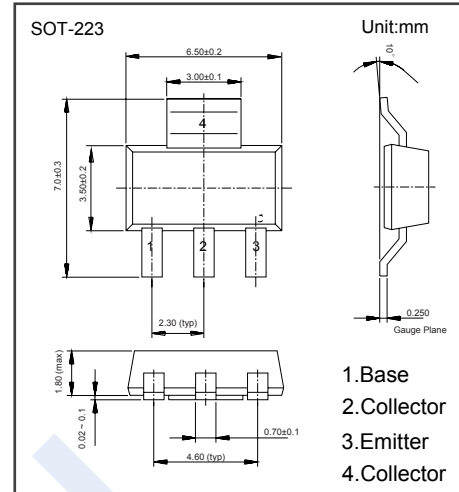


## NPN Transistors

## FZT489 (KZT489)

## ■ Features

- Collector Current Capability  $I_C=1A$
- Collector Emitter Voltage  $V_{CEO}=30V$
- Complementary to FZT589

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	50	V
Collector - Emitter Voltage	$V_{CE0}$	30	
Emitter - Base Voltage	$V_{EB0}$	5	
Collector Current - Continuous	$I_C$	1	A
Collector Current - Pulse	$I_{CP}$	4	
Base Current	$I_B$	200	mA
Collector Power Dissipation	$P_C$	2	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	$V_{CB0}$	$I_C = 100 \mu A, I_E = 0$	50			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_C = 10 mA, I_B = 0$	30			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E = 100 \mu A, I_C = 0$	5			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = 30 V, I_E = 0$			100	nA
Collector- emitter cut-off current	$I_{CES}$	$V_{CE} = 30 V$			100	
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 4 V, I_C = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1 A, I_B = 100 mA$ (Note.1) $I_C = 2 A, I_B = 200 mA$ (Note.1)			0.3 0.6	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 1 A, I_B = 100 mA$ (Note.1)			1.1	
Base-Emitter Turn On Voltage	$V_{BE(on)}$	$V_{CE} = 2 V, I_C = 1 A$ (Note.1)			1	
DC current gain (Note.1)	$h_{FE(1)}$	$V_{CE} = 2 V, I_C = 1 mA$	100			
	$h_{FE(2)}$	$V_{CE} = 2 V, I_C = 1 A$	100		300	
	$h_{FE(3)}$	$V_{CE} = 2 V, I_C = 2 A$	60			
	$h_{FE(4)}$	$V_{CE} = 2 V, I_C = 4 A$	20			
Collector output capacitance	$C_{ob}$	$V_{CB} = 10 V, f = 1 MHz$			10	pF
Transition frequency	$f_T$	$V_{CE} = 10 V, I_C = 50 mA, f = 100 MHz$	150			MHz

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