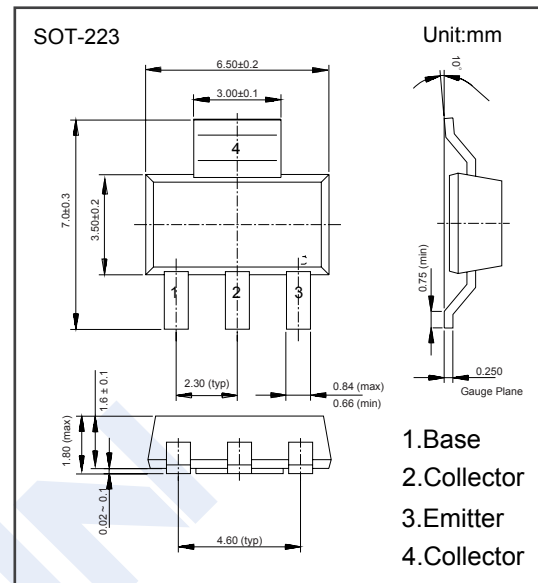
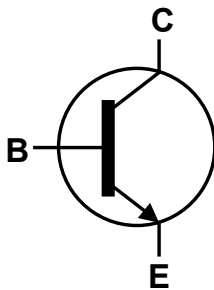


## NPN Transistors

## FZT692B (KZT692B)

## ■ Features

- Collector Current Capability  $I_C=2A$
- Collector Emitter Voltage  $V_{CE0}=70V$

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	70	V
Collector - Emitter Voltage	$V_{CE0}$	70	
Emitter - Base Voltage	$V_{EB0}$	7	
Collector Current - Continuous	$I_C$	2	A
Collector Current - Pulse	$I_{CP}$	5	
Collector Power Dissipation	$P_C$	2	W
(Note.2)		3	
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62.5	$^\circ\text{C/W}$
(Note.2)		41.7	
Thermal Resistance, Junction to Lead	$R_{\theta JL}$	12.9	
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to 150	

Note.1: For a device mounted with the collector lead on 25mm x 25mm 1oz copper that is on a single-sided 1.6mm FR4 PCB

Note.2: Same as note (1), except the device is mounted on 50mm x 50mm 2oz copper

## NPN Transistors

## FZT692B (KZT692B)

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V <sub>CBO</sub>	I <sub>c</sub> = 100 μA, I <sub>E</sub> = 0	70			V
Collector- emitter breakdown voltage	V <sub>CEO</sub>	I <sub>c</sub> = 10 mA, I <sub>B</sub> = 0	70			
Emitter - base breakdown voltage	V <sub>EBO</sub>	I <sub>E</sub> = 100 μA, I <sub>c</sub> = 0	7			
Collector-base cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 55 V, I <sub>E</sub> = 0			100	nA
Collector- emitter cut-off current	I <sub>CES</sub>	V <sub>CE</sub> = 55 V, I <sub>E</sub> = 0			100	
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 5.6V, I <sub>c</sub> =0			100	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =100 mA, I <sub>B</sub> =0.5mA			0.15	V
		I <sub>c</sub> =1 A, I <sub>B</sub> =10mA			0.5	
		I <sub>c</sub> =2 mA, I <sub>B</sub> =200mA			0.5	
Base - emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> =1 A, I <sub>B</sub> =10mA			0.9	
Base - emitter turn on voltage	V <sub>BE(on)</sub>	V <sub>CE</sub> = 2V, I <sub>c</sub> = 1 A			0.9	
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = 2V, I <sub>c</sub> = 100mA	500			
		V <sub>CE</sub> = 2V, I <sub>c</sub> = 500mA	400			
		V <sub>CE</sub> = 2V, I <sub>c</sub> = 1A	150			
Turn-on time	t <sub>on</sub>	V <sub>CC</sub> = 10V, I <sub>c</sub> = 500mA , I <sub>B1</sub> = -I <sub>B2</sub> = 50mA		46		ns
Turn-off time	t <sub>off</sub>			1440		
Collector input capacitance	C <sub>ib</sub>	V <sub>EB</sub> = 0.5V, f=1MHz		200		pF
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V, f=1MHz		12		
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 5V, I <sub>c</sub> = 50mA, f=50MHz	150			MHz

Note. Pulse width ≤ 300 μs. Duty cycle ≤ 2%.

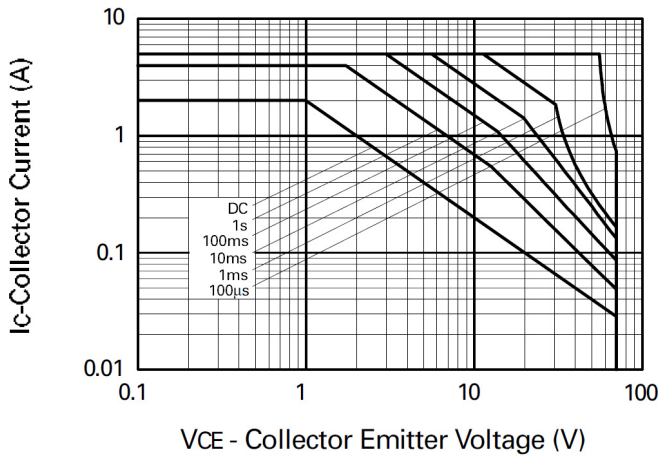
## ■ Marking

Marking	FZT692B K***
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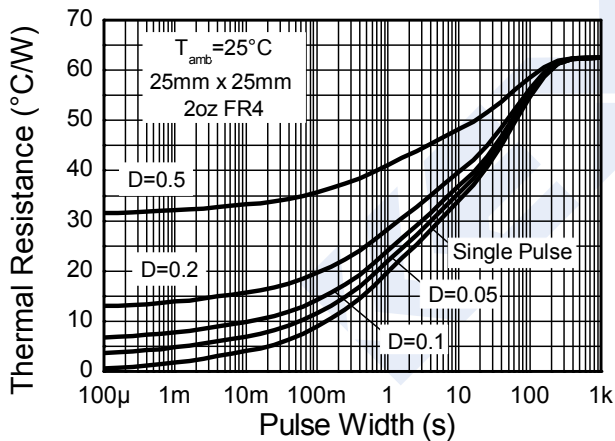
### NPN Transistors

### FZT692B (KZT692B)

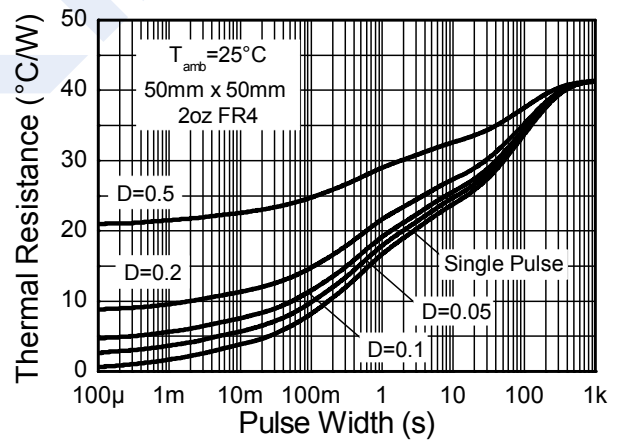
■ Typical Characteristics



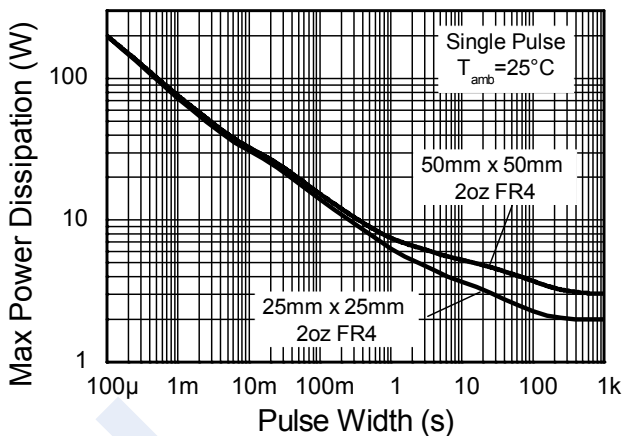
Safe Operating Area



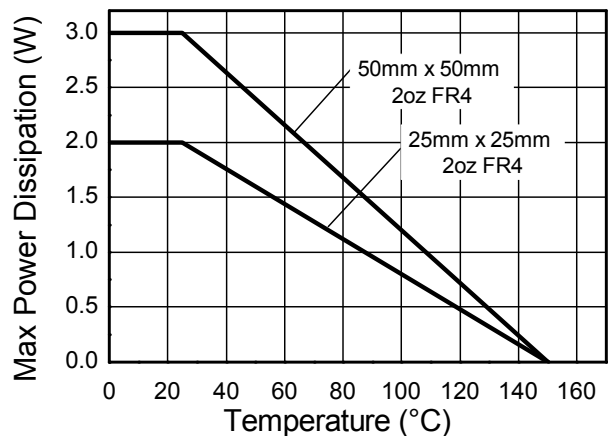
Transient Thermal Impedance



Transient Thermal Impedance



Pulse Power Dissipation

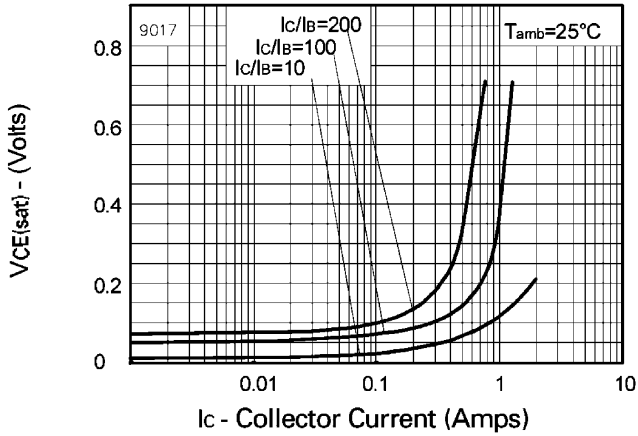


Derating Curve

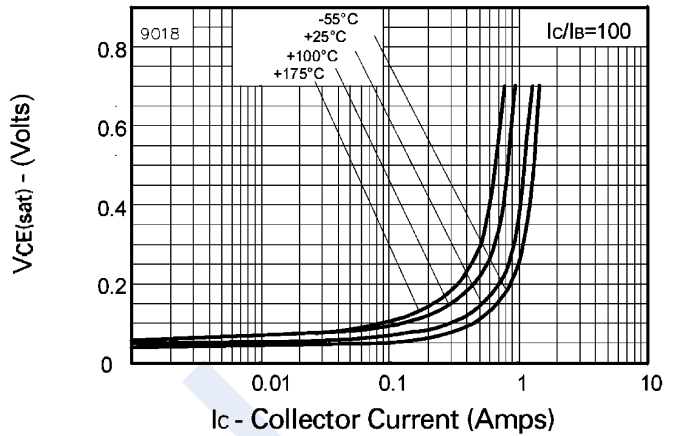
### NPN Transistors

### FZT692B (KZT692B)

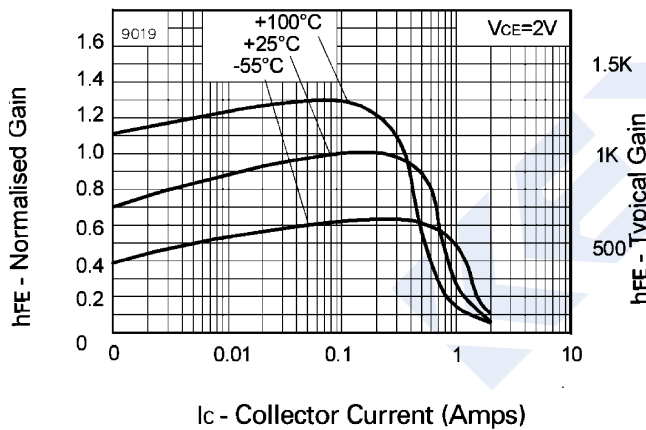
■ Typical Characteristics



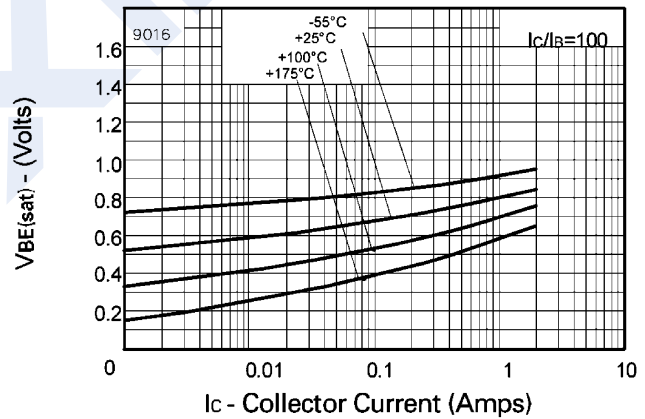
VCE(sat) v IC



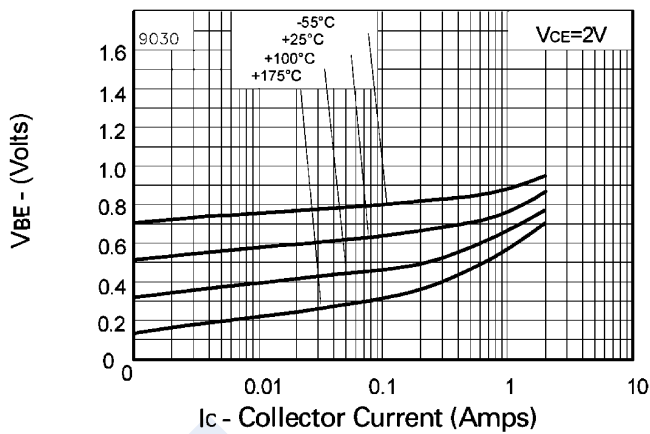
VCE(sat) v IC



hFE v IC



VBE(sat) v IC



VBE(on) v IC