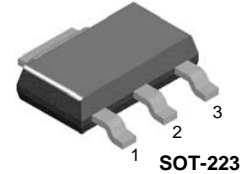


# FJT44

## NPN Epitaxial Silicon Transistor

### Features

- High Voltage Transistor



1. Base 2. Collector 3. Emitter

### Absolute Maximum Ratings\* $T_A=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	500	V
$V_{CEO}$	Collector-Emitter Voltage	400	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current	300	mA
$P_C$	Collector Dissipation ( $T_A = 25^{\circ}\text{C}$ )	2	W
$T_J$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{STG}$	Storage Temperature Range	- 55 to +150	$^{\circ}\text{C}$

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

#### NOTES:

- 1) These ratings are based on a maximum junction temperature of  $150^{\circ}\text{C}$ .
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Thermal Characteristics\* $T_A=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	62.5	$^{\circ}\text{C}/\text{W}$

\* Device mounted on FR-4 PCB 36 mm X 18 mm X 1.5 mm. mounting pad for the collector lead min.  $6\text{ cm}^2$

### Ordering Information

Part Number	Package	Packing size	Packing Method	Remarks
FJT44KTF	SOT-223	2500 pcs	Tape and Reel	
FJT44TF	SOT-223	4000 pcs	Tape and Reel	

**Electrical Characteristics\***  $T_A = 25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = 100\mu\text{A}, I_E = 0$	500			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 1\text{mA}, I_B = 0$	400			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = 100\mu\text{A}, I_C = 0$	6			V
$I_{CBO}$	Collector-Base Cutoff Current	$V_{CB} = 400\text{V}, I_E = 0$			100	nA
$I_{CES}$	Collector-Emitter Cutoff Current	$V_{CE} = 400\text{V}, V_{BE} = 0$			500	nA
$I_{EBO}$	Emitter-Base Cutoff Current	$V_{CE} = 4\text{V}, I_C = 0$			100	nA
$h_{FE}$	DC Current Gain	$V_{CE}=10\text{V}, I_C=1\text{mA}$ $V_{CE}=10\text{V}, I_C=10\text{mA}$ $V_{CE}=10\text{V}, I_C=50\text{mA}$ $V_{CE}=10\text{V}, I_C=100\text{mA}$	40 50 45 40		200	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 1\text{mA}, I_B = 0.1\text{mA}$ $I_C = 10\text{mA}, I_B = 1\text{mA}$ $I_C = 50\text{mA}, I_B = 5\text{mA}$			0.4 0.5 0.75	V V V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 10\text{mA}, I_B = 1\text{mA}$			0.75	V
$C_{obo}$	Output Capacitance	$V_{CB} = 20\text{V}, I_E = 0, f = 1\text{MHz}$			7	pF

\* Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$

## Typical Performance Characteristics

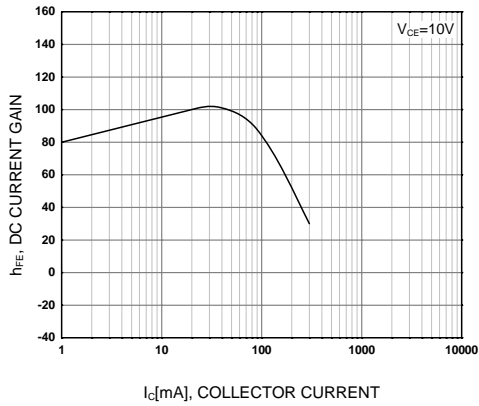


Figure 1. DC current Gain

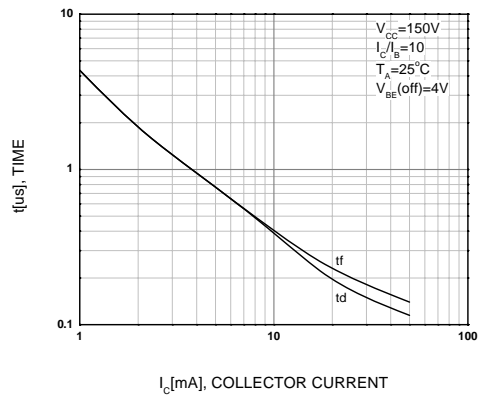


Figure 2. Turn-On Switching Times

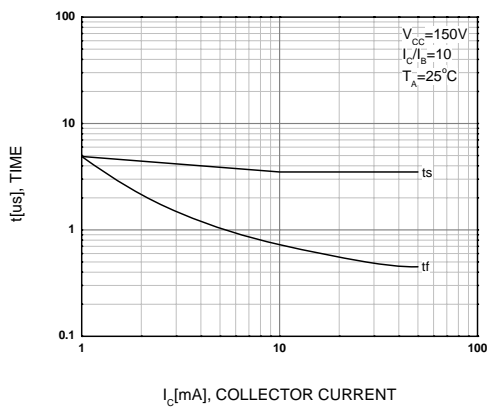


Figure 3. Turn-Off Switching Times

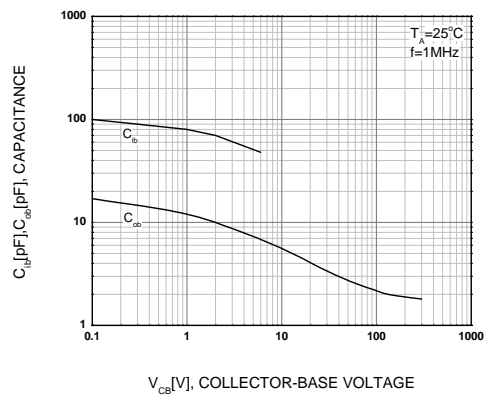


Figure 4. Capacitance

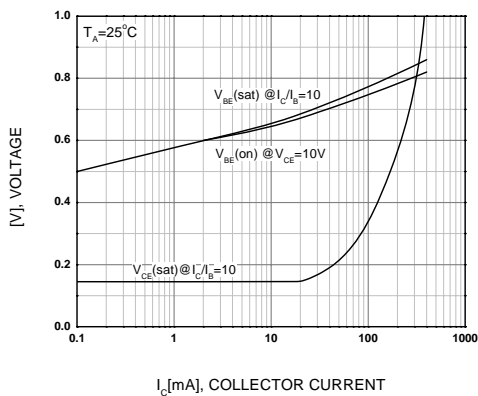


Figure 5. On Voltage

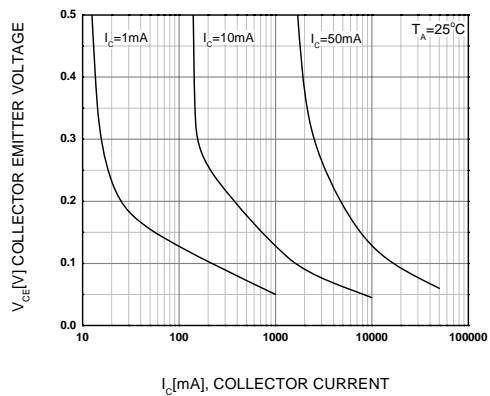
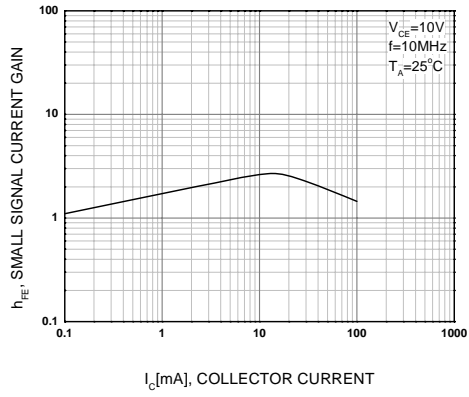


Figure 6. Collector Saturation Region

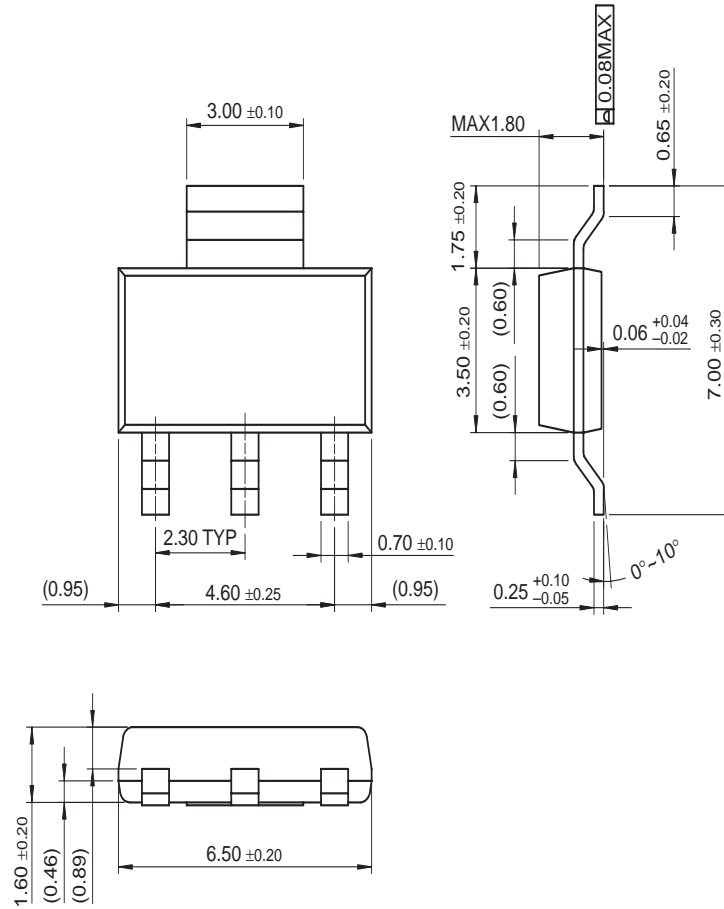
**Typical Performance Characteristics** (Continued)



**Figure 1. High Frequency Current Gain**

Physical Dimensions

SOT-223









Dimensions in Millimeters



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No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.