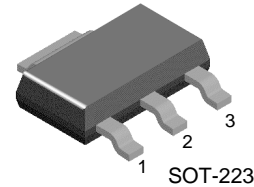


FJT44

NPN Epitaxial Silicon Transistor

- High Voltage Transistor



SOT-223

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 ~ +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°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	$^\circ\text{C/W}$

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

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

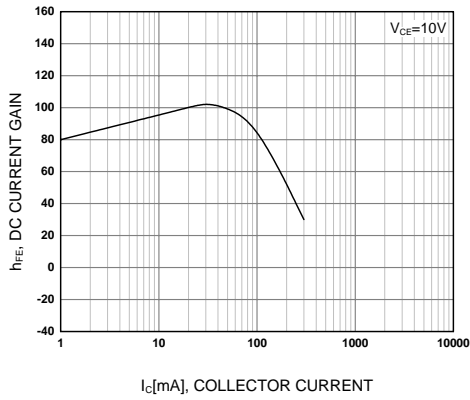


Figure 1. DC current Gain

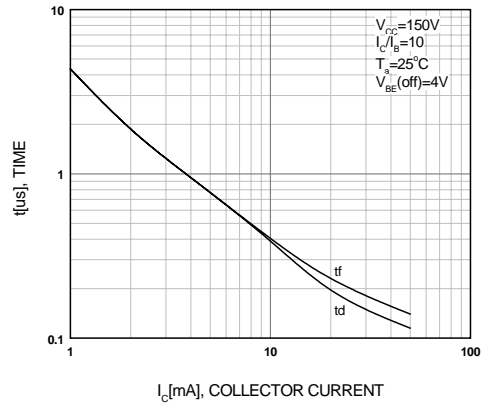


Figure 2. Turn-On Switching Times

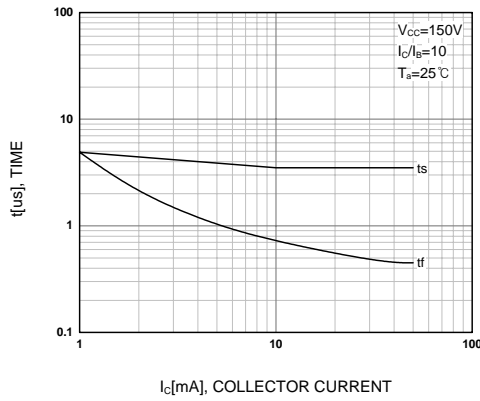


Figure 3. Turn-Off Switching Times

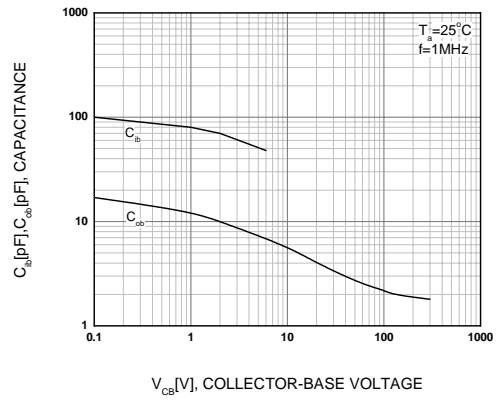


Figure 4. Capacitance

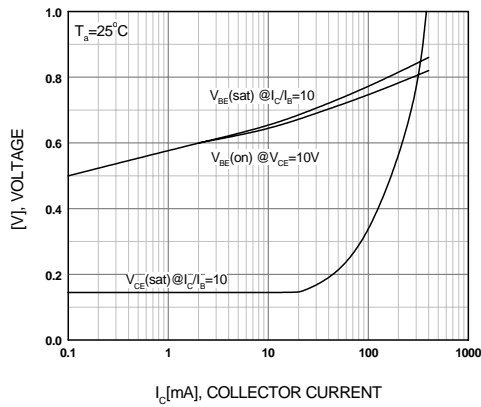


Figure 5. On Voltage

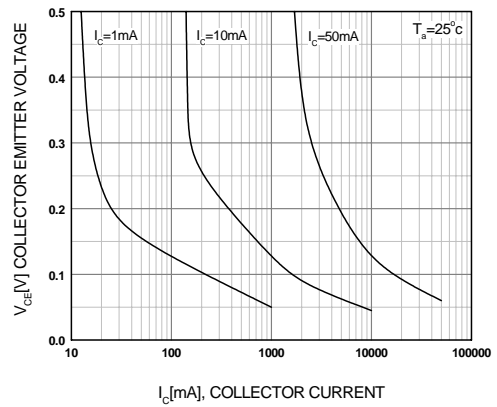


Figure 6. Collector Saturation Region

Typical Performance Characteristics

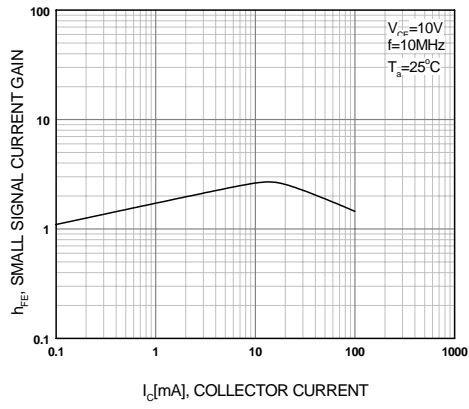
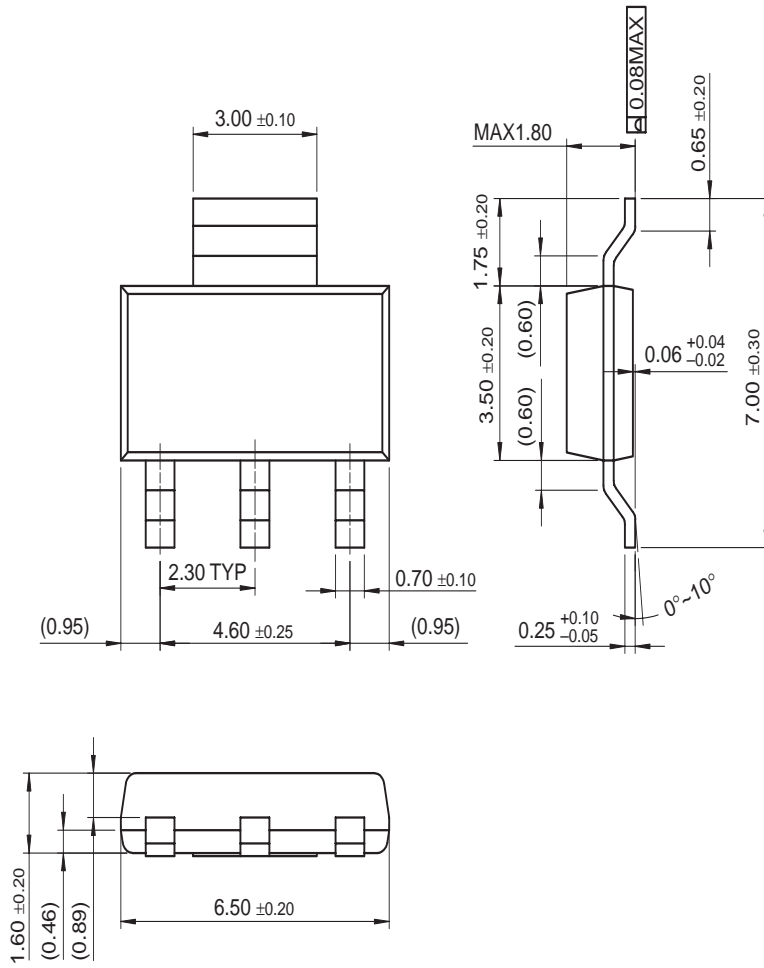


Figure 1. High Frequency Current Gain

Mechanical Dimensions

SOT-223



Dimensions in Millimeters

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E ² CMOS™	ISOPLANAR™	PowerSaver™	SyncFET™	
EnSigna™	LittleFET™	PowerTrench®	TCM™	
FACT™	MICROCOUPLER™	QFET®	TinyBoost™	
FAST®	MicroFET™	QS™	TinyBuck™	
FASTr™	MicroPak™	QT Optoelectronics™	TinyPWM™	
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Programmable Active Droop™				

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