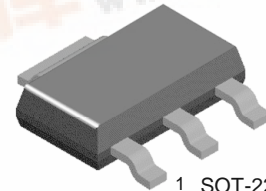


FAIRCHILD
SEMICONDUCTOR®

FJT44

High Voltage Transistor



1 SOT-223

1.Base 2.Collector 3.Emitter

NPN Epitaxial Silicon Transistor

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 ($T_C=25^\circ\text{C}$)	2	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C=100\mu\text{A}, I_B=0$	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 Cut-off Current	$V_{CB}=400\text{V}, I_E=0$		0.1	μA
I_{CES}	Collector Cut-off Current	$V_{CE}=400\text{V}, I_B=0$		0.5	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=4\text{V}, I_C=0$		0.1	μA
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
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$I_C=10\text{mA}, I_B=1\text{mA}$		0.75	V
C_{ob}	Output Capacitance	$V_{CB}=20\text{V}, I_E=0, f=1\text{MHz}$		7	pF

* Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$



Typical Characteristics

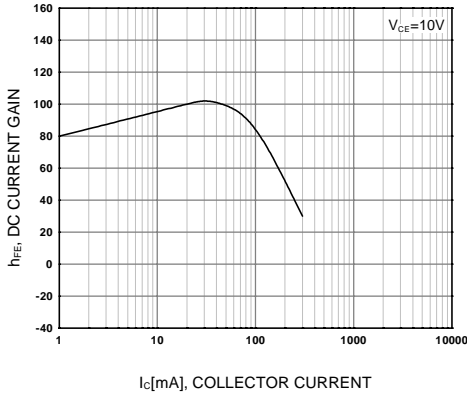


Figure 1. DC current Gain

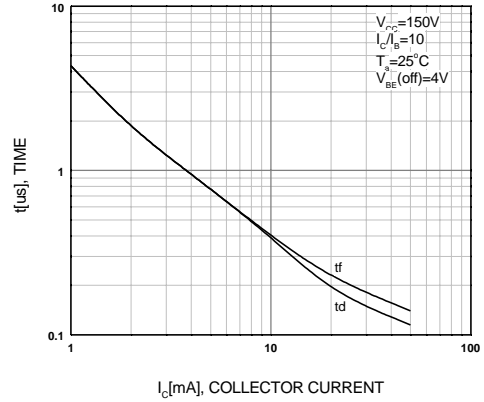


Figure 2. Turn-On Switching Times

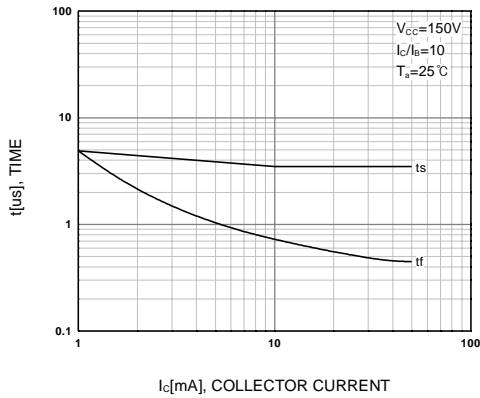


Figure 3. Turn-Off Switching Times

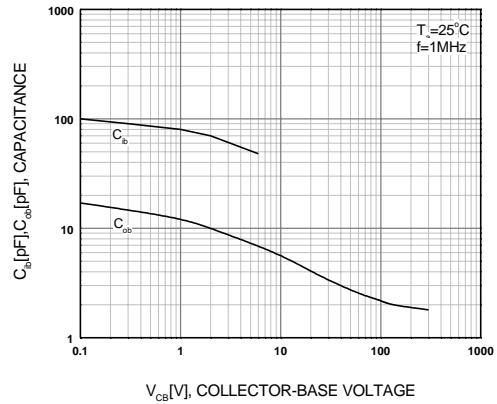


Figure 4. Capacitance

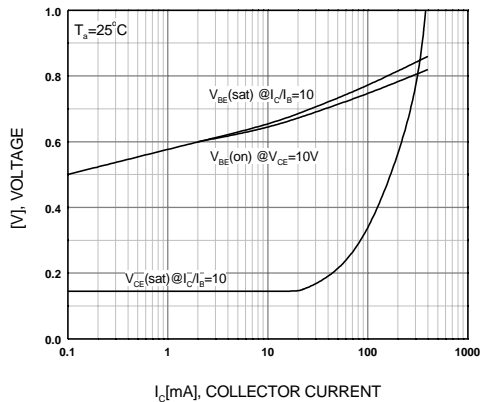


Figure 5. On Voltage

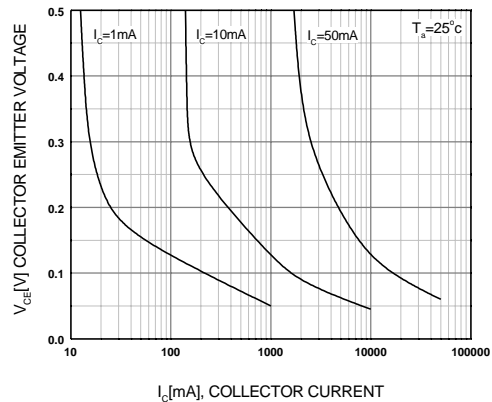


Figure 6. Collector Saturation Region

Typical Characteristics (Continued)

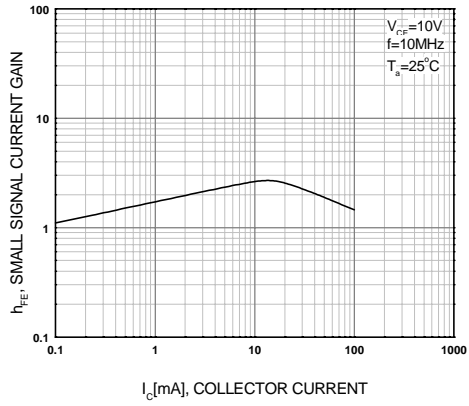
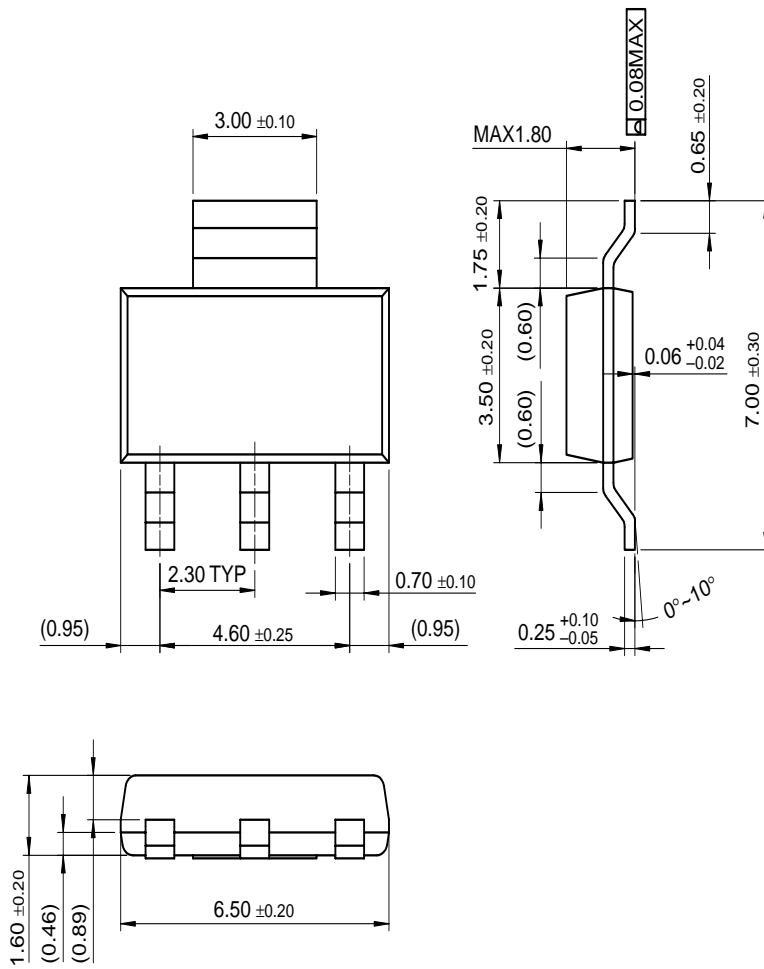


Figure 7. High Frequency Current Gain

Package Dimensions

SOT-223



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
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E ² CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I ² C™	OCX™	RapidConfigure™	UHC™
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The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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