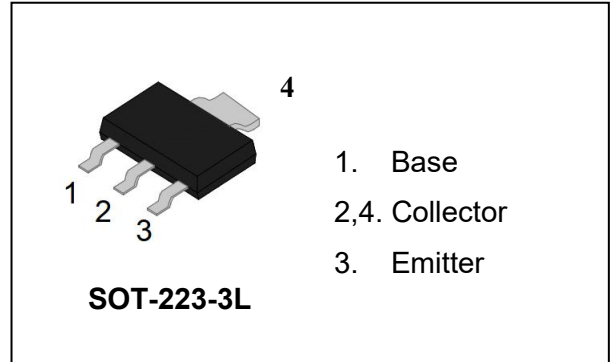




NPN Epitaxial Silicon Transistor

Features

- ◆ High Voltage Transistor



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	500	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	300	mA
Junction temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

Thermal Characteristics ($T_j=25^\circ\text{C}$ unless otherwise specified)

Symbol	Test Condition	Value	Unit
P_D	Power Dissipation, $T_C=25^\circ\text{C}$	2	W
	Derate Above 25°C	16	mW/°C
$R_{\theta JA}$	Thermal Resistance, junction-to-Ambient	62.5	°C/W

Electrical Characteristics ($T_j=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Condition	Min	Typ.	Max	Unit
BV_{CBO}	Collector- base breakdown voltage	$I_C=100\mu\text{A}$, $I_E=0$	500			V
BV_{CEO}	Collector-emitter sustaining voltage	$I_C=1\text{mA}$, $I_B=0$	400			V
BV_{EB}	Emitter - base breakdown voltage	$I_E=100\mu\text{A}$, $I_C=0$	6			V
I_{CBO}	Collector-base cut-off current	$V_{CB}=400\text{V}$, $I_E=0$			100	nA

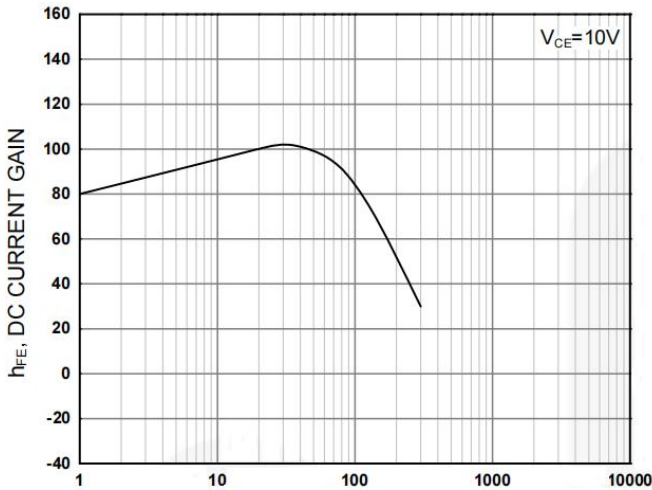


I_{CEO}	Collector- emittercut-off current	$V_{CE}=400V, I_{BE}=0$			500	nA
I_{EBO}	Emitter cut-off current	$V_{EB}=4V, I_C=0$			100	nA
h_{FE}	DC current gain	$V_{CE}= 10V, I_C=1mA$	40			
		$V_{CE}=10V, I_C=10mA$	50		200	
		$V_{CE}=10V, I_C=50mA$	45			
		$V_{CE}=10V, I_C=100mA$	40			
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=1mA, I_B=0.1mA$			0.40	V
		$I_C=10mA, I_B=1mA$			0.50	
		$I_C=50mA, I_B=5mA$			0.75	
$V_{BE(sat)}$	Base - emitter saturation voltage	$I_C=10mA, I_B=1mA$			0.75	V
C_{obo}	Output Capacitance	$V_{CB}=20V, I_E=0$ $f=1.0MHz$			7	pF

Note:

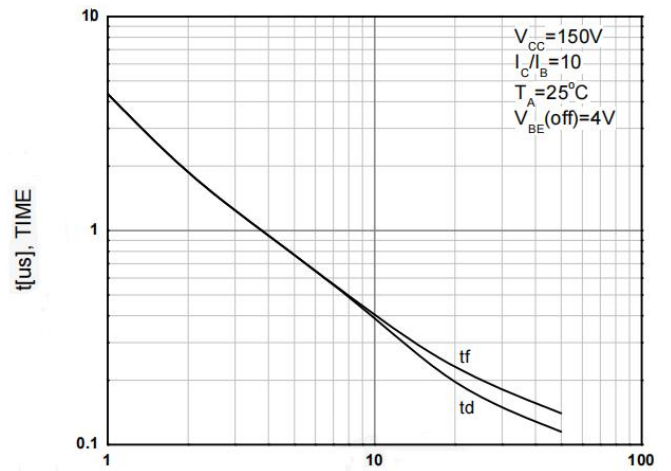
Pulse test:pulse width $\leq 300\mu s$,duth cycle $\leq 2.0\%$

Typical Performance Characteristics



I_C (mA) ,COLLECTOR CURRENT

Figure 1. DC Current Gain



I_C (mA) ,COLLECTOR CURRENT

Figure 2. Turn-On Switching Times

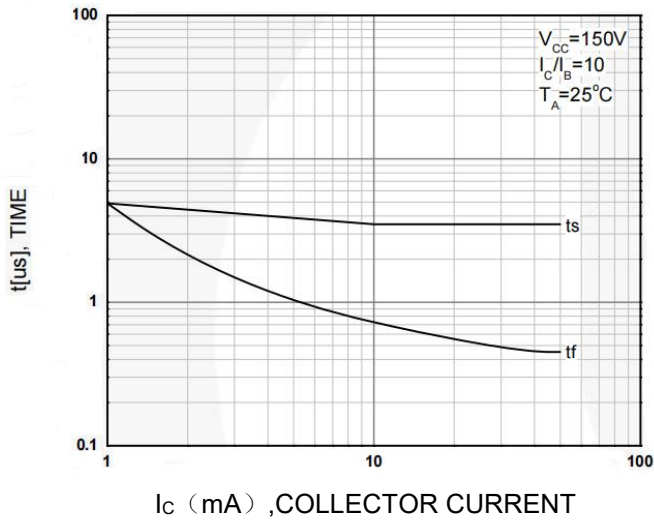


Figure 3. Turn-Off Switching Times

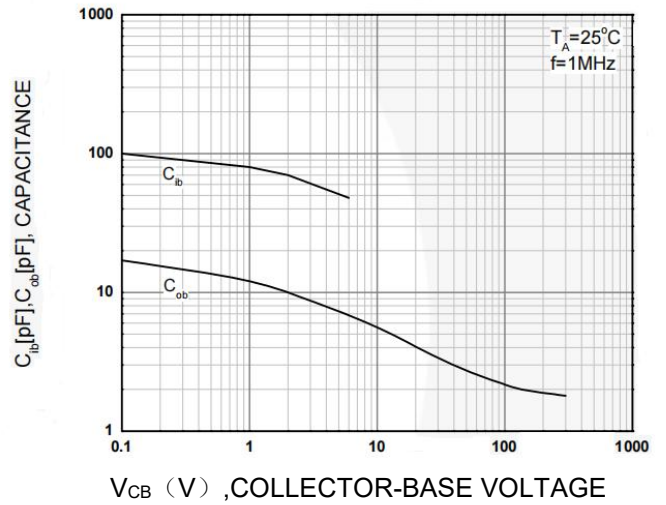


Figure 4. Capacitance

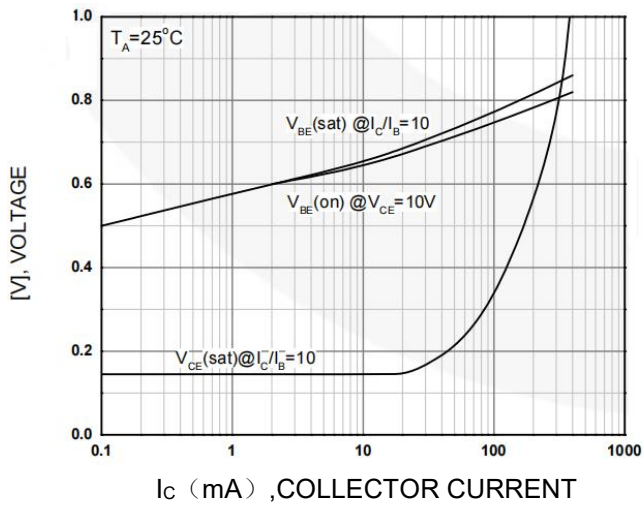


Figure 5. On Voltage

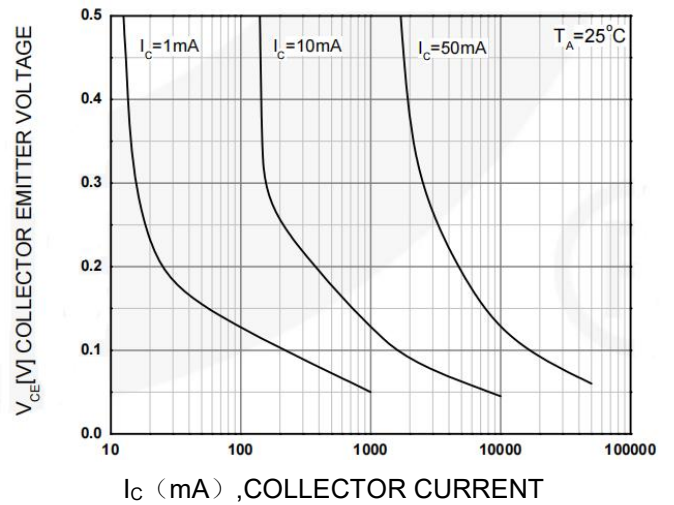


Figure 6. Collector Saturation Region

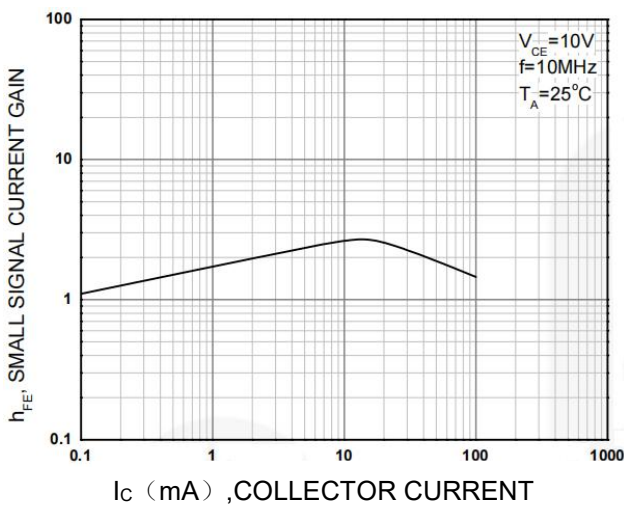
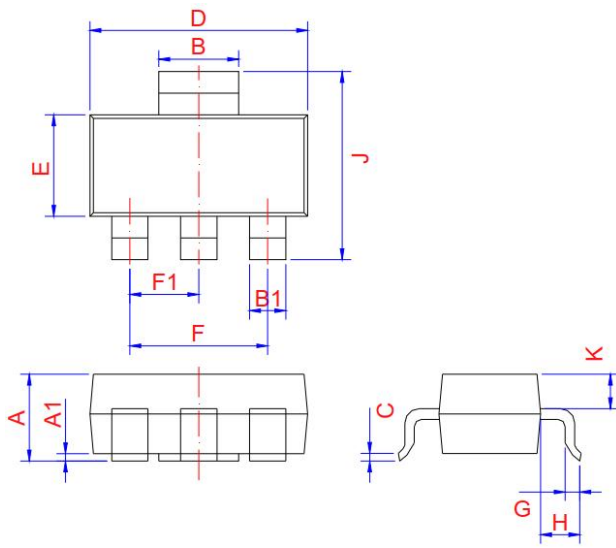


Figure 7. High Frequency Current Gain



Package Mechanical Data



SOT-223-3L

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.5	1.6	1.8	0.059	0.063	0.071
A1	0.01	0.06	0.10	0.001	0.002	0.004
B	2.9	3.0	3.1	0.114	0.118	0.122
B1	0.6	0.7	0.8	0.024	0.028	0.031
C	0.22	0.25	0.32	0.009	0.010	0.013
D	6.3	6.5	6.7	0.248	0.256	0.264
E	3.3	3.5	3.7	0.130	0.138	0.146
F		4.6	6.8	0.252	0.181	
F1		2.3			0.091	
G	0.7	0.9	1.1	0.028	0.035	0.043
H	1.5	1.75	2.0	0.059	0.069	0.079
J	6.7	7.0	7.3	0.264	0.276	0.287
K	0.8	0.9	1.0	0.031	0.035	0.039

Ordering Information

Part Number	Marking	Package	Packing Method, Size
FJT44TF	FJT44	SOT-223-3L	Tape and Reel, 4000 pcs
FJT44KTF	FJT44	SOT-223-3L	Tape and Reel, 4000 pcs

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