



Transistor

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CBO</sub>	60	-	-	V	I <sub>C</sub> =100μA
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	60	-	-	V	I <sub>C</sub> =1mA
Emitter-base breakdown voltage	BV <sub>EBO</sub>	6	-	-	V	I <sub>E</sub> =100μA
Collector cut-off current	I <sub>CBO</sub>	-	-	1.0	μA	V <sub>CB</sub> =40V
Emitter cut-off current	I <sub>EBO</sub>	-	-	1.0	μA	V <sub>EB</sub> =4V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	-	200	500	mV	I <sub>C</sub> =1A, I <sub>B</sub> =0.1A *1
DC current gain	h <sub>FE</sub>	120	-	390	-	V <sub>CE</sub> =2V, I <sub>C</sub> =100mA
Transition frequency	f <sub>T</sub>	-	200	-	MHz	V <sub>CE</sub> =10V, I <sub>E</sub> =-100mA, f=10MHz*1
Collector output capacitance	C <sub>ob</sub>	-	10	-	pF	V <sub>CB</sub> =10V, I <sub>E</sub> =0mA, f=1MHz
Turn-on time	T <sub>on</sub>	-	50	-	ns	I <sub>C</sub> =2A, I <sub>B1</sub> =2000mA I <sub>B2</sub> =-200mA V <sub>CC</sub> =25V *2
Storage time	T <sub>stg</sub>	-	120	-	ns	
Fall time	T <sub>f</sub>	-	35	-	ns	

\*1 Non repetitive pulse

\*2 See switching characteristics measurement circuits

●h<sub>FE</sub> RANK

Q	R
120-270	180-390

●Electrical characteristic curves

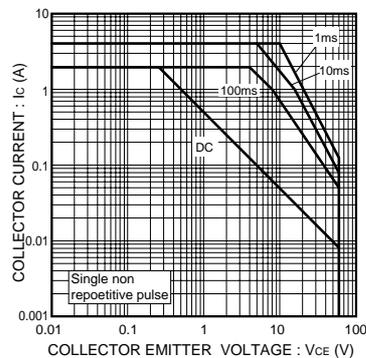


Fig.1 Safe operating area

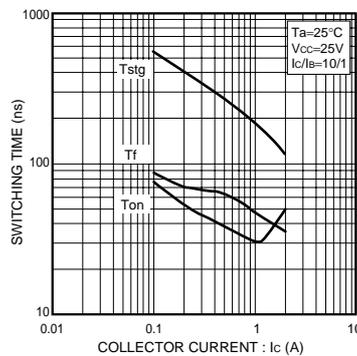


Fig.2 Switching Time

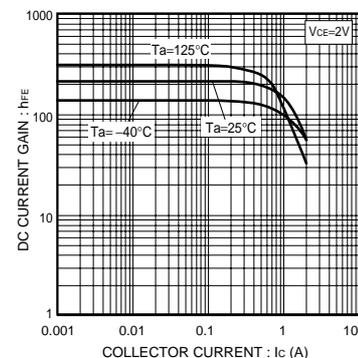


Fig.3 DC current gain vs. collector current

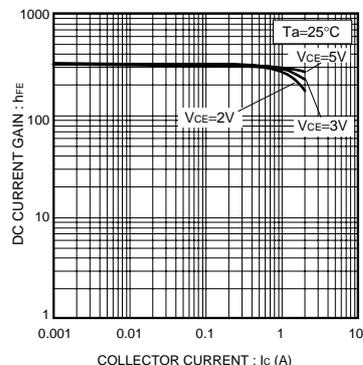


Fig.4 DC current gain vs. collector current

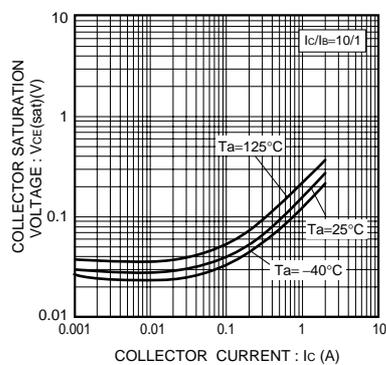


Fig.5 Collector-emitter saturation voltage vs. Collector Current

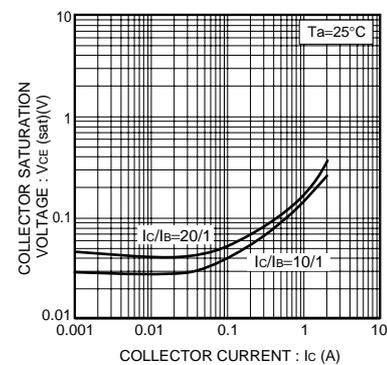


Fig.6 Collector-emitter saturation voltage vs. collector current

Transistor

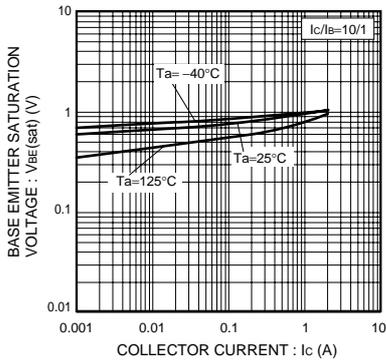


Fig.7 Base-emitter saturation voltage vs. collector current

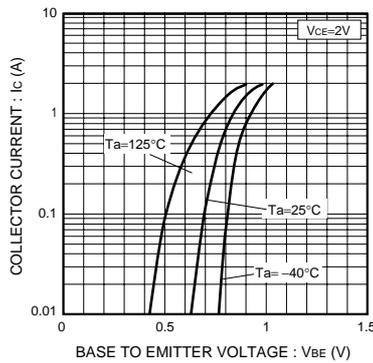


Fig.8 Ground emitter propagation characteristics

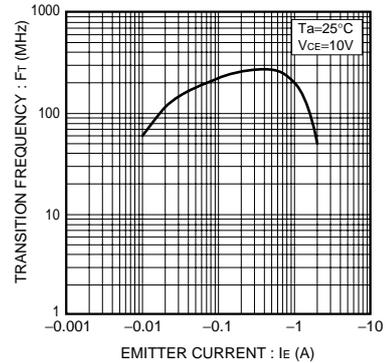


Fig.9 Transition frequency

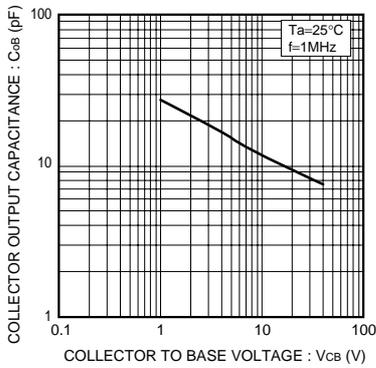


Fig.10 Collector output capacitance

●Switching characteristics measurement circuits

