

Transistor

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CEO}	30	-	-	V	$I_C=100\mu A$
Collector-emitter breakdown voltage	BV_{CBO}	30	-	-	V	$I_C=1mA$
Emitter-base breakdown voltage	BV_{EBO}	6	-	-	V	$I_E=100\mu A$
Collector cut-off current	I_{CBO}	-	-	1.0	μA	$V_{CB}=20V$
Emitter cut-off current	I_{EBO}	-	-	1.0	μA	$V_{EB}=4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	200	400	mV	$I_C=1.0A, I_B=0.1A$
DC current gain	h_{FE}	120	-	390	-	$V_{CE}=2V, I_C=100mA$
Transition frequency	f_T	-	250	-	MHz	$V_{CE}=10V, I_E=-100mA, f=10MHz$
Collector output capacitance	C_{ob}	-	15	-	pF	$V_{CB}=10V, I_E=0, f=1MHz$
Turn-on time	T_{on}	-	25	-	ns	$I_C=2A$
Storage time	T_{stg}	-	100	-	ns	$I_{B1}=200mA$
Fall time	T_f	-	20	-	ns	$I_{B2}=-200mA$ $V_{CC}=-25V$

● h_{FE} RANK

Q	R
120-270	180-390

●Electrical characteristic curves

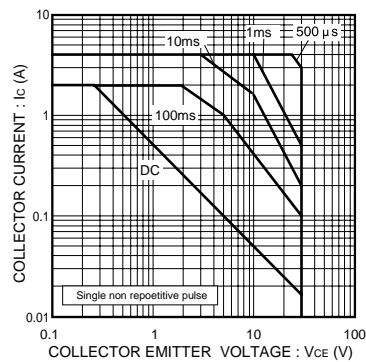


Fig.1 Safe operating area

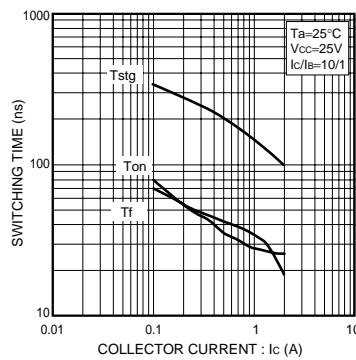


Fig.2 Switching Time

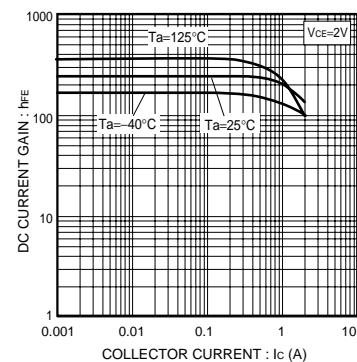


Fig.3 DC current gain vs. collector current

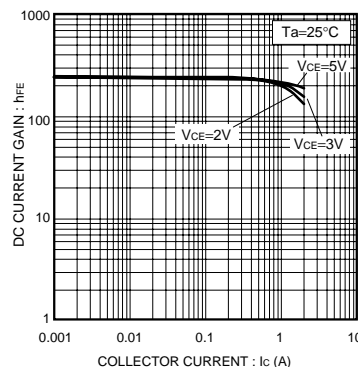


Fig.4 DC current gain vs. collector current

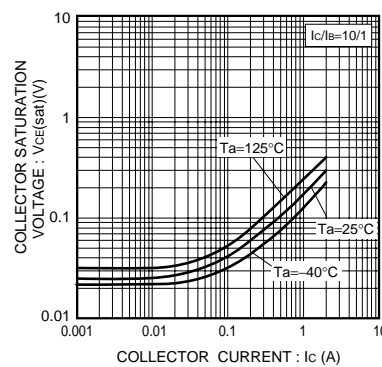


Fig.5 Collector-emitter saturation voltage vs. collector current

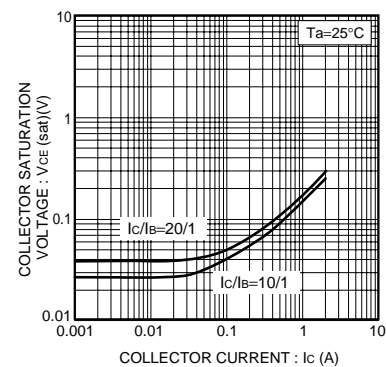


Fig.6 Collector-emitter saturation voltage vs. collector current

Transistor

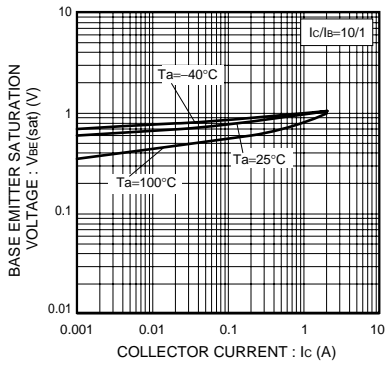


Fig.7 Base-emitter saturation voltage vs. collector current

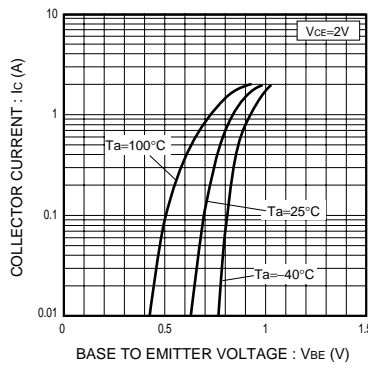


Fig.8 Ground emitter propagation characteristics

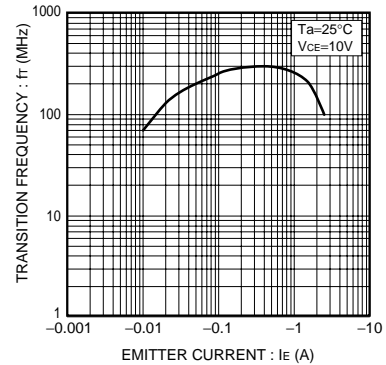


Fig.9 Transition frequency

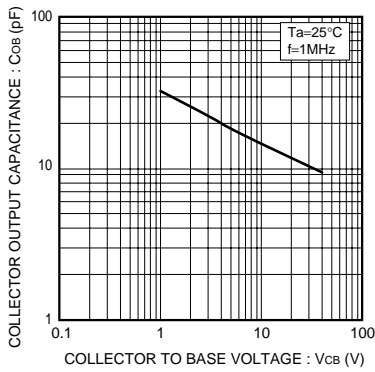
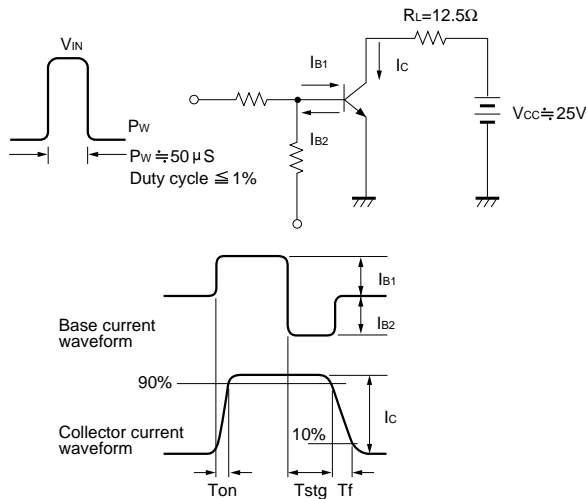


Fig.10 Collector output capacitance

●Switching characteristics measurement circuits



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