

Transistors

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Collector-emitter breakdown voltage	BV_{CEO}	60	–	–	V	$I_C=1mA$
Collector-base breakdown voltage	BV_{CBO}	60	–	–	V	$I_C=100\mu A$
Emitter-base breakdown voltage	BV_{EBO}	6	–	–	V	$I_E=100\mu A$
Collector cut-off current	I_{CBO}	–	–	1.0	μA	$V_{CB}=40V$
Emitter cut-off current	I_{EBO}	–	–	1.0	μA	$V_{EB}=4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	150	300	mV	$I_C=100mA$ $I_B=10mA$
DC current gain	h_{FE}	120	–	390	–	$V_{CE}=2V$ $I_C=50mA$
Transition frequency	f_T	–	300	–	MHz	$V_{CE}=10V$ $I_E=-100mA$ $f=10MHz$
Corrector output capacitance	C_{ob}	–	5	–	pF	$V_{CB}=10V$ $I_E=0mA$ $f=1MHz$
Turn-on time	T_{on}	–	70	–	ns	$I_C=500mA$ $I_{B1}=50mA$
Storage time	T_{stg}	–	130	–	ns	$I_{B2}=-50mA$
Fall time	T_f	–	80	–	ns	$V_{CC}=25V$

*1 Non repetitive pulse

*2 See Switching characteristics measurement circuits

● h_{FE} RANK

Q	R
120–270	180–390

●Electrical characteristic curves

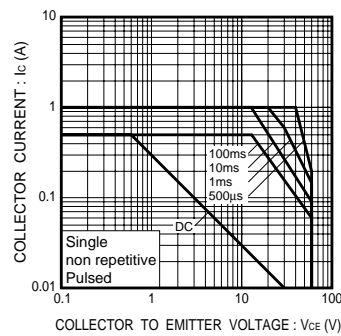


Fig.1 Safe Operating Area

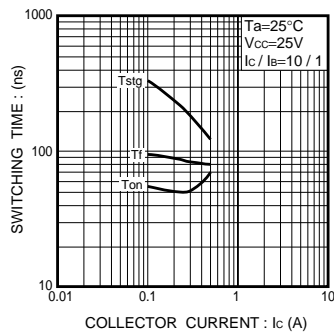


Fig.2 Switching Time

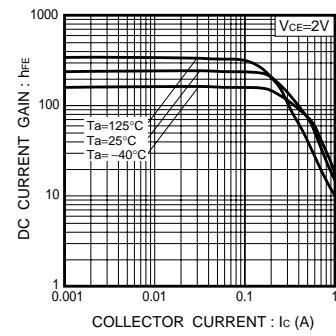


Fig.3 DC Current Gain vs. Collector Current (I)

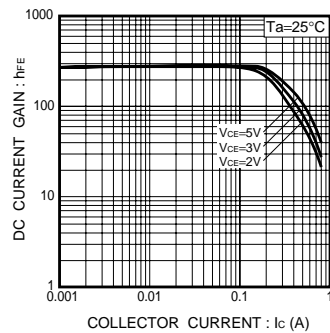


Fig.4 DC Current Gain vs. Collector Current (II)

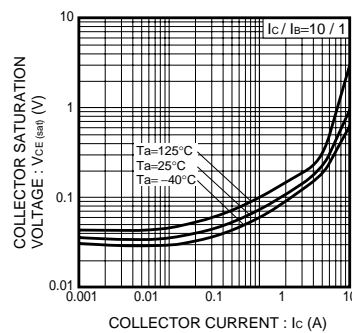


Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current (I)

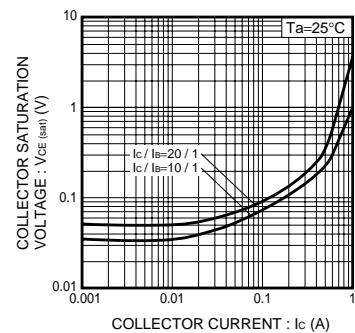


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current (II)

Transistors

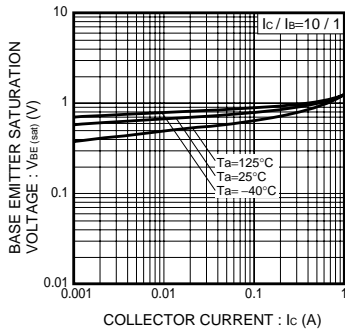


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

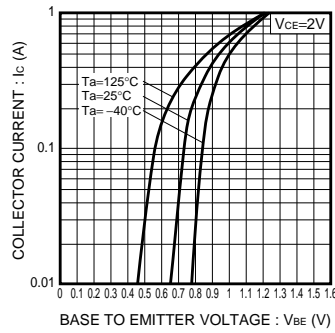


Fig.8 Grounded Emitter Propagation Characteristics

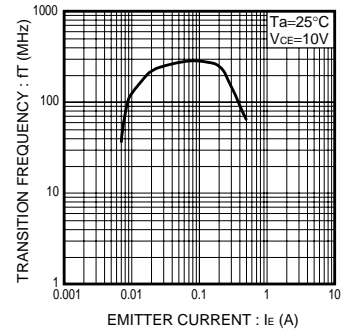


Fig.9 Transition Frequency

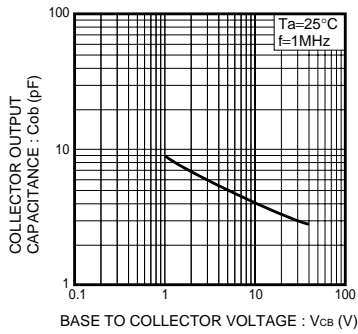
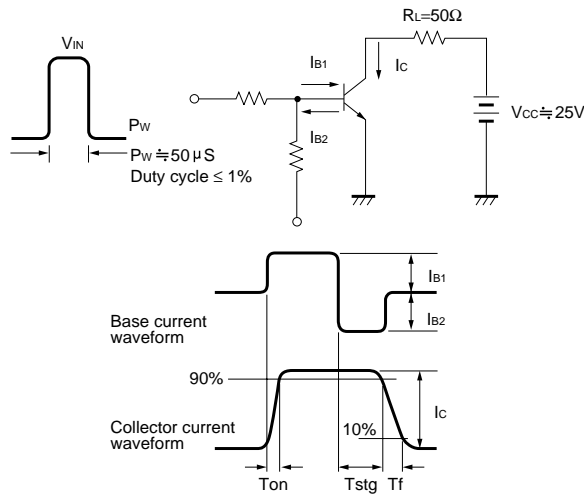


Fig.10 Collector Output Capacitance

●Switching characteristics measurement circuits



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