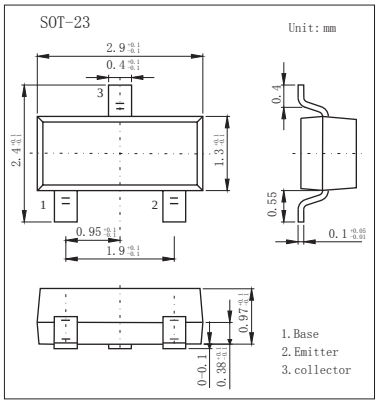
NPN Transistors

2KC1001



■ Features

- Complementary to 2KA2001

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	60	V
Collector - Emitter Voltage	V_{CEO}	40	V
Emitter - Base Voltage	V_{EBO}	6	V
Collector Current - Continuous	I_C	0.2	A
Collector Power Dissipation *	P_C	350	mW
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55 to 150	℃

* Mounted on an FR4 printed-circuit board.

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V_{CBO}	I_C= 100 μA, I_E= 0	60			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA, I_B= 0	40			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μ A, I_C= 0	6			
Collector-base cut-off current	I_{CBO}	V_{CB}= 60 V , I_E= 0			50	nA
Collector- emitter cut-off current	I_{CEX}	V_{CE}= 30 V , $V_{EB(off)}$ =- 3V			50	
Emitter cut-off current	I_{EBO}	V_{EB}= 5V , I_C=0			50	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C= 10 mA, I_B= 1mA			0.2	V
		I_C= 50 mA, I_B= 5mA			0.3	
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C= 10 mA, I_B= 1mA	0.65		0.85	
		I_C= 50 mA, I_B= 5mA			0.95	
DC current gain	hfe（1）	V_{CE}= 1V, I_C= 10mA	100		300	
	hfe（2）	V_{CE}= 1V, I_C= 50mA	60			
	hfe（3）	V_{CE}= 1V, I_C= 100mA	30			
Delay time	t_d	V_{CC}= 3V, $V_{BE(off)}$=- 0.5V			35	ns
Rise time	t_r	I_C= 10mA, I_{B1}= 1mA			35	
Storage time	t_s	V_{CC}= 3V, I_C= 10mA			200	
Fall time	t_f	I_{B1}=I_{B2}= 1mA			50	
Collector input capacitance	C_{ib}	V_{EB}= 0.5V, I_E= 0,f=1MHz			8	pF
Collector output capacitance	C_{ob}	V_{CB}= 5V, I_E= 0,f=1MHz			4	
Transition frequency	f_T	V_{CE}= 20V, I_C= 10mA,f=100MHz	300			MHz

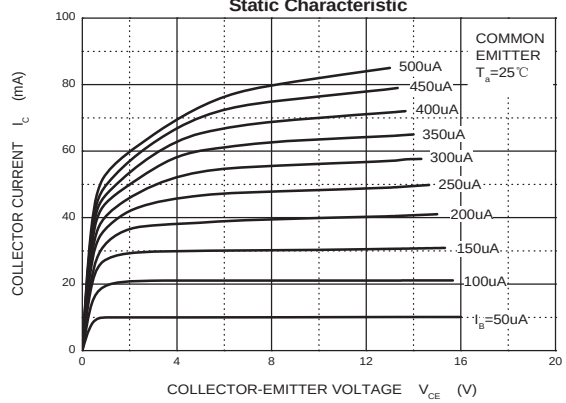
■ Marking

Marking	1A

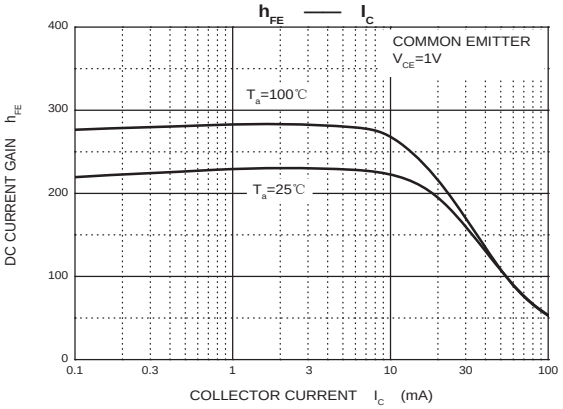
2KC1001

Typical Characteristics

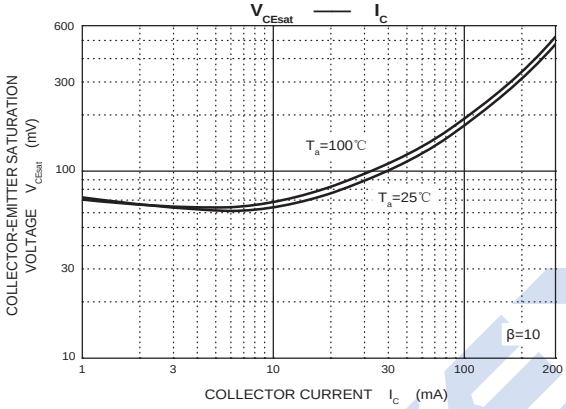
Static Characteristic



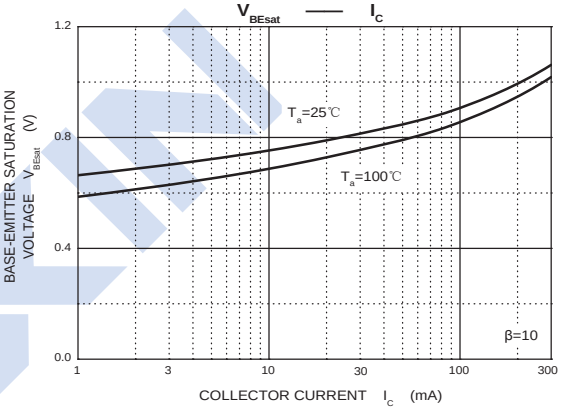
h_{FE} —— I_C



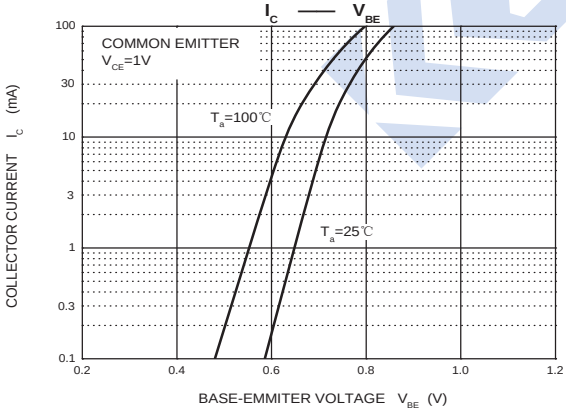
V_{CEsat} —— I_C



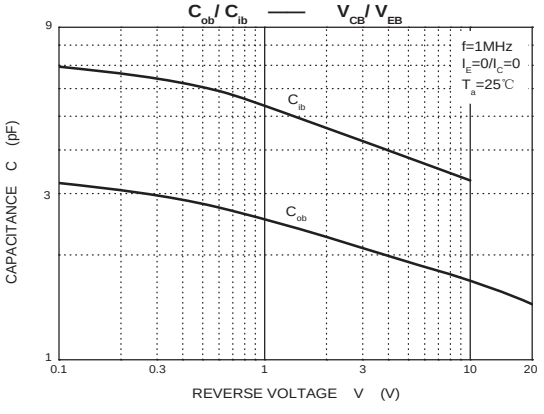
V_{BEsat} —— I_C



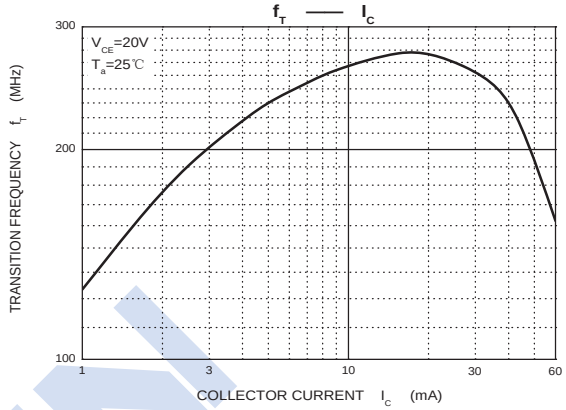
I_C —— V_{BE}



C_{ob} / C_{ib} —— V_{CB} / V_{EB}



f_T —— I_C



P_C —— T_a