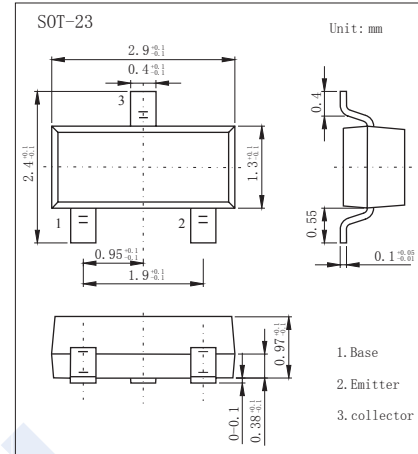


NPN Transistors

2SC3906K

■ Features

- High Breakdown Voltage
- Complementary to 2SA1514K



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V _{CB0}	120	V
Collector - Emitter Voltage	V _{CE0}	120	
Emitter - Base Voltage	V _{EB0}	5	
Collector Current - Continuous	I _c	50	mA
Collector Current - Pulse	I _{CP}	100	
Collector Power Dissipation	P _C	200	mW
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V _{CB0}	I _c = 50 μA, I _E = 0	120			V
Collector- emitter breakdown voltage	V _{CE0}	I _c = 1 mA, I _B = 0	120			
Emitter - base breakdown voltage	V _{EB0}	I _E = 50 μA, I _C = 0	5			
Collector-base cut-off current	I _{CB0}	V _{CB} = 100V, I _E = 0			0.5	μA
Emitter cut-off current	I _{EB0}	V _{EB} = 4V, I _C = 0			0.5	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =10 mA, I _B =1mA			0.5	V
Base - emitter saturation voltage	V _{BE(sat)}	I _C =10 mA, I _B =1mA			1.2	
DC current gain	h _{FE}	V _{CE} = 6V, I _C = 2mA	180		560	
Collector output capacitance	C _{ob}	V _{CB} = 12V, I _E = 0, f=1MHz		2.5		pF
Transition frequency	f _T	V _{CE} = 12V, I _E = -2mA, f=1MHz		140		MHz

■ Classification of h_{FE}

Type	2SC3906K-R	2SC3906K-S
Range	180-390	270-560
Marking	TR	TS

NPN Transistors 2SC3906K

■ Typical Characteristics

Fig.1 Ground Emitter Propagation Characteristics

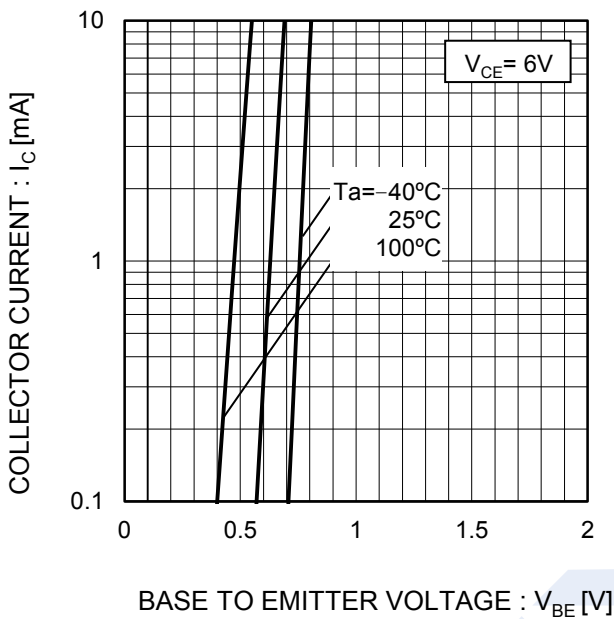


Fig.2 Typical Output Characteristics

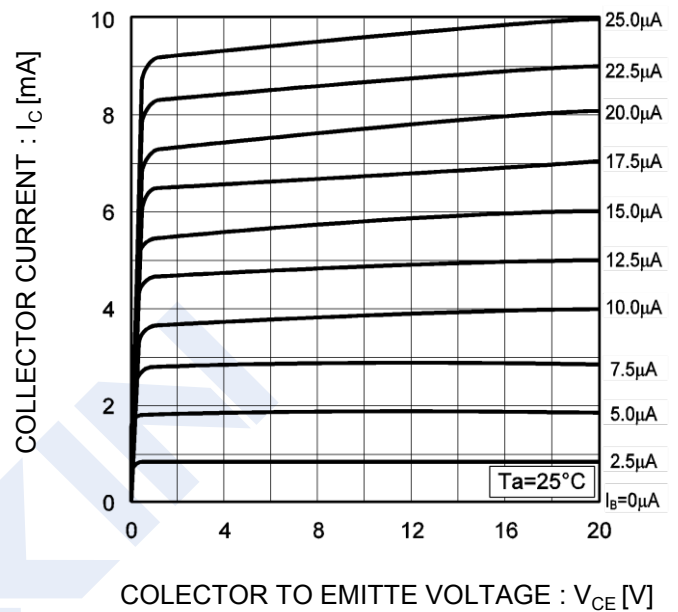


Fig.3 DC Current Gain vs. Collector Current(I)

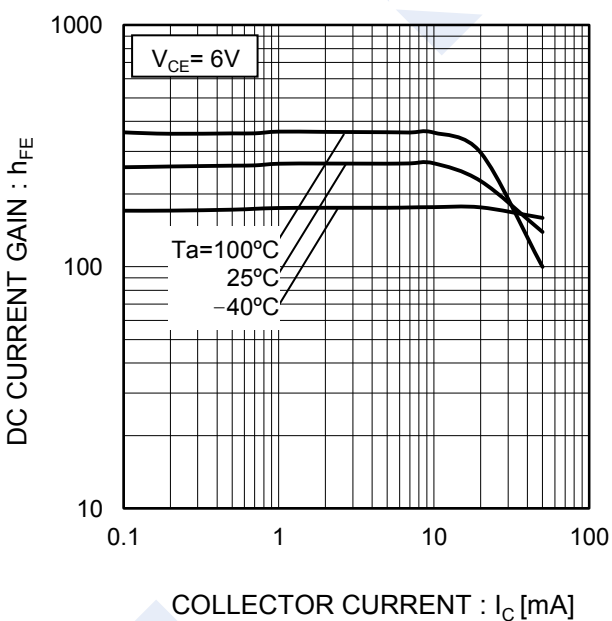
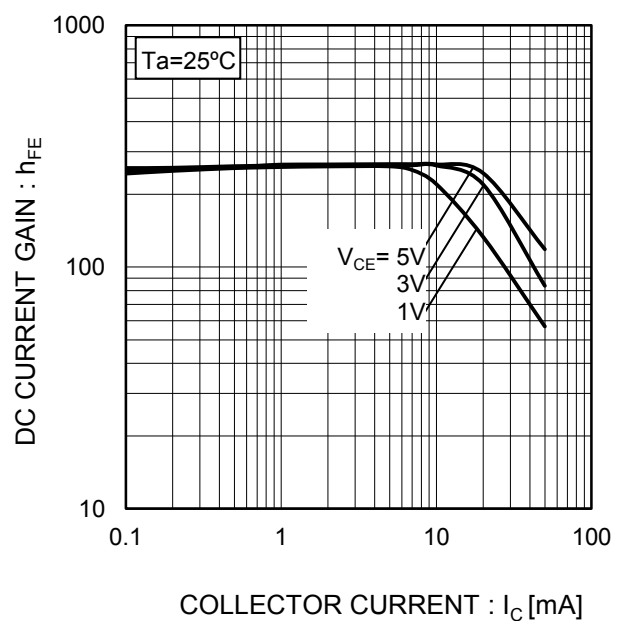


Fig.4 DC Current Gain vs. Collector Current(II)



NPN Transistors

2SC3906K

■ Typical Characteristics

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

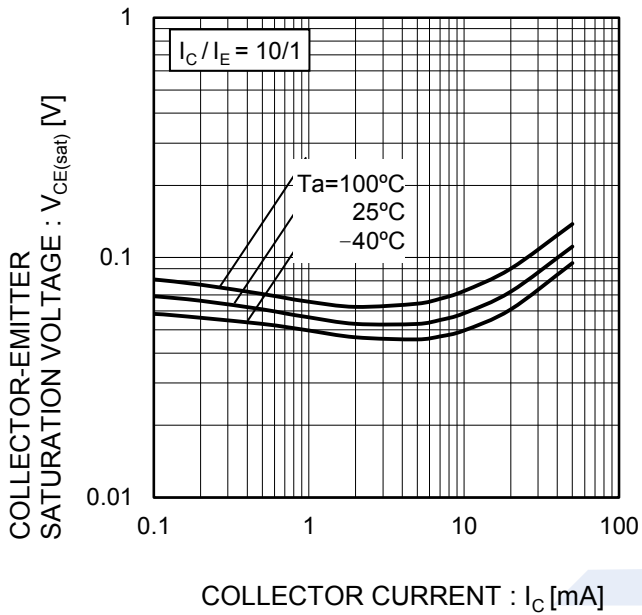


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current (II)

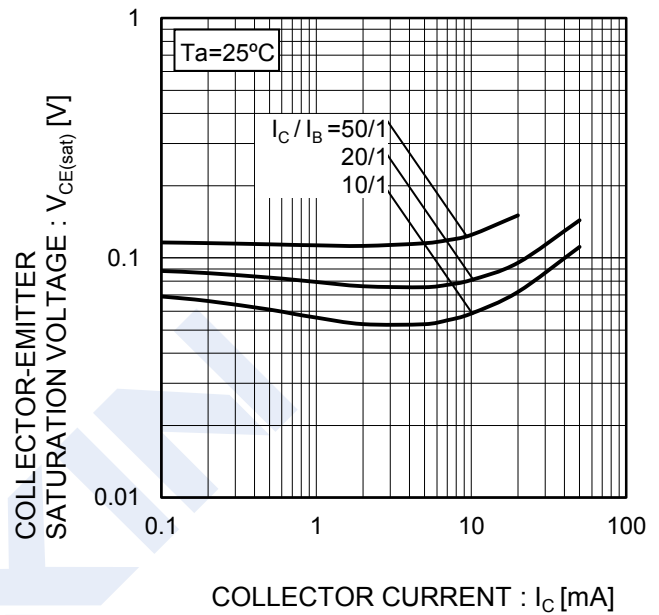


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

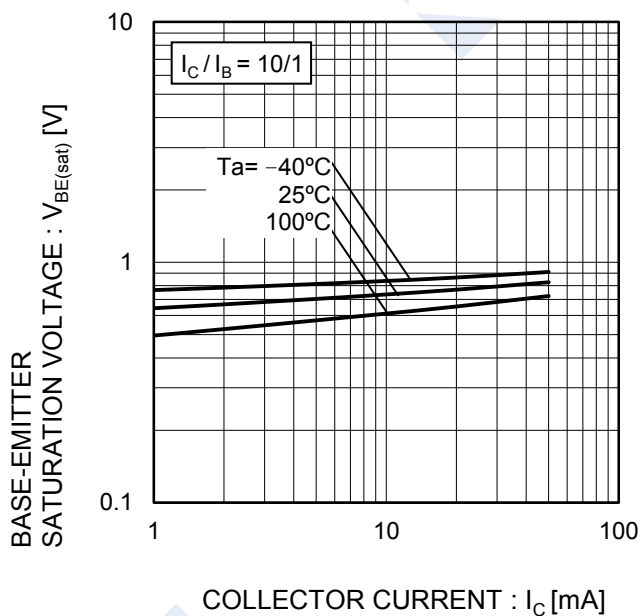
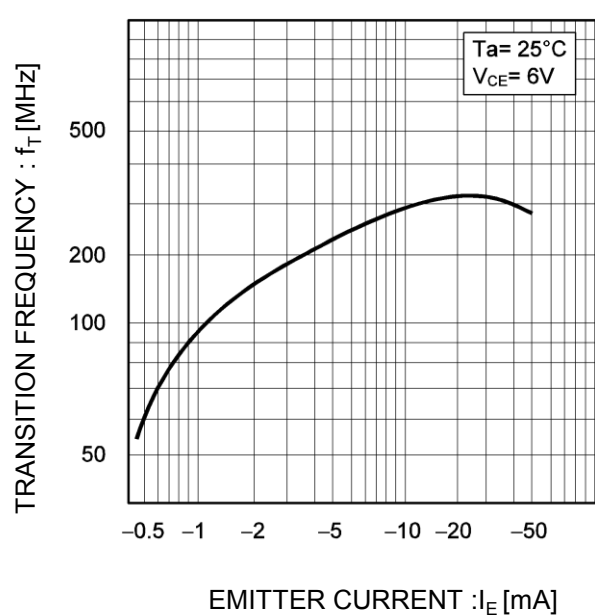


Fig.8 Gain Bandwidth Product vs. Emitter Current



NPN Transistors

2SC3906K

■ Typical Characteristics

Fig.9 Emitter input capacitance vs.
Emitter-Base Voltage
Collector output capacitance vs.
Collector-Base Voltage

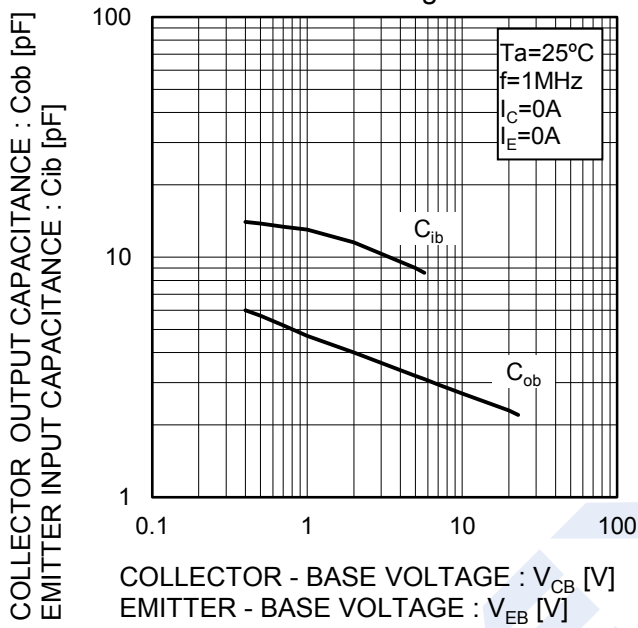


Fig.10 Safe Operating Area

