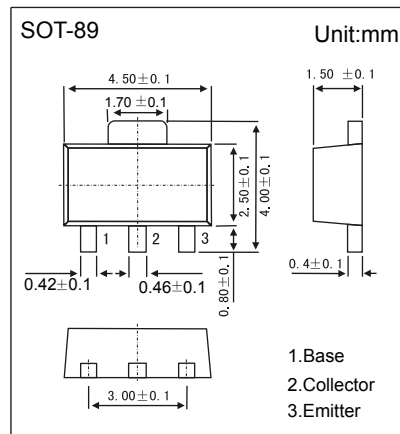


NPN Transistors

2SC4505

■ Features

- Collector Current Capability $I_C=0.1A$
- Collector Emitter Voltage $V_{CEO}=400V$
- Complements to 2SA1759

■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	400	V
Collector - Emitter Voltage	V_{CEO}	400	
Emitter - Base Voltage	V_{EBO}	7	
Collector Current - Continuous	I_C	0.1	A
Collector Current - Pulse (Note.1)	I_{CP}	0.2	
Collector Power Dissipation (Note.2)	P_C	0.5	W
		2	
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1:Single pulse, $P_w=20ms$, Duty=1/2

Note.2:When mounted on a $40 \times 40 \times 0.7mm$ ceramic

■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100 \mu A, I_E = 0$	400			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 1 mA, I_B = 0$	400			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100 \mu A, I_C = 0$	7			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 400 V, I_E = 0$			10	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 6 V, I_C = 0$			1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10 mA, I_B = 1 mA$			0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10 mA, I_B = 1 mA$			1.5	
DC current gain	h_{FE}	$V_{CE} = 10 V, I_C = 10 mA$	82		270	
Turn-on time	t_{on}	$I_C = -100 mA, R_L = 1.5 k\Omega$		1		μs
Storage time	t_{stg}	$I_{B1} = -I_{B2} = 10 mA$		5.5		
Fall time	t_f	$V_{CC} = 150 V$		1.7		
Collector output capacitance	C_{ob}	$V_{CB} = 10 V, I_E = 0, f = 1 MHz$		7		pF
Transition frequency	f_T	$V_{CE} = 10 V, I_E = -10 mA, f = 10 MHz$		20		MHz

■ Classification of h_{FE}

Type	2SC4505-P	2SC4505-Q
Range	82-180	120-270
Marking	CEP	CEQ

NPN Transistors

2SC4505

■ Typical Characteristics

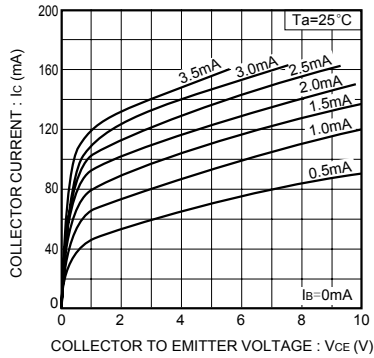


Fig.1 Ground emitter output characteristics

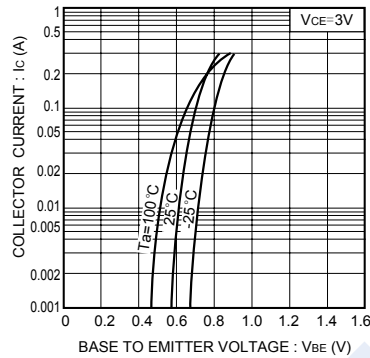


Fig.2 Ground emitter propagation characteristics

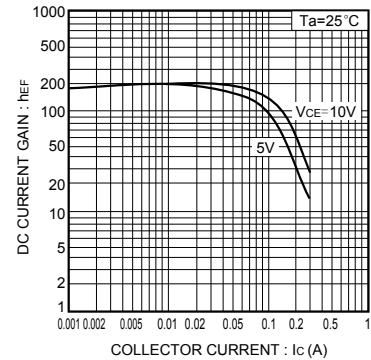


Fig.3 DC current gain vs. collector current (I)

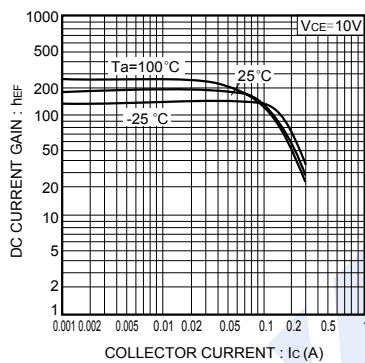


Fig.4 DC current gain vs. collector current (II)

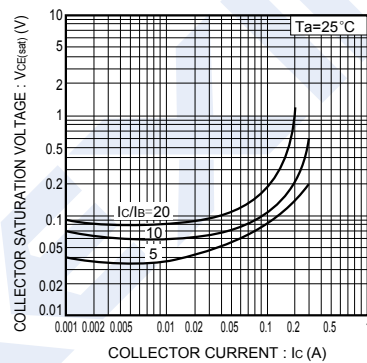


Fig.5 Collector-emitter saturation voltage vs. collector current

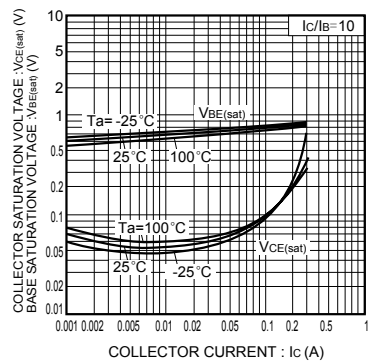


Fig.6 Collector-emitter saturation voltage vs. collector current

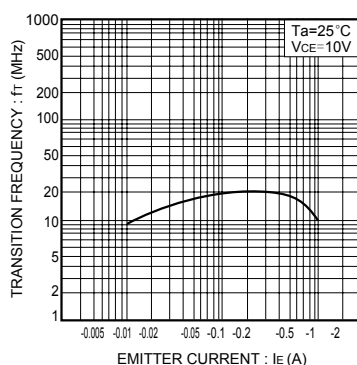


Fig.7 Gain bandwidth product vs. emitter current

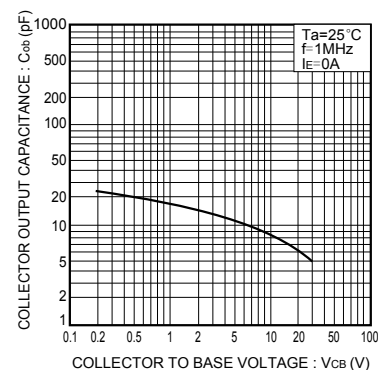


Fig.8 Collector output capacitance vs. collector-base voltage

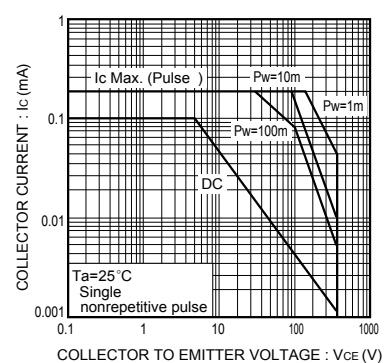


Fig.9 Safe operating area