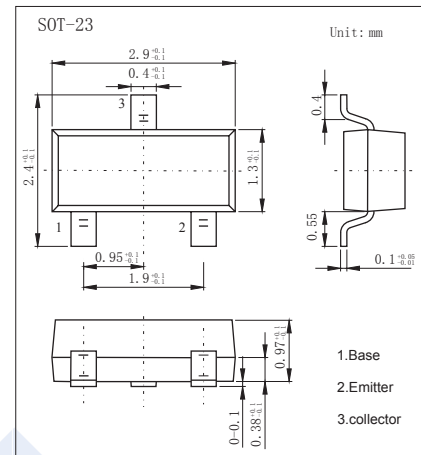


NPN Transistors

2SC4854

■ Features

- Collector Current Capability $I_C=15\text{mA}$
- Collector Emitter Voltage $V_{CE0}=6\text{V}$

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	12	V
Collector - Emitter Voltage	V_{CEO}	6	
Emitter - Base Voltage	V_{EBO}	1.5	
Collector Current - Continuous	I_C	15	mA
Collector Power Dissipation	P_C	80	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100\ \mu\text{A}, I_E = 0$	12			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 1\ \text{mA}, I_B = 0$	6			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100\ \mu\text{A}, I_C = 0$	1.5			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 5\text{V}, I_E = 0$			1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 1\text{V}, I_C = 0$			10	μA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 15\text{mA}, I_B = 1.5\text{mA}$			0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 15\text{mA}, I_B = 1.5\text{mA}$			1.2	
DC current gain	h_{FE}	$V_{CE} = 1\text{V}, I_C = 1\text{mA}$	60		270	
Forward transfer gain	$ S_{21e} ^2$	$V_{CE} = 1\text{V}, I_C = 1\text{mA}, f = 1\text{GHz}$	4.5			dB
		$V_{CE} = 2\text{V}, I_C = 3\text{mA}, f = 1\text{GHz}$		10.5		
Noise figure	NF	$V_{CE} = 1\text{V}, I_C = 1\text{mA}, f = 1\text{GHz}$			4.5	
		$V_{CE} = 2\text{V}, I_C = 3\text{mA}, f = 1\text{GHz}$		1.9		
Collector output capacitance	C_{ob}	$V_{CB} = 1\text{V}, f = 1\text{MHz}$			1	pF
Transition frequency	f_T	$V_{CE} = 1\text{V}, I_C = 1\text{mA}$		5		GHz

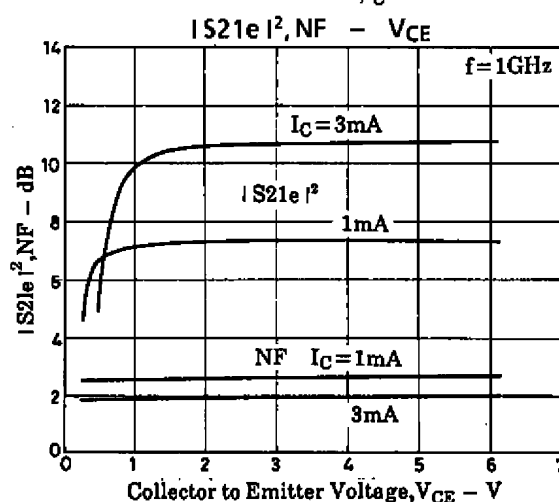
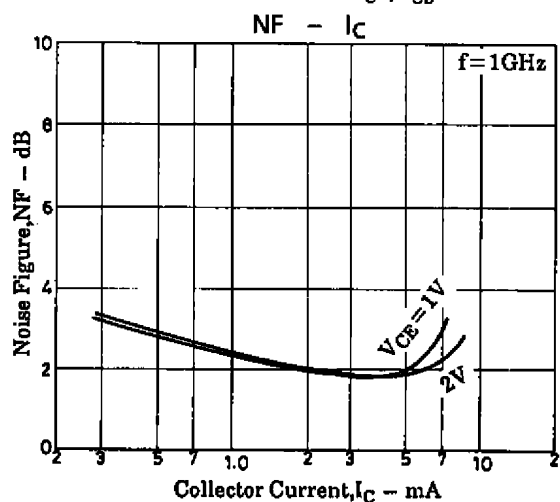
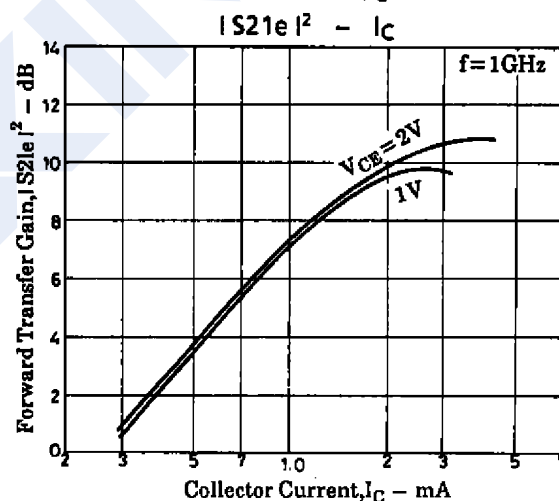
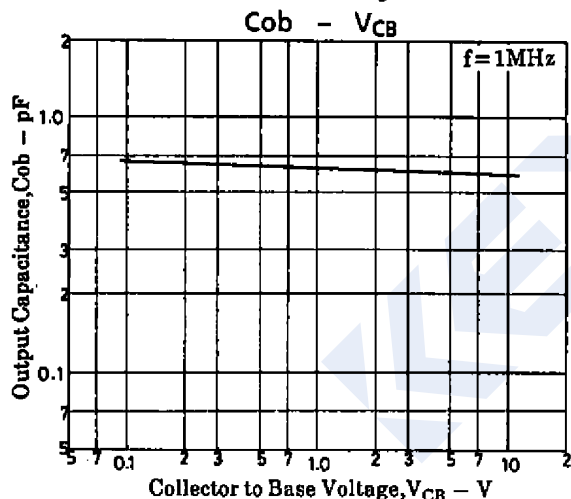
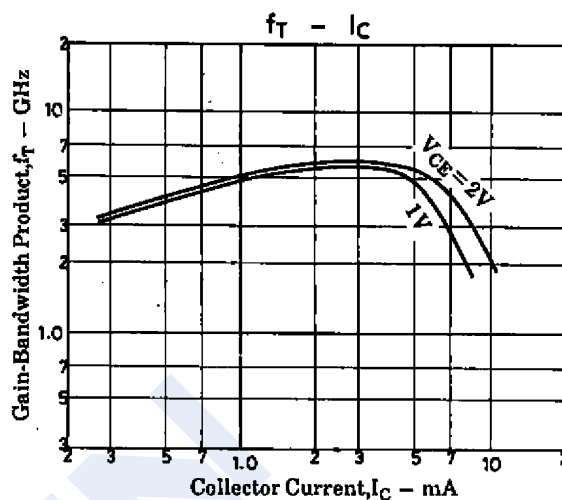
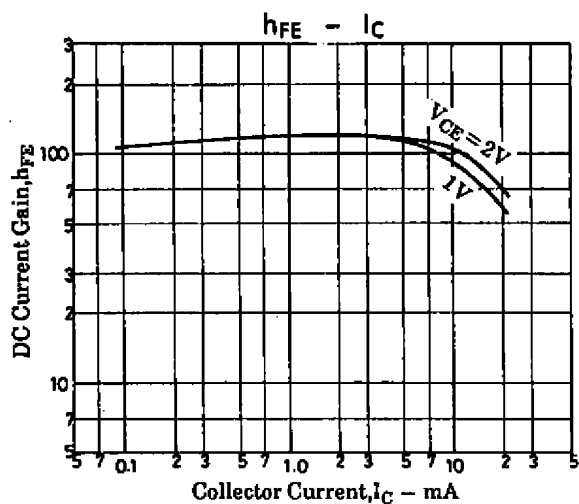
■ Classification of h_{FE}

Type	2SC4854-CN3	2SC4854-CN4	2SC4854-CN5
Range	60-120	90-180	135-270
Marking	CN3	CN4	CN5

NPN Transistors

2SC4854

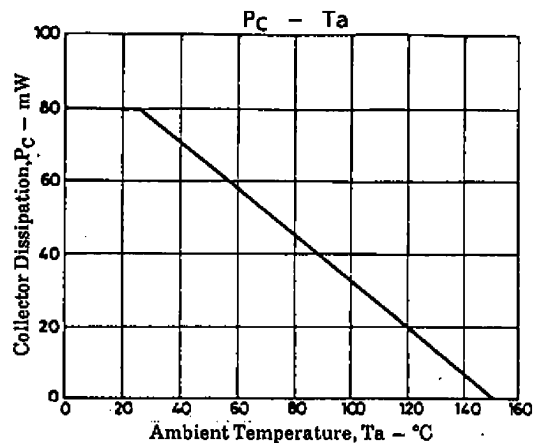
■ Typical Characteristics



NPN Transistors

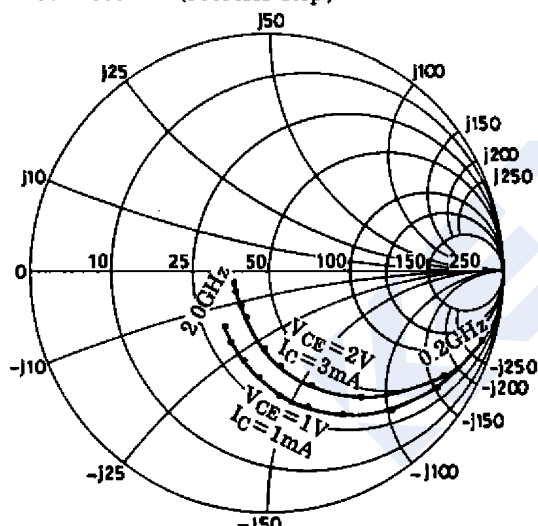
2SC4854

■ Typical Characteristics

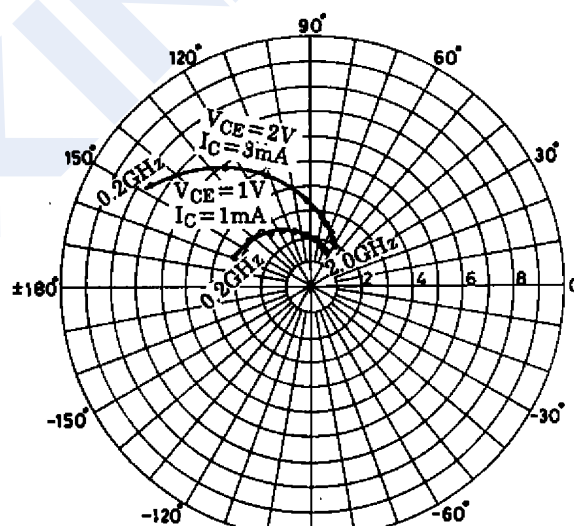


S Parameter

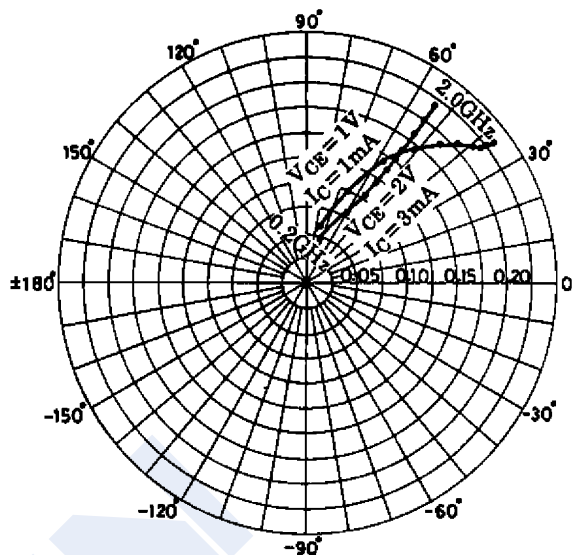
S11e

 $f=200\sim2000\text{MHz}$ (200MHz step)

S21e

 $f=200\sim2000\text{MHz}$ (200MHz step)

S12e

 $f=200\sim2000\text{MHz}$ (200MHz step)

S22e

 $f=200\sim2000\text{MHz}$ (200MHz step)