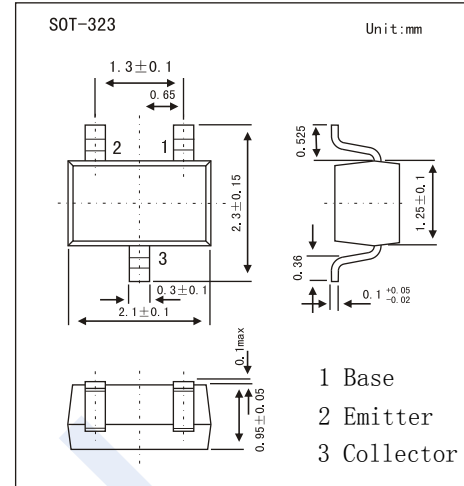


## NPN Transistors

## 2SC4177

## ■ Features

- High DC Current Gain:  $h_{FE}=200(\text{typ})$
- High Voltage:  $V_{CE0}=50\text{V}$
- Complementary to 2SA1611

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CBO}$	60	V
Collector - Emitter Voltage	$V_{CEO}$	50	
Emitter - Base Voltage	$V_{EBO}$	5	
Collector Current - Continuous	$I_c$	100	mA
Collector Power Dissipation	$P_c$	150	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	$V_{CBO}$	$I_c = 100 \mu\text{A}, I_E = 0$	60			V
Collector- emitter breakdown voltage	$V_{CEO}$	$I_c = 1 \text{ mA}, I_B = 0$	50			
Emitter - base breakdown voltage	$V_{EBO}$	$I_E = 100 \mu\text{A}, I_c = 0$	5			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = 60\text{V}, I_E = 0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_c = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(\text{sat})}$	$I_c = 100 \text{ mA}, I_B = 10 \text{ mA}$		0.15	0.3	V
Base - emitter saturation voltage	$V_{BE(\text{sat})}$	$I_c = 100 \text{ mA}, I_B = 10 \text{ mA}$		0.86	1	
Base - emitter voltage	$V_{BE}$	$V_{CE} = 6\text{V}, I_c = 1 \text{ mA}$	0.55	0.62	0.65	
DC current gain *1	$h_{FE}$	$V_{CE} = 6\text{V}, I_c = 1 \text{ mA}$	90	200	600	
Collector output capacitance	$C_{ob}$	$V_{CB} = 6\text{V}, I_E = 0, f = 1\text{MHz}$		3		pF
Transition frequency	$f_T$	$V_{CE} = 6\text{V}, I_E = -10 \text{ mA}$		250		MHz

\*1 : Pulse:  $P_w \leq 350\mu\text{s}$  Duty Cycle  $\leq 2\%$

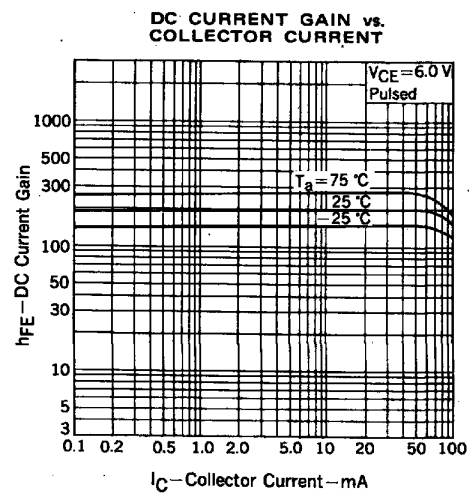
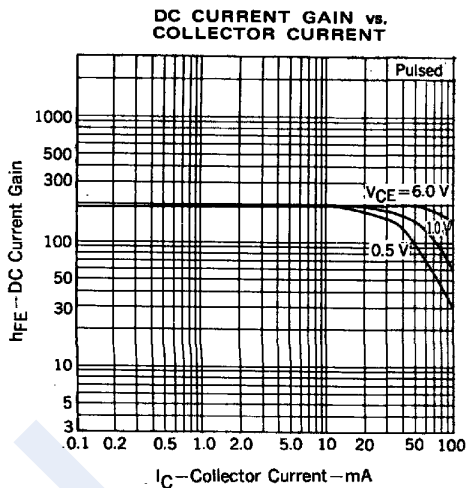
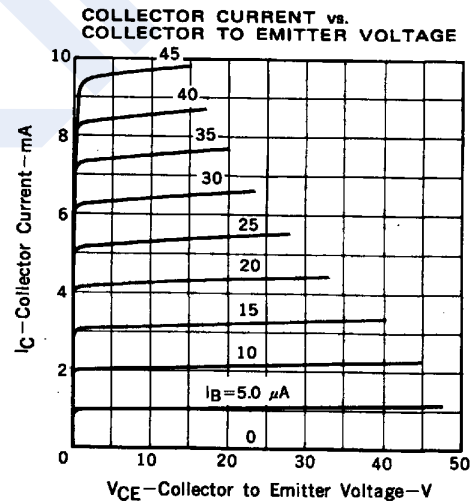
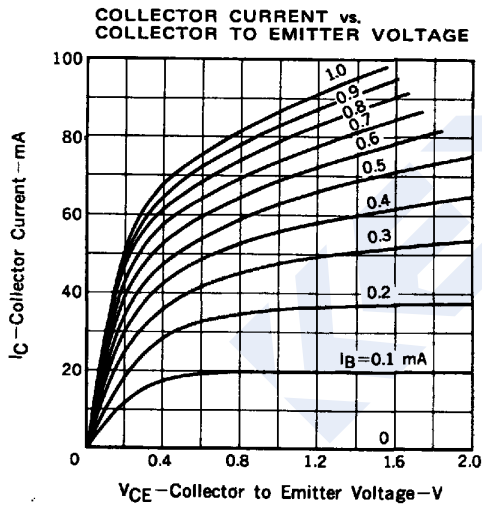
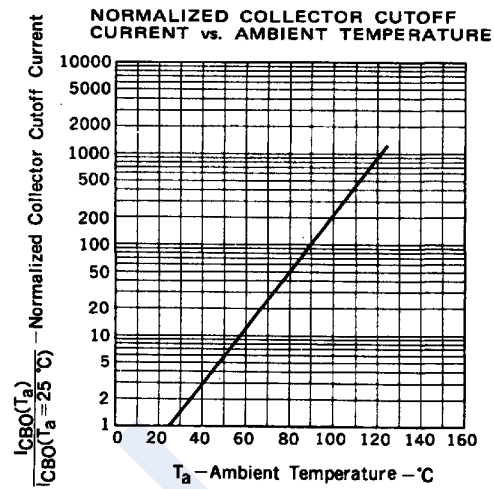
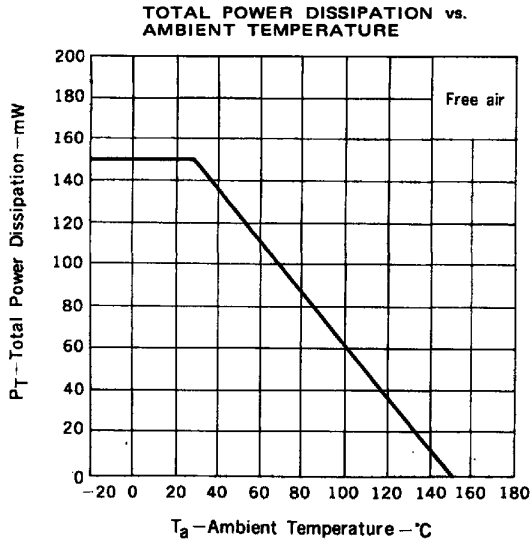
■ Classification of  $h_{FE}$ 

Type	2SC4177-L4	2SC4177-L5	2SC4177-L6	2SC4177-L7
Range	90-180	135-270	200-400	300-600
Marking	L4	L5	L6	L7

# NPN Transistors

## 2SC4177

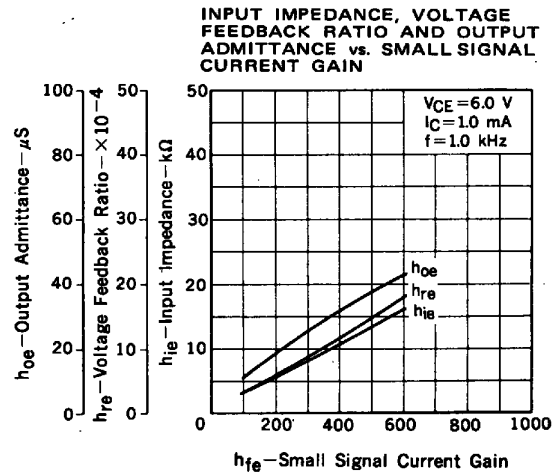
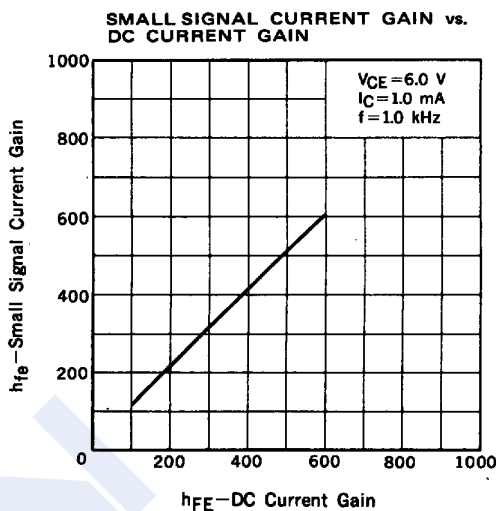
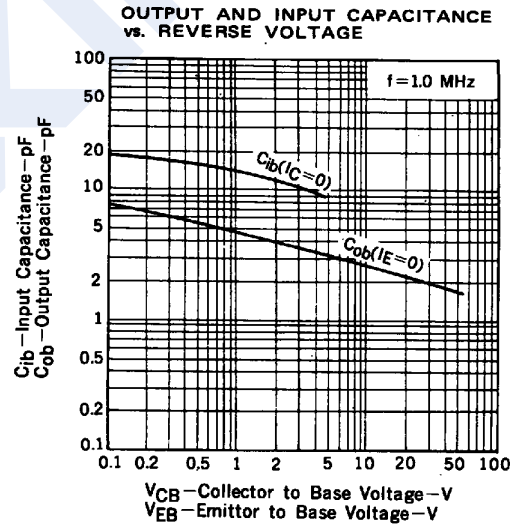
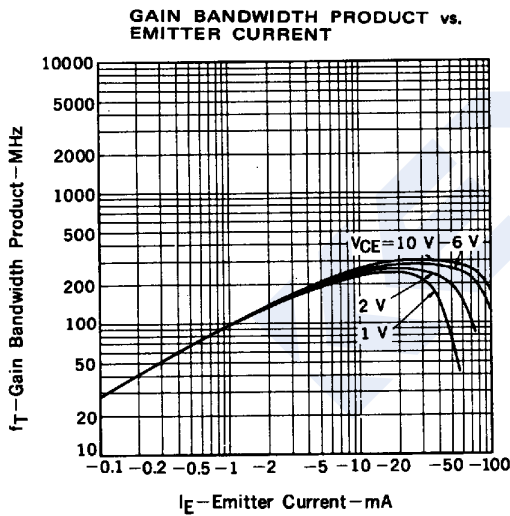
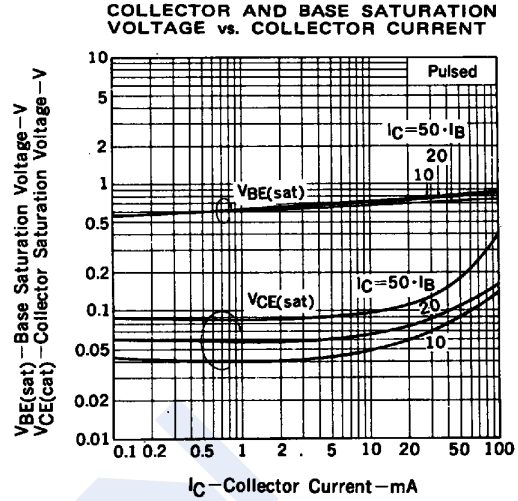
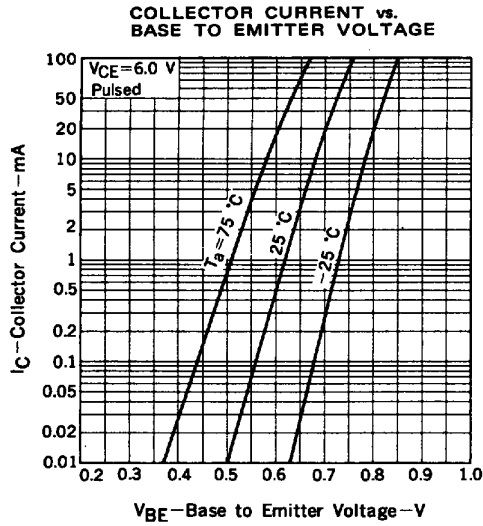
■ Typical Characteristics



# NPN Transistors

## 2SC4177

■ Typical Characteristics



## NPN Transistors

### 2SC4177

■ Typical Characteristics

