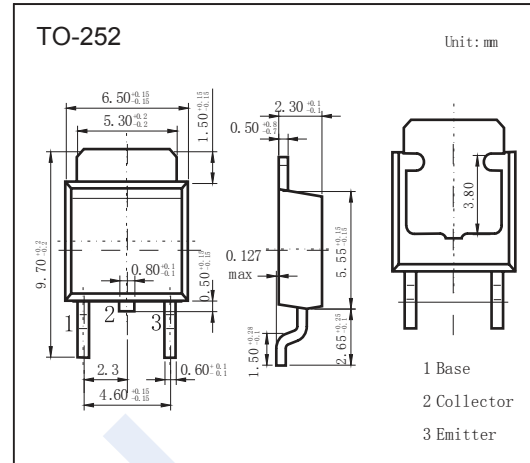


## NPN Transistors

## 2SD1902

## ■ Features

- High reliability
- Complementary to 2SB1266

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	60	V
Collector - Emitter Voltage	$V_{CE0}$	60	
Emitter - Base Voltage	$V_{EB0}$	6	
Collector Current - Continuous	$I_C$	3	A
Collector Current - Pulse	$I_{CP}$	8	
Collector Power Dissipation	$P_C$	1.65	W
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	$V_{CB0}$	$I_C = 1 \text{ mA}, I_E = 0$	60			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_C = 5 \text{ mA}, R_{BE} = \infty$	60			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E = 1 \text{ mA}, I_C = 0$	6			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = 50 \text{ V}, I_E = 0$			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	$V_{CE(sat)}$	$I_C = 2 \text{ A}, I_B = 200 \text{ mA}$		0.4	1	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2 \text{ A}, I_B = 200 \text{ mA}$			1.2	
Base - emitter voltage	$V_{BE}$	$V_{CE} = 5 \text{ V}, I_C = 500 \text{ mA}$		0.7	1	
DC current gain	$h_{FE}$	$V_{CE} = 5 \text{ V}, I_C = 500 \text{ mA}$	70		280	
		$V_{CE} = 5 \text{ V}, I_C = 3 \text{ A}$	20			
Collector output capacitance	$C_{ob}$	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$		110		pF
Transition frequency	$f_T$	$V_{CE} = 5 \text{ V}, I_C = 500 \text{ mA}$		40		MHz

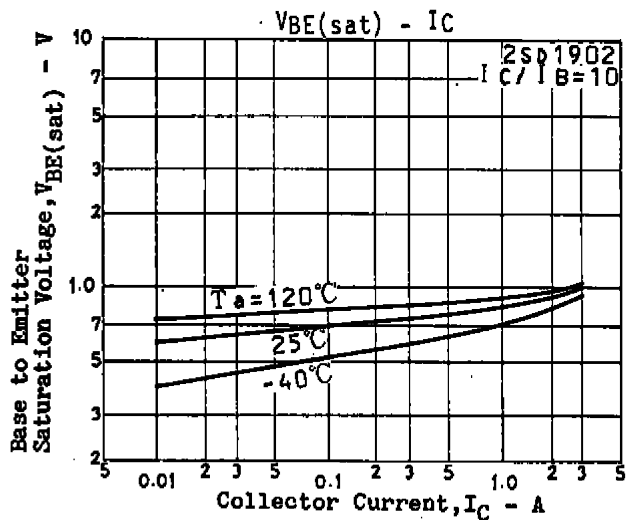
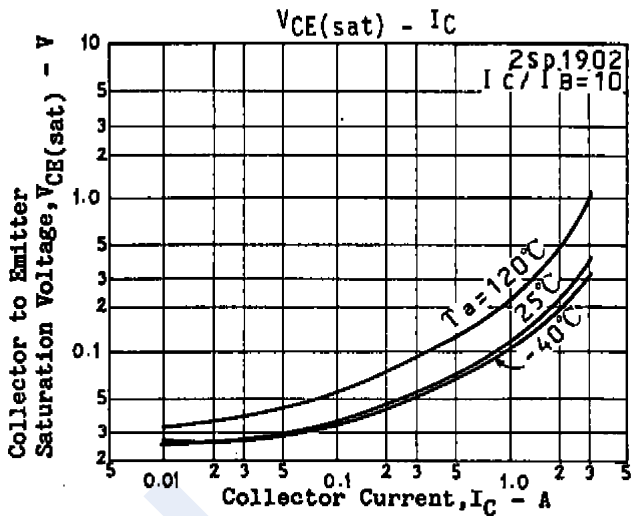
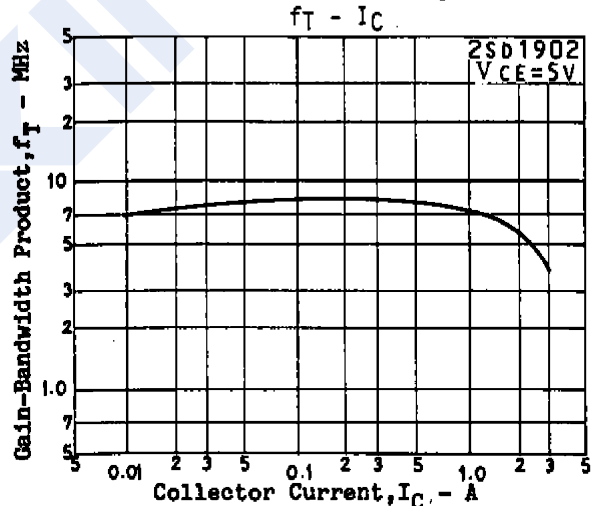
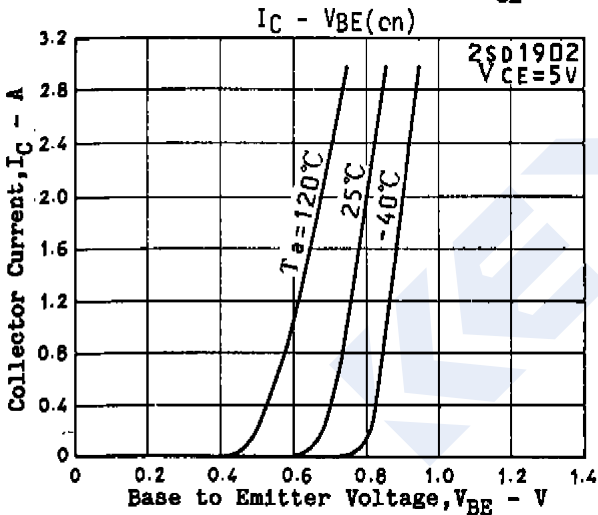
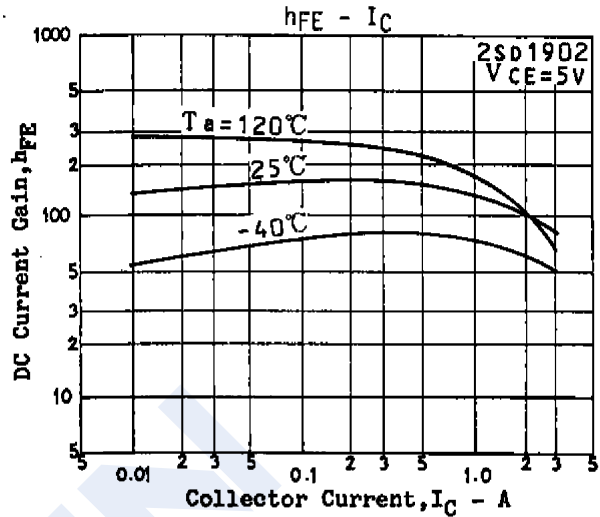
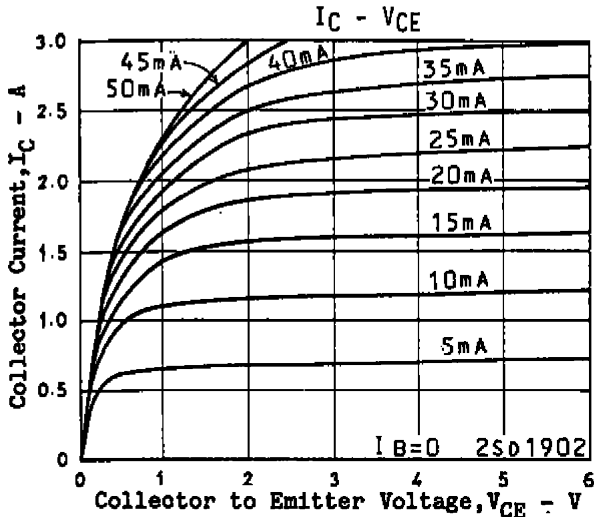
■ Classification of  $h_{FE(1)}$ 

Type	2SD1902-Q	2SD1902-R	2SD1902-S
Range	70-140	100-200	140-280

NPN Transistors

2SD1902

■ Typical Characteristics



### NPN Transistors

### 2SD1902

■ Typical Characteristics

