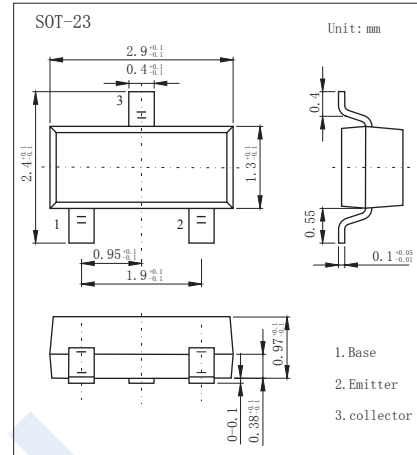


## NPN Transistors

### 2SC3734

#### ■ Features

- High Speed:  $t_{stg} < 200\text{ns}$
- Complementary to 2SA1461



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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	60	V
Collector - Emitter Voltage	$V_{CE0}$	40	
Emitter - Base Voltage	$V_{EB0}$	6	
Collector Current - Continuous	$I_C$	200	mA
Collector Power Dissipation	$P_C$	200	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	$V_{CB0}$	$I_C = 100\ \mu\text{A}, I_E = 0$	60			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_C = 1\ \text{mA}, I_B = 0$	40			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E = 100\ \mu\text{A}, I_C = 0$	6			
Collector-base cut-off current	$I_{CB0}$	$V_{CB} = 30\text{V}, I_E = 0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EB0}$	$V_{EB} = 5\text{V}, I_C = 0$			0.1	
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	$I_C = 50\ \text{mA}, I_B = 5\ \text{mA}$		0.12	0.3	V
Base - emitter saturation voltage *1	$V_{BE(sat)}$	$I_C = 50\ \text{mA}, I_B = 5\ \text{mA}$		0.8	0.95	
DC current gain *1	$h_{FE(1)}$	$V_{CE} = 1\text{V}, I_C = 10\ \text{mA}$	75	200	300	
	$h_{FE(2)}$	$V_{CE} = 1\text{V}, I_C = 100\ \text{mA}$	25	80		
Turn-on time	$t_{on}$	$V_{CC} = 3\text{V}, I_C = 10\ \text{mA}, I_{B1} = -I_{B2} = 1\ \text{mA}$			70	ns
Storage time	$t_{stg}$			100	200	
Turn-off time	$t_{off}$				250	
Collector output capacitance	$C_{ob}$	$V_{CB} = 5\text{V}, I_E = 0, f = 1\ \text{MHz}$		3	4	pF
Transition frequency	$f_T$	$V_{CE} = 20\text{V}, I_E = -10\ \text{mA}$	300	510		MHz

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

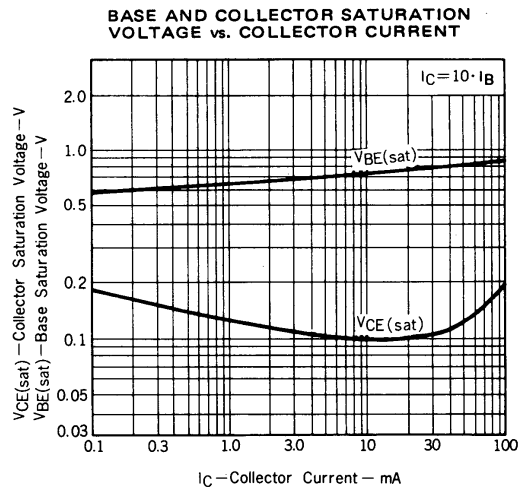
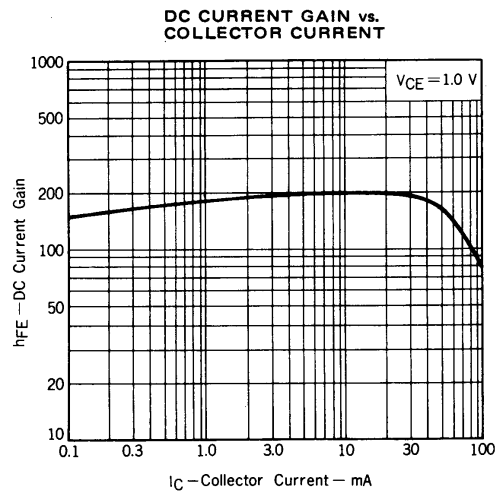
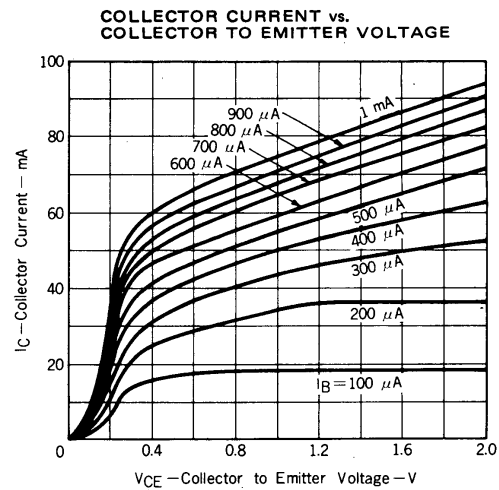
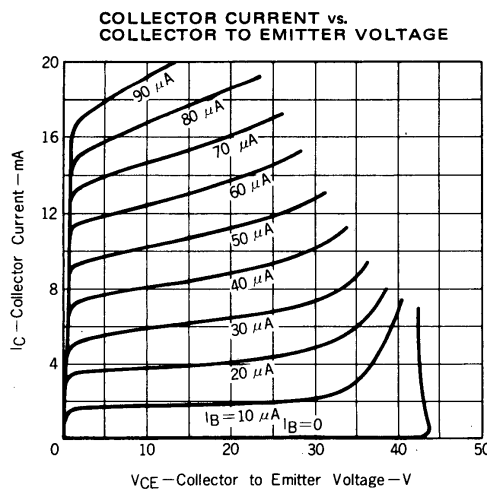
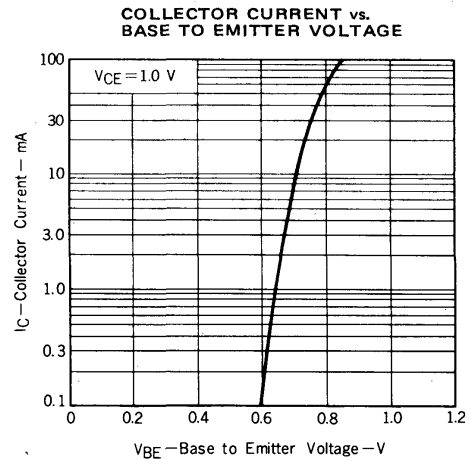
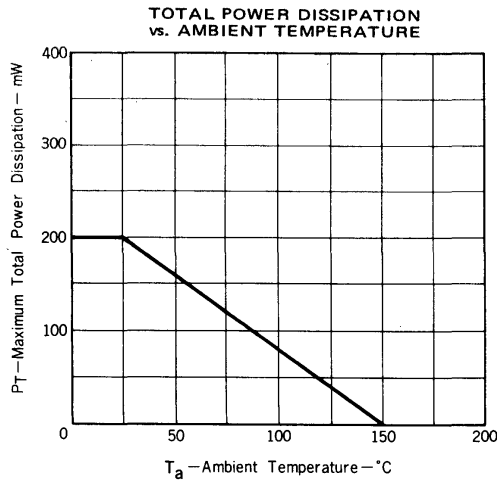
#### ■ Classification of $h_{FE(1)}$

Type	2SC3734-B22	2SC3734-B23	2SC3734-B24
Range	75-150	100-200	150-300
Marking	B22	B23	B24

# NPN Transistors

## 2SC3734

■ Typical Characteristics

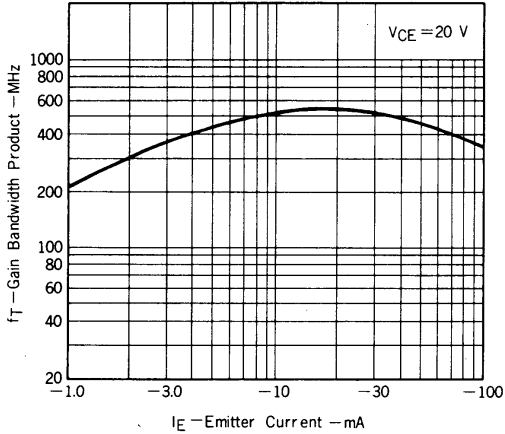


# NPN Transistors

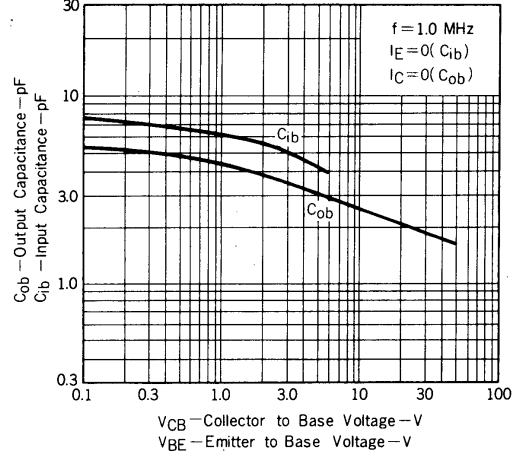
## 2SC3734

■ Typical Characteristics

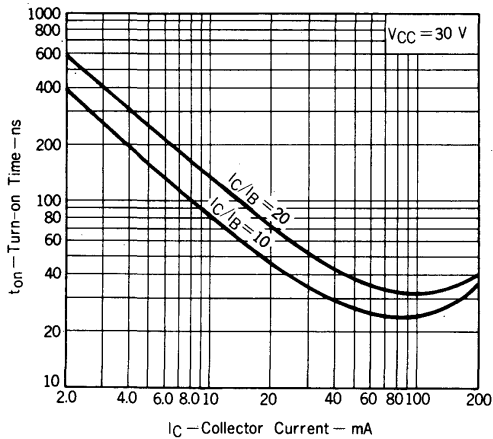
GAIN BANDWIDTH PRODUCT vs. EMITTER CURRENT



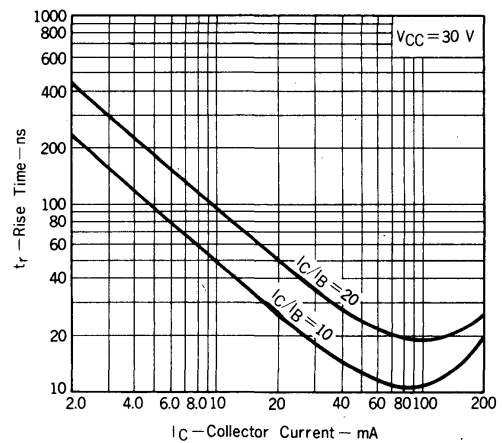
INPUT AND OUTPUT CAPACITANCE vs. REVERSE VOLTAGE



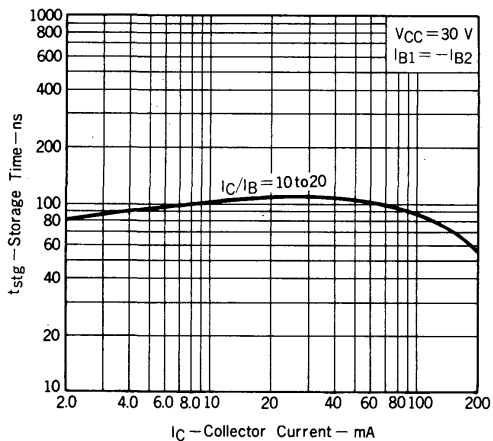
TURN-ON TIME vs. COLLECTOR CURRENT



RISE TIME vs. COLLECTOR CURRENT



STORAGE TIME vs. COLLECTOR CURRENT



FALL TIME vs. COLLECTOR CURRENT

