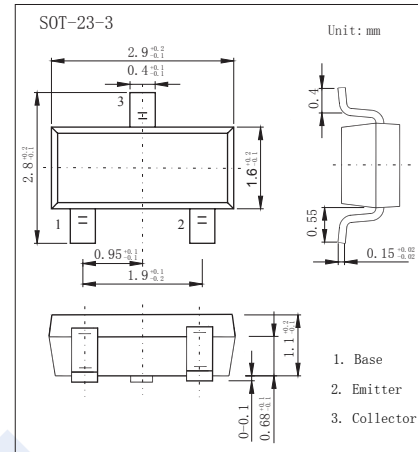


NPN Transistors

2SC3734-HF

■ Features

- High Speed: $t_{stg} < 200\text{ns}$
- Complementary to 2SA1461-HF
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish



■ 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_{CBO}	$V_{CB} = 30\text{V}, I_E = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$			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 : $PW \leq 350\mu\text{s}, \text{Duty Cycle} \leq 2\%$

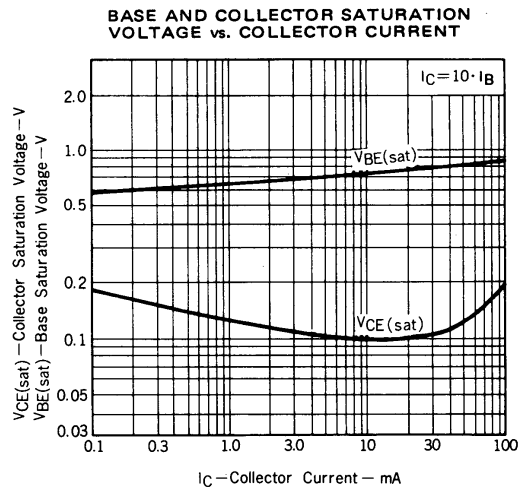
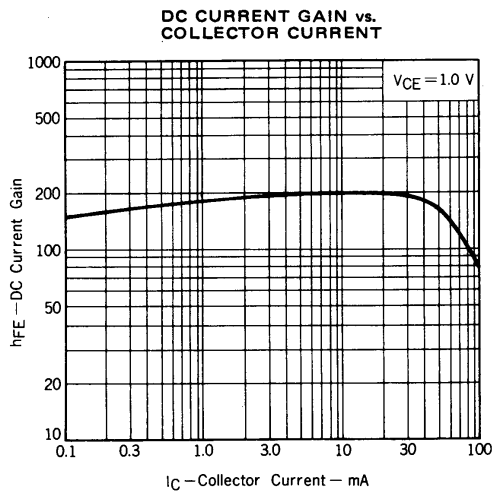
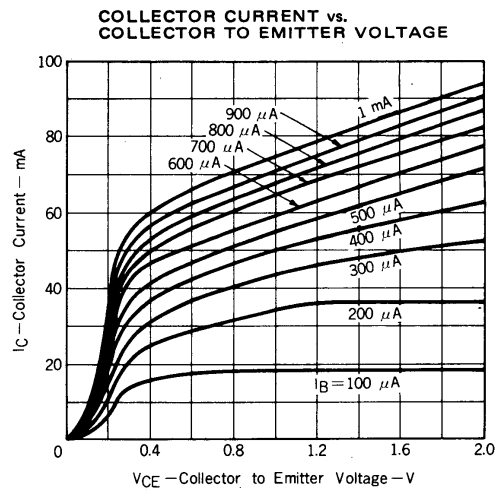
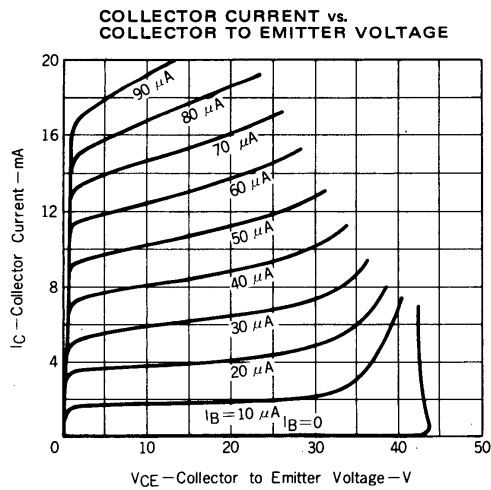
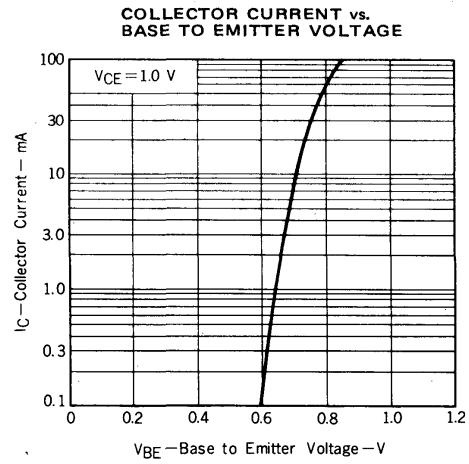
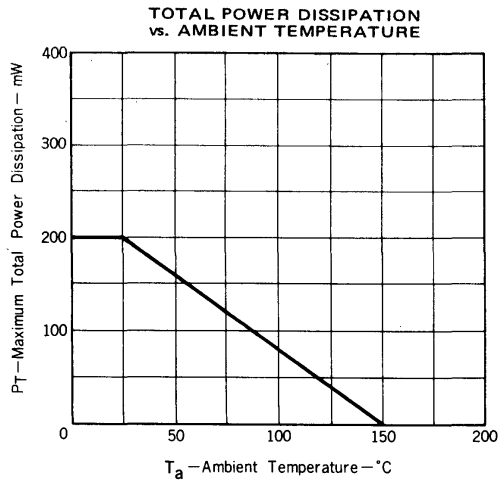
■ Classification of $h_{FE(1)}$

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

NPN Transistors

2SC3734-HF

■ Typical Characteristics

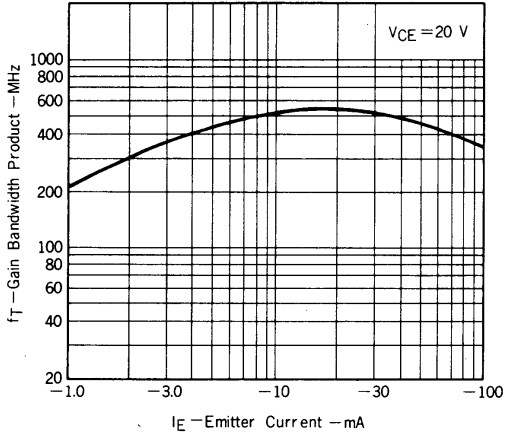


NPN Transistors

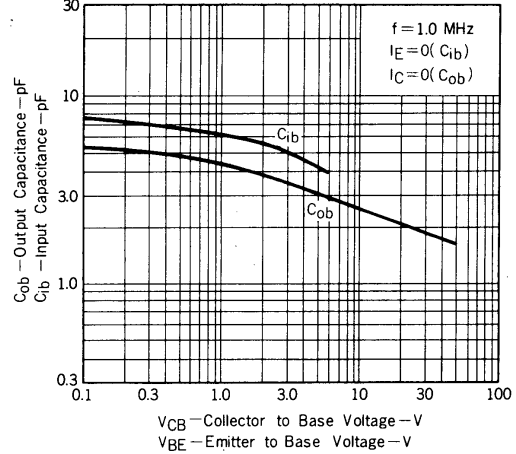
2SC3734-HF

■ Typical Characteristics

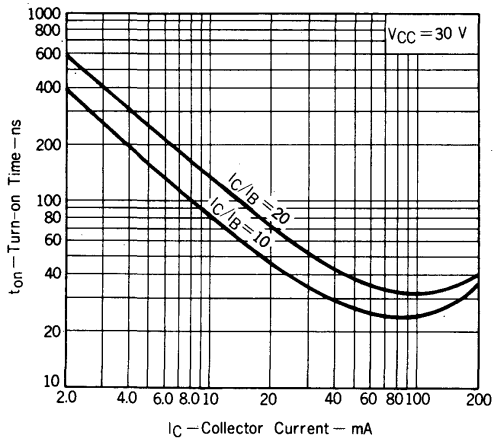
GAIN BANDWIDTH PRODUCT vs. EMITTER CURRENT



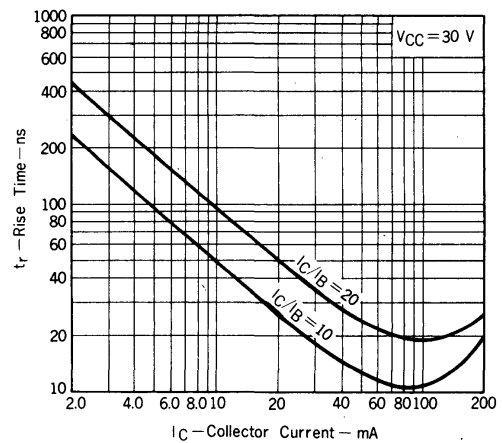
INPUT AND OUTPUT CAPACITANCE vs. REVERSE VOLTAGE



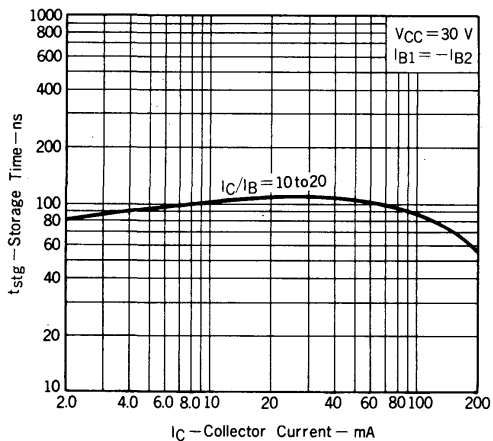
TURN-ON TIME vs. COLLECTOR CURRENT



RISE TIME vs. COLLECTOR CURRENT



STORAGE TIME vs. COLLECTOR CURRENT



FALL TIME vs. COLLECTOR CURRENT

