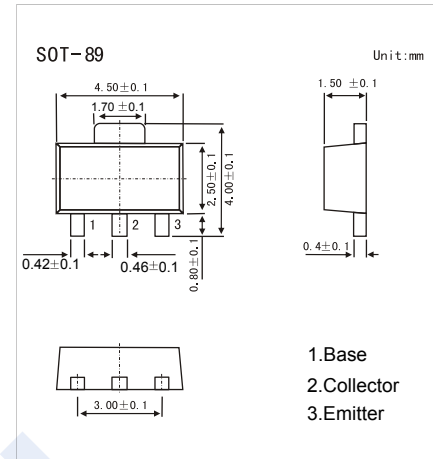


NPN Transistors

2SD1624-HF

■ Features

- Low collector-to-emitter saturation voltage.
- Large current capacity and wide ASO.
- Fast switching speed.
- Complementary to 2SB1124-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}	50	
Emitter - Base Voltage	V_{EB0}	6	
Collector Current - Continuous	I_C	3	A
Collector Current - Pulse	I_{CP}	6	
Collector Power Dissipation (Note.1)	P_C	0.5 1.5	W
Junction Temperature	T_J	150	
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1: Mounted on ceramic board (250mm² × 0.8mm)

■ 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}	$I_C = 1 \text{ mA}$, $R_{BE} = \infty$	50			
Emitter - base breakdown voltage	V_{EB0}	$I_E = 100 \mu\text{A}$, $I_C = 0$	6			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 50 \text{ V}$, $I_E = 0$			1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4 \text{ V}$, $I_C = 0$			1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2 \text{ A}$, $I_B = 100 \text{ mA}$		0.19	0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2 \text{ A}$, $I_B = 100 \text{ mA}$			1.2	
DC current gain	h_{FE}	$V_{CE} = 2 \text{ V}$, $I_C = 100 \text{ mA}$	100		560	
		$V_{CE} = 2 \text{ V}$, $I_C = 3 \text{ A}$	35			
Turn-ON Time	t_{on}	See specified Test Circuit.		70		ns
Storage Time	t_{stg}			650		
Fall Time	t_f			35		
Collector output capacitance	C_{ob}	$V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 1 \text{ MHz}$		25		pF
Transition frequency	f_T	$V_{CE} = 10 \text{ V}$, $I_C = 50 \text{ mA}$		150		MHz

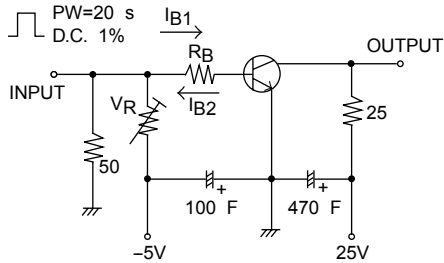
■ Classification of $h_{FE}(1)$

Type	2SD1624-R-HF	2SD1624-S-HF	2SD1624-T-HF	2SD1624-U-HF
Range	100-200	140-280	200-400	280-560
Marking	DG R* _F	DG S* _F	DG T* _F	DG U* _F

NPN Transistors

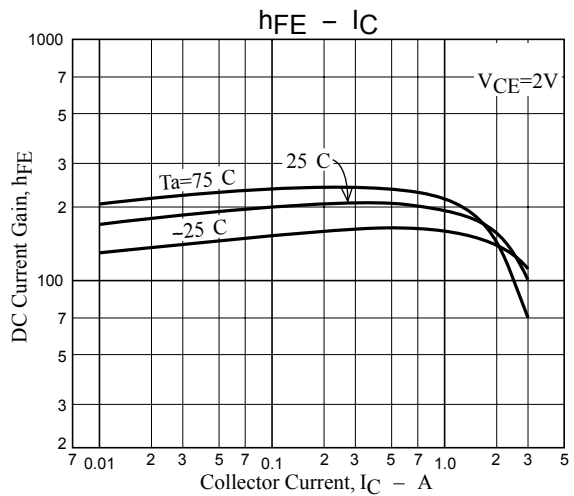
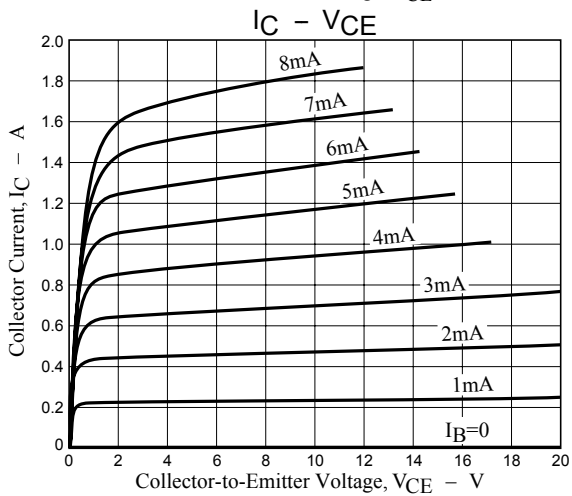
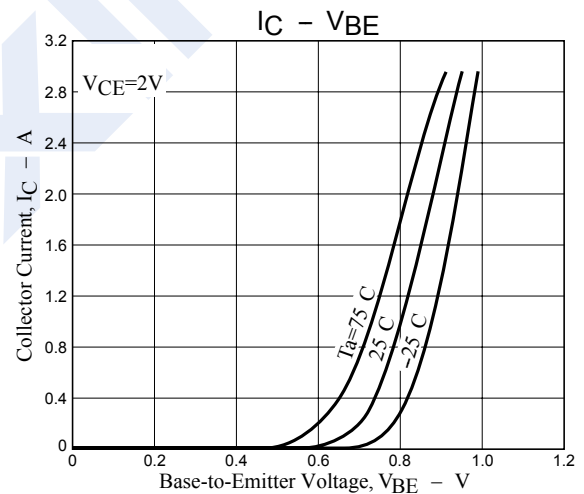
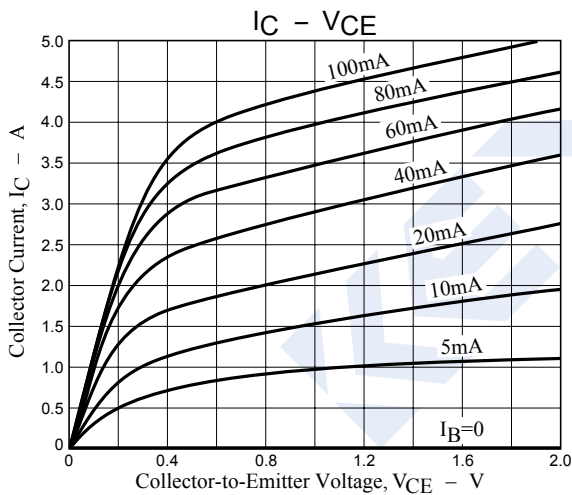
2SD1624-HF

Switching Time Test Circuit



$10I_{B1} = -10I_{B2} = I_C = 1A$
 (For PNP, the polarity is reversed.)

Typical Characteristics



NPN Transistors

2SD1624-HF

■ Typical Characteristics

