

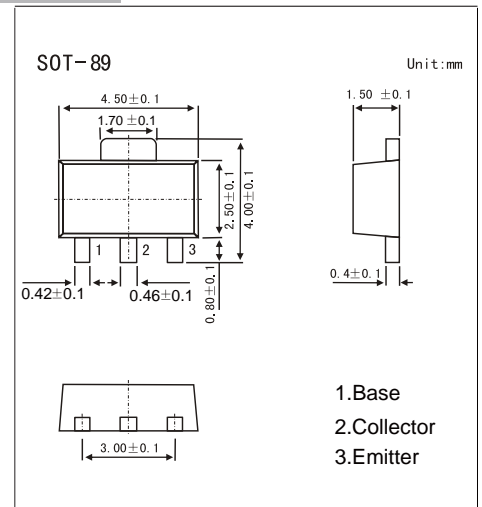
## SOT-89 Plastic-Encapsulate Transistors

### Features

- Low collector-to-emitter saturation voltage.
- Large current capacity and wide ASO.
- Fast switching speed.
- Complementary to 2SB1124 NPN Transistors

### MECHANICAL DATA

- Case style: SOT-89 molded plastic
- Mounting position: any



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V <sub>CB0</sub>	60	V
Collector - Emitter Voltage	V <sub>CEO</sub>	50	
Emitter - Base Voltage	V <sub>EBO</sub>	6	
Collector Current - Continuous	I <sub>C</sub>	3	A
Collector Current - Pulse	I <sub>CP</sub>	6	
Collector Power Dissipation (Note.1)	P <sub>C</sub>	0.5	W
		1.5	
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to 150	

Note.1: Mounted on ceramic board (250mm<sup>2</sup> × 0.8mm)

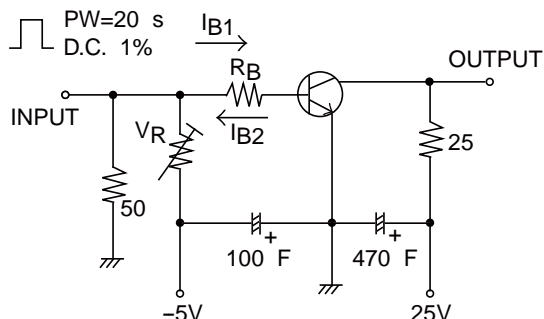
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V <sub>CB0</sub>	I <sub>C</sub> = 100 uA, I <sub>E</sub> = 0	60			V
Collector- emitter breakdown voltage	V <sub>CEO</sub>	I <sub>C</sub> = 1 mA, R <sub>BE</sub> = ∞	50			
Emitter - base breakdown voltage	V <sub>EBO</sub>	I <sub>E</sub> = 100 uA, I <sub>C</sub> = 0	6			
Collector-base cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 50 V, I <sub>E</sub> = 0			1	uA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 4V, I <sub>C</sub> =0			1	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =2 A, I <sub>B</sub> =100 mA		0.19	0.5	V
Base - emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =2 A, I <sub>B</sub> =100 mA			1.2	
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = 2V, I <sub>C</sub> = 100 mA	100		560	
		V <sub>CE</sub> = 2V, I <sub>C</sub> = 3 A	35			
Turn-ON Time	t <sub>on</sub>	See specified Test Circuit.		70		ns
Storage Time	t <sub>stg</sub>			650		
Fall Time	t <sub>f</sub>			35		
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f=1MHz		25		pF
Transition frequency	f <sub>r</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> = 50mA		150		MHz

### Classification of h<sub>FE</sub>(1)

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

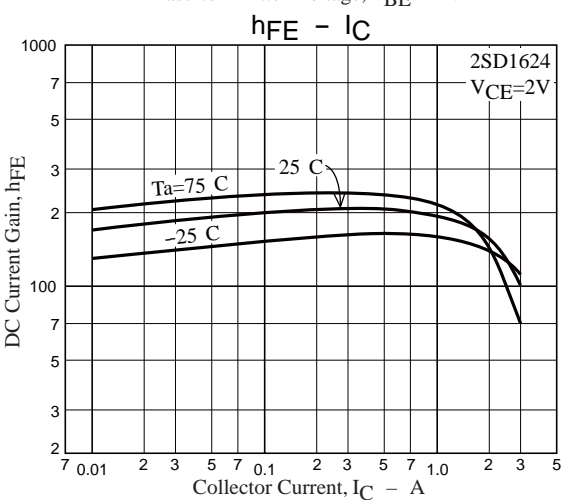
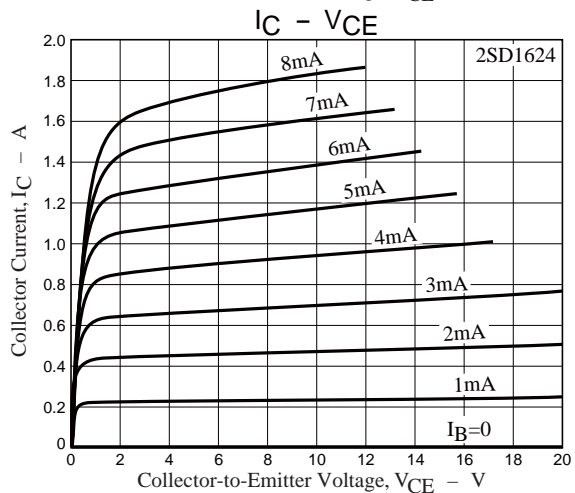
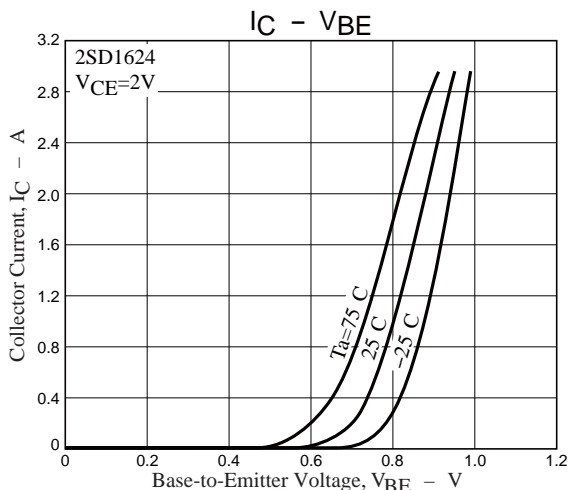
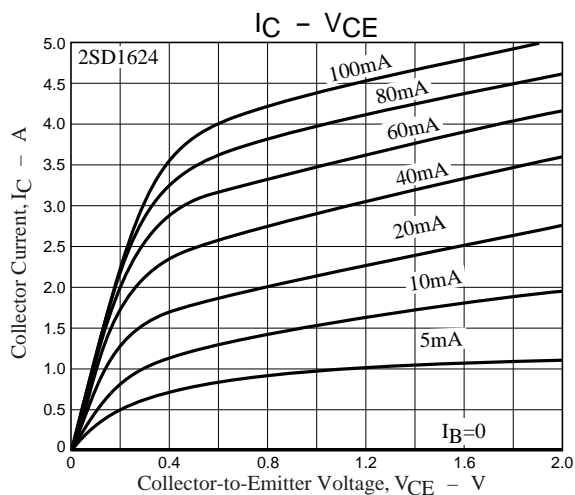
# RATINGS AND CHARACTERISTIC CURVES

## Switching Time Test Circuit



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

### Typical Characteristics



# RATINGS AND CHARACTERISTIC CURVES

## Typical Characteristics

