2SD1624

SOT-89 Plastic-Encapsulate Transistors

Features

Low collector-to-emitter saturation voltage.

Large current capacity and wide ASO.

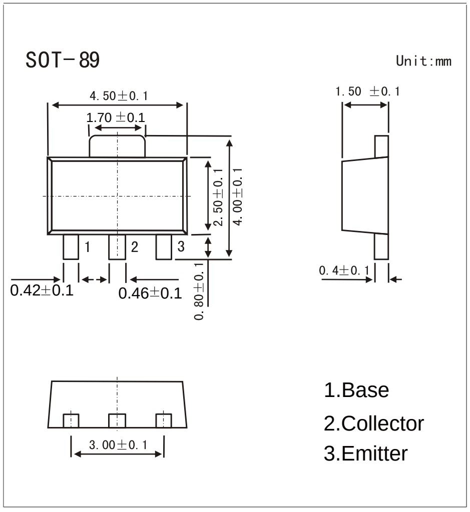
Fast switching speed.

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_{CBO}	60	V
Collector - Emitter Voltage	V_{CEO}	50	
Emitter - Base Voltage	V_{EBO}	6	
Collector Current - Continuous	I_C	3	A
Collector Current - Pulse	I_{CP}	6	
Collector Power Dissipation	P_C	0.5	W
(Note.1)		1.5	
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1:Mounted on ceramic board (250mm^2 ×0.8mm)

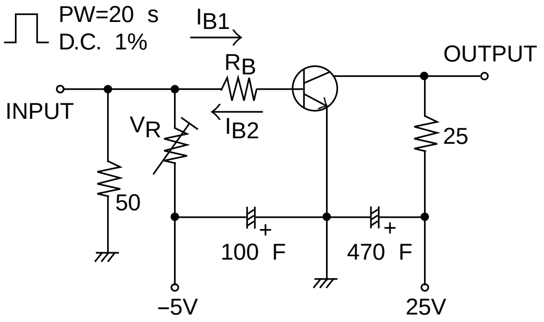
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100 uA， I_E= 0	60			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA，R_{BE}= ∞	50			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 uA， I_C= 0	6			
Collector-base cut-off current	I_{CBO}	V_{CB}= 50 V , I_E= 0			1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 4V , I_C=0			1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=2 A, I_B=100 mA		0.19	0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=2 A, I_B=100 mA			1.2	
DC current gain	h_{FE}	V_{CE}= 2V, I_C= 100 mA	100		560	
		V_{CE}= 2V, I_C= 3 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}= 10V, I_E= 0,f=1MHz		25		pF
Transition frequency	f_T	V_{CE}= 10V, I_C= 50mA		150		MHz

Classification of $h_{fe(1)}$

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

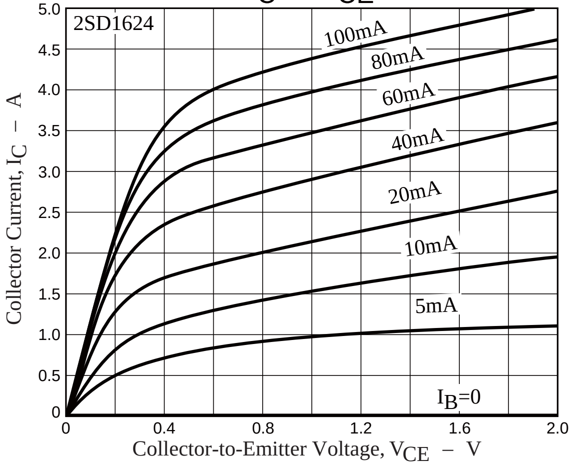
Switching Time Test Circuit



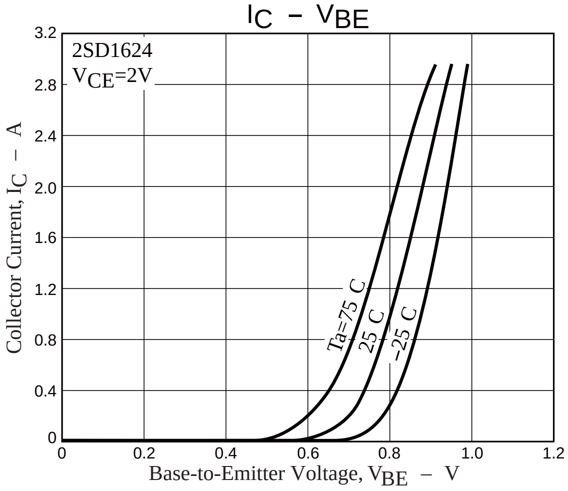
$10I_{B1}= -10I_{B2}=I_C=1A$
(For PNP, the polarity is reversed.)

■ Typical Characterisitics

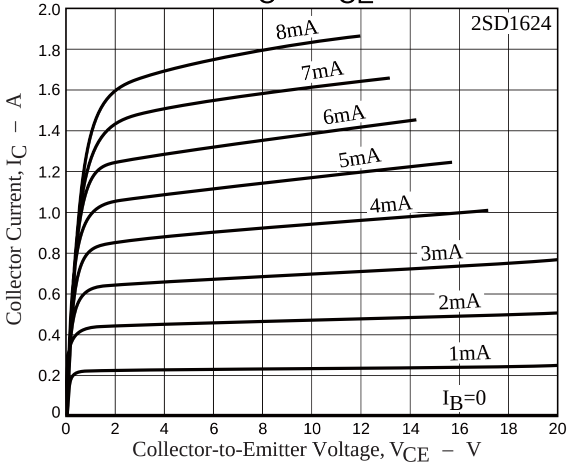
I_C – V_{CE}



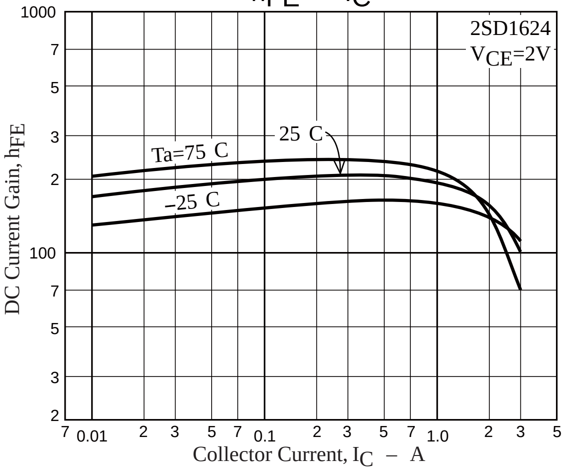
I_C – V_{BE}



I_C – V_{CE}

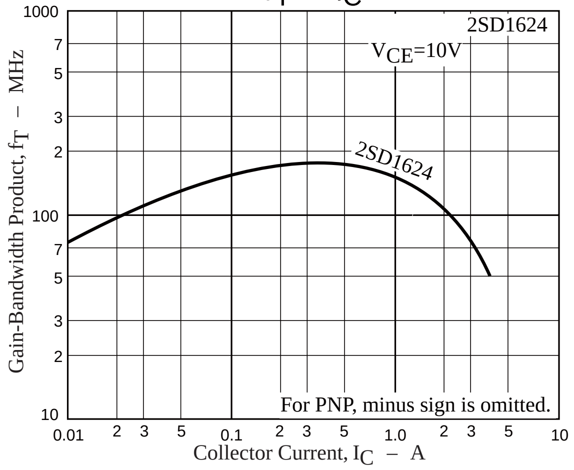


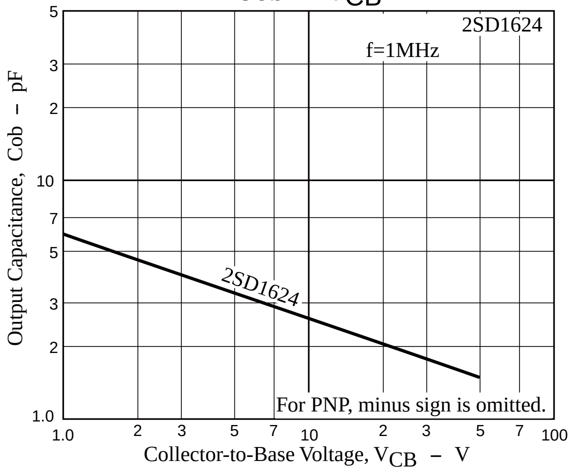
h_{FE} – I_C

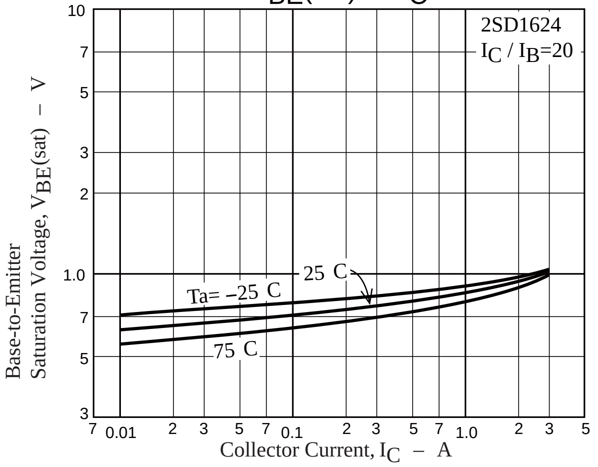


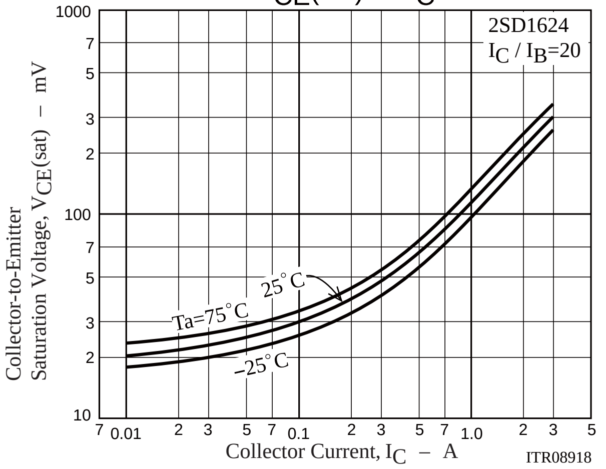
RATINGS AND CHARACTERISTIC CURVES

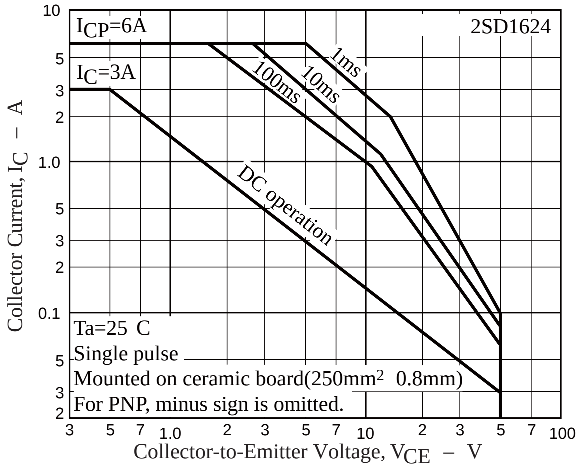
■ Typical Characterisitics

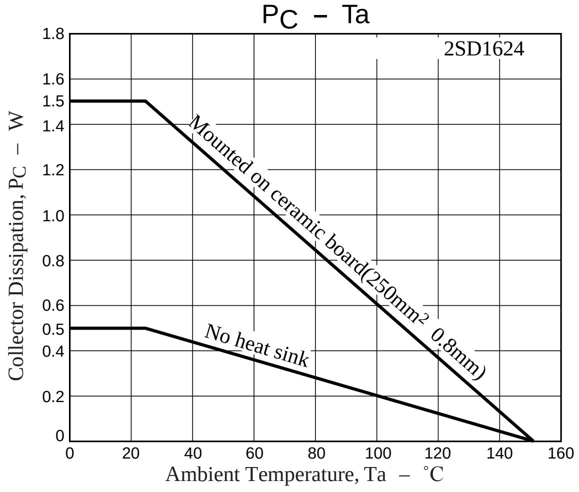

f_T – I_C


Cob – V_{CB}


V_{BE}(sat) – I_C


V_{CE}(sat) – I_C


A S O


P_C – Ta