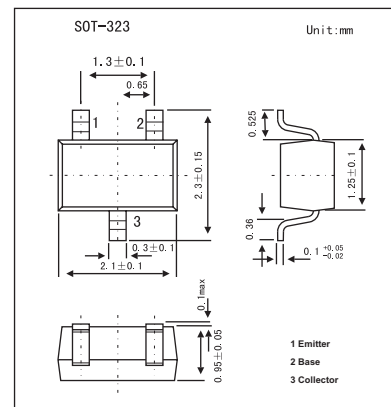


## NPN Epitaxial Planar Silicon Transistors

## 2SC4694

## ■ Features

- Adoption of MBIT process.
- High DC current gain.
- High  $V_{EBO}$  ( $V_{EBO} \geq 25V$ ).
- High reverse  $h_{FE}$  (150 typ).
- Small ON resistance [ $R_{on}=1\Omega$  ( $I_B=5mA$ )].

■ Absolute Maximum Ratings  $T_a = 25^\circ C$ 

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	50	V
Collector-emitter voltage	$V_{CEO}$	20	V
Emitter-base voltage	$V_{EBO}$	25	V
Collector current	$I_C$	500	mA
Collector current (pulse)	$I_{CP}$	800	mA
Base current	$I_B$	100	mA
Collector dissipation	$P_C$	150	mW
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ C$

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## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Collector cutoff current	IcBO	V <sub>CB</sub> = 40V , I <sub>E</sub> = 0			0.1	μA	
Emitter cutoff current	I <sub>EBO</sub>	V <sub>EB</sub> = 20V , I <sub>C</sub> = 0			0.1	μA	
DC current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 5V , I <sub>C</sub> = 10mA	300		1200		
Gain bandwidth product	f <sub>T</sub>	V <sub>CE</sub> = 10V , I <sub>C</sub> = 10mA		250		MHz	
Common base output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V , f = 1MHz		3.6		pF	
Collector-to-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 100mA , I <sub>B</sub> = 2mA		0.12	0.5	V	
Base-to-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 100mA , I <sub>B</sub> = 2mA		0.85	1.2	V	
Collector-to-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = -10μA , I <sub>E</sub> = 0	50			V	
Collector-to-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = -1mA , R <sub>BE</sub> = ∞	20			V	
Emitter-to-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -10μA , I <sub>C</sub> = 0	25			V	
Turn-on time	ton			135		ns	
Storage time	tstg				450		ns
Fall time	tf				100		ns

## ■ Marking

Marking	WT
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