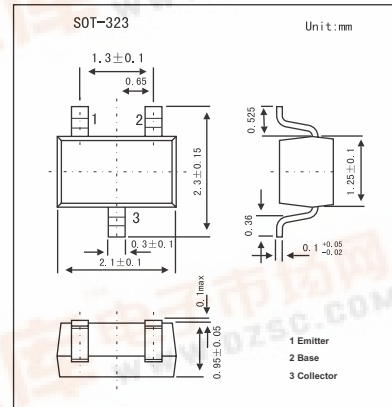


SMD Type Transistors

Silicon PNP Epitaxial
2SA1954

■ Features

- Low saturation voltage: $V_{CE(sat)}(1) = -15\text{ mV (typ.)}$
- Large collector current: $I_c = -500\text{ mA (max)}$

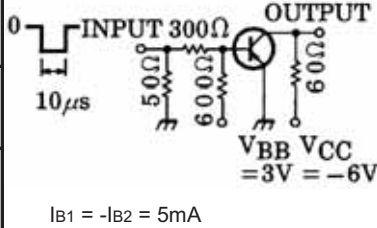


■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-15	V
Collector-emitter voltage	V_{CEO}	-12	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_c	-500	mA
Base current	I_B	-50	mA
Collector power dissipation	P_c	100	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to +125	$^\circ\text{C}$

2SA1954

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit	
Collector cut-off current	I_{CBO}	$V_{CB} = -15\text{ V}, I_E = 0$			-0.1	μA	
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{ V}, I_C = 0$			-0.1	μA	
DC current gain	h_{FE}	$V_{CE} = -2\text{ V}, I_C = -10\text{ mA}$	300		1000		
Collector-emitter saturation voltage	$V_{CE(sat)(1)}$	$I_C = -10\text{ mA}, I_B = -0.5\text{ mA}$		-15	-30	mV	
	$V_{CE(sat)(2)}$	$I_C = -200\text{ mA}, I_B = -10\text{ mA}$		-110	-250	mV	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -200\text{ mA}, I_B = -10\text{ mA}$		-0.87	-1.2	V	
Transition frequency	f_T	$V_{CE} = -2\text{ V}, I_C = -10\text{ mA}$	80	130		MHz	
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$		4.2		pF	
Collector-emitter on resistance	R_{on}	$I_B = -1\text{ mA}, V_{in} = -1\text{ V}_{rms}, f = 1\text{ KHz}$		0.9		Ω	
Switching Turn-on time	t_{on}	 <p> $I_{B1} = -I_{B2} = 5\text{ mA}$ $V_{BE} = 3\text{ V}$ $V_{CE} = -6\text{ V}$ </p>		40		ns	
Switching Storage time	t_{stg}				280		ns
Switching Fall time	t_f				45		ns

■ h_{FE} Classification

Marking	GA	GB
h_{FE}	300~600	500~1000