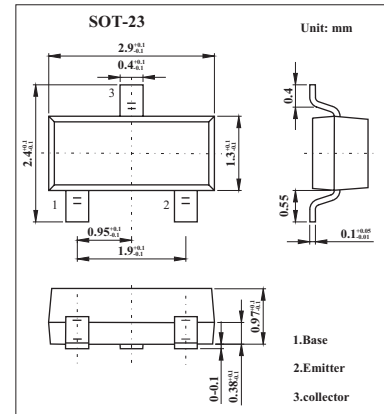


NPN Epitaxial Planar Silicon Transistor

2SC3143

■ Features

- High breakdown voltage.
- Small output capacitance.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	180	V
Collector-emitter voltage	V_{CEO}	160	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	80	mA
Collector current (pulse)	I_{CP}	150	mA
Collector dissipation	P_C	200	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

2SC3143

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Collector cutoff current	I_{cBO}	$V_{CB} = 120V, I_E = 0$			0.1	μA	
Emitter cutoff current	I_{EBO}	$V_{EB} = 4V, I_C = 0$			0.1	μA	
DC current Gain	h_{FE}	$V_{CE} = 5V, I_C = 10\text{mA}$	60		270		
Gain bandwidth product	f_T	$V_{CE} = 10V, I_C = 10\text{mA}$		150		MHz	
Output capacitance	C_{ob}	$V_{CB} = 10V, f = 1\text{MHz}$		2.0	2.5	pF	
Base-emitter voltage	V_{BE}	$V_{CE} = 5V, I_C = 10\text{mA}$			1.5	V	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 30\text{mA}, I_B = 3\text{mA}$			0.7	V	
Collector-to-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	180			V	
Collector-to-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	160			V	
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	5			V	
Turn-on time	t_{on}			0.18		μs	
Storage time	t_{stg}				1.0		μs
Fall time	t_f				0.2		μs

■ hFE Classification

Marking	K		
Rank	3	4	5
hFE	60~120	90~180	135~270