

## NPN Epitaxial Planar Silicon Transistor

## 2SC4577

## ■ Features

- Low collector-to-emitter saturation voltage.
- Small-sized package.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	20	V
Collector-emitter voltage	$V_{CE0}$	15	V
Emitter-base voltage	$V_{EB0}$	5	V
Collector current	$I_C$	500	mA
Collector current (pulse)	$I_{cp}$	1	A
Collector dissipation	$P_C$	200	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 15\text{V}, I_E = 0$			0.1	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 4\text{V}, I_C = 0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE} = 2\text{V}, I_C = 10\text{mA}$	135		600	
Gain bandwidth product	$f_T$	$V_{CE} = 2\text{V}, I_C = 50\text{mA}$		300		MHz
Output capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, f = 1.0\text{MHz}$		4.0		pF
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 5\text{mA}, I_B = 0.5\text{mA}$		15	30	mV
		$I_C = 200\text{mA}, I_B = 10\text{mA}$		160	300	mV
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 200\text{mA}, I_B = 10\text{mA}$		0.95	1.2	V
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	20			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	15			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	5			V

■  $h_{FE}$  Classification

Marking	UT		
Rank	5	6	7
$h_{FE}$	135~270	200~400	300~600