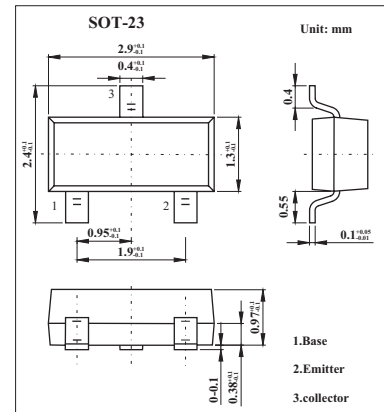


## PNP Silicon Epitaxia

### 2SA1461

#### ■ Features

- High speed switching:  $t_{stg}=110\text{ns}$ .
- High gain bandwidth product:  $f_T=510\text{MHz}$ .



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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	-40	V
Collector-emitter voltage	$V_{CEO}$	-40	V
Emitter-base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-200	mA
Maximum Total power dissipation at $25^\circ\text{C}$ ambient temperature	$P_T$	200	mW
Maximum Junction temperature	$T_j$	150	$^\circ\text{C}$
Maximum 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	$I_{CBO}$	$V_{CB} = -30\text{V}, I_E = 0$			-100	nA
Emitter cutoff current	$I_{EBO}$	$V_{EB} = -3\text{V}, I_C = 0$			-100	nA
DC current gain *	$h_{FE}$	$V_{CE} = -1\text{V}, I_C = -10\text{mA}$	75	180	300	
		$V_{CE} = -1\text{V}, I_C = -100\text{mA}$	25	100		
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = -50\text{mA}, I_B = -5\text{mA}$		-0.1	-0.4	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C = -50\text{mA}, I_B = -5\text{mA}$		-0.8	-0.95	V
Gain bandwidth product	$f_T$	$V_{CE} = -20\text{V}, I_E = 10\text{mA}$	200	510		MHz
Output capacitance	$C_{ob}$	$V_{CB} = -5\text{V}, I_E = 0, f = 1.0\text{MHz}$		2.5	4.5	pF
Turn-on time	$t_{on}$	$V_{CC} = -3\text{V},$			70	ns
Storage time	$t_{stg}$	$I_C = -10\text{mA},$		110	225	ns
Turn-off time	$t_{off}$	$I_{B1} = -I_{B2} = -1\text{mA}$			300	ns

\*.  $PW \leq 350\mu\text{s}$ , duty cycle  $\leq 2\%$

#### ■ hFE Classification

Marking	Y22	Y23	Y24
hFE	75~150	100~200	150~300