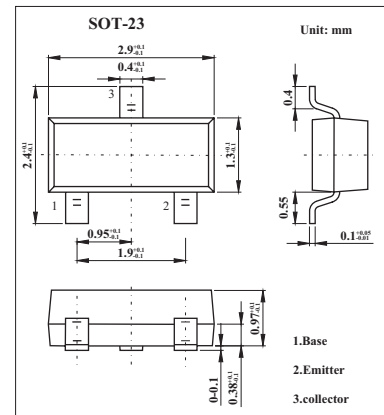


## Silicon NPN Epitaxial Planer Type

## 2SD601A

## ■ Features

- High forward current transfer ratio  $h_{FE}$ .
- Low collector to emitter saturation voltage  $V_{CE(sat)}$ .
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	60	V
Collector-emitter voltage	$V_{CEO}$	50	V
Emitter-base voltage	$V_{EBO}$	7	V
Collector current	$I_C$	100	mA
Peak collector current	$I_{CP}$	200	mA
Collector power 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-base voltage	$V_{CBO}$	$I_C = 20 \mu\text{A}, I_E = 0$	60			V
Collector-emitter voltage	$V_{CEO}$	$I_C = 2 \text{ mA}, I_B = 0$	50			V
Emitter-base voltage	$V_{EBO}$	$I_E = 10 \mu\text{A}, I_C = 0$	7			V
Collector-base current	$I_{CBO}$	$V_{CB} = 20 \text{ V}, I_E = 0 \text{ A}$			0.1	$\mu\text{A}$
Collector-emitter current	$I_{CEO}$	$V_{CE} = 10 \text{ V}, I_B = 0 \text{ A}$			100	$\mu\text{A}$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 10 \text{ V}, I_C = 2 \text{ mA}$	160		460	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$		0.1	0.3	V
Transition frequency	$f_T$	$V_{CB} = 10 \text{ V}, I_E = -2 \text{ mA}, f = 200 \text{ MHz}$		150		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1.0 \text{ MHz}$		3.5		pF
Noise voltage	NV	$V_{CE} = 10 \text{ V}, I_C = 1 \text{ mA}, G_v = 80 \text{ dB}$ $R_g = 100 \text{ kW}, \text{Function} = \text{FLAT}$		110		mV

■  $h_{FE}$  Classification

Marking	ZQ	ZR	ZS
$h_{FE}$	160~260	210~340	290~460