

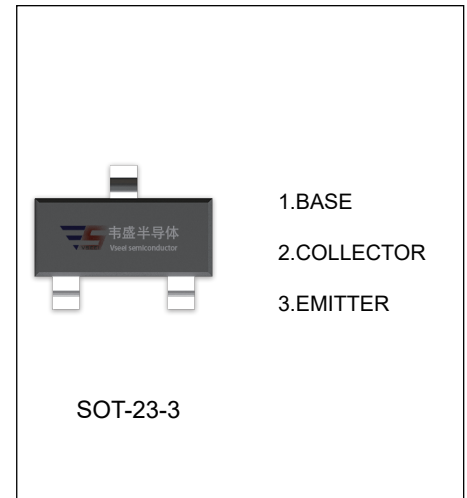
## 2SD596 TRANSISTOR (NPN)

### FEATURES

- High DC Current gain.
- Complimentary to 2SB624

### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	30	V
$V_{CEO}$	Collector-Emitter Voltage	25	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	700	mA
$P_C$	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	$^{\circ}\text{C}/\text{W}$
$T_J, T_{stg}$	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$



### ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=30\text{V}, I_E=0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}^*$	$V_{CE}=1\text{V}, I_C=100\text{mA}$	110		400	
	$h_{FE(2)}^*$	$V_{CE}=1\text{V}, I_C=700\text{mA}$	50			
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C=700\text{mA}, I_B=70\text{mA}$			0.6	V
Base-emitter voltage	$V_{BE}^*$	$V_{CE}=6\text{V}, I_C=10\text{mA}$	0.6		0.7	V
Transition frequency	$f_T$	$V_{CE}=6\text{V}, I_C=10\text{mA}$	170			MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=6\text{V}, I_E=0, f=10\text{MHz}$		12		pF

\* Pulse test : Pulse width  $\leq 350\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

### CLASSIFICATION OF $h_{FE(1)}$

Marking	DV1	DV2	DV3	DV4	DV5
Range	110-180	135-220	170-270	200-320	250-400

