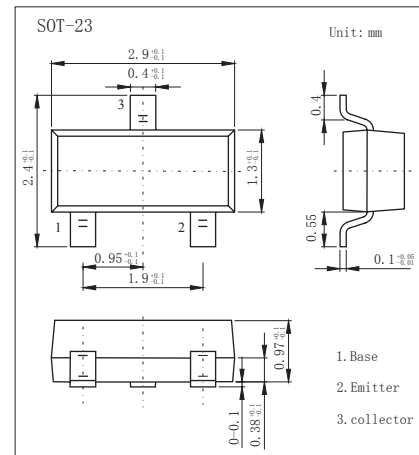


NPN Transistors

2SD596

■ Features

- High DC Current gain.
- Complimentary to 2SB624



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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	30	V
Collector - Emitter Voltage	V_{CE0}	25	
Emitter - Base Voltage	V_{EB0}	5	
Collector Current - Continuous	I_C	700	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_C = 100 \mu\text{A}$, $I_E = 0$	30			V
Collector- emitter breakdown voltage	V_{CE0}	$I_C = 1 \text{ mA}$, $I_B = 0$	25			
Emitter - base breakdown voltage	V_{EB0}	$I_E = 100 \mu\text{A}$, $I_C = 0$	5			
Collector-base cut-off current	I_{CB0}	$V_{CB} = 30 \text{ V}$, $I_E = 0$			100	nA
Emitter cut-off current	I_{EB0}	$V_{EB} = 5 \text{ V}$, $I_C = 0$			100	
Collector-emitter saturation voltage (Note.1)	$V_{CE(sat)}$	$I_C = 700 \text{ mA}$, $I_B = 70 \text{ mA}$			0.6	V
Base - emitter saturation voltage (Note.1)	$V_{BE(sat)}$	$I_C = 700 \text{ mA}$, $I_B = 70 \text{ mA}$			1.2	
Base - emitter voltage (Note.1)	V_{BE}	$V_{CE} = 6 \text{ V}$, $I_C = 10 \text{ mA}$	0.6		0.7	
DC current gain (Note.1)	$h_{FE(1)}$	$V_{CE} = 1 \text{ V}$, $I_C = 100 \text{ mA}$	110		400	
	$h_{FE(2)}$	$V_{CE} = 1 \text{ V}$, $I_C = 700 \text{ mA}$	50			
Collector output capacitance	C_{ob}	$V_{CB} = 6 \text{ V}$, $I_E = 10 \text{ mA}$, $f = 10 \text{ MHz}$		12		pF
Transition frequency	f_T	$V_{CE} = 6 \text{ V}$, $I_C = 10 \text{ mA}$	170			MHz

Note.1: Pulse test : Pulse width $\leq 350 \mu\text{s}$, Duty Cycle $\leq 2\%$.

■ Classification of $h_{FE(1)}$

Type	2SD596-DV1	2SD596-DV2	2SD596-DV3	2SD596-DV4	2SD596-DV5
Range	110-180	135-220	170-270	200-320	250-400
Marking	DV1	DV2	DV3	DV4	DV5

NPN Transistors

2SD596

■ Typical Characteristics

