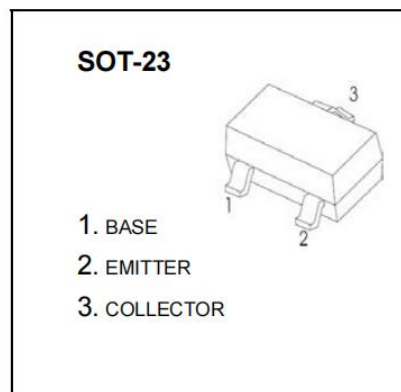


NPN Silicon Epitaxial Planar Transistor

2SD596 series Transistor (NPN)

FEATURES

- High DC current gain.
- Complements the 2SB624 series
- AEC-Q101 qualified



MAXIMUM RATINGS ($T_j = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-base voltage	V_{CB0}	30	V
Collector-emitter voltage	V_{CEO}	25	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	700	mA
Collector power dissipation	P_C	200	mW
Thermal resistance from junction to ambient	$R_{\theta JA}$	625	$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	T_j, T_{stg}	-55 ~ 150	$^\circ\text{C}$

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

Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0\text{A}$	30	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0\text{A}$	25	-	-	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0\text{A}$	5	-	-	V
Collector-base cut-off current	I_{CBO}	$V_{CB} = 30\text{V}, I_E = 0\text{A}$	-	-	0.1	μA
Emitter-base cut-off current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0\text{A}$	-	-	0.1	μA
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}	$V_{CB} = 6\text{V}, I_E = 0\text{A}, f = 10\text{MHz}$	-	12	-	pF

CLASSIFICATION OF $h_{FE(1)}$

RANK	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

■ Typical Characteristics

