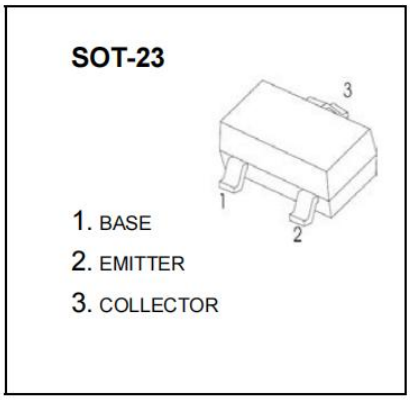
NPN Silicon Epitaxial Planar Transistor

2SD596 series Transistor (NPN)



FEATURES

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

MAXIMUM RATINGS (T_j = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	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	℃/W
Operating junction and storage temperature range	T_j, T_{stg}	-55 ~ 150	°C

ELECTRICAL CHARACTERISTICS (T_j = 25°C unless otherwise specified)

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