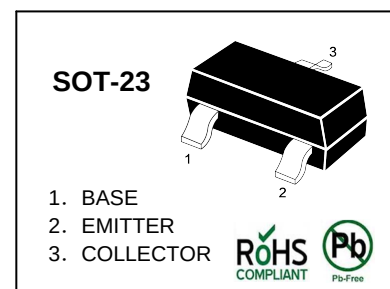


NPN Silicon Epitaxial Planar Transistor

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_{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	$R_{\theta\text{JA}}$	625	$^{\circ}\text{C}/\text{W}$
Operating junction and storage temperature range	T_j, T_{stg}	-55 ~ 150	$^{\circ}\text{C}$

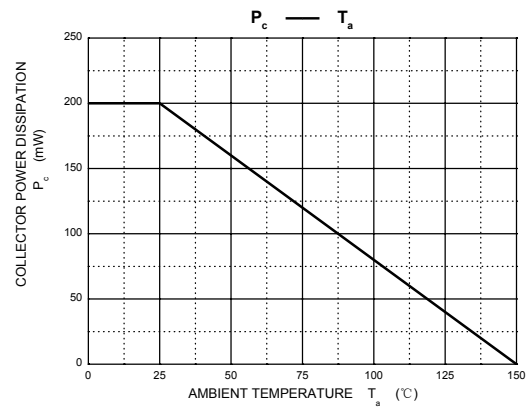
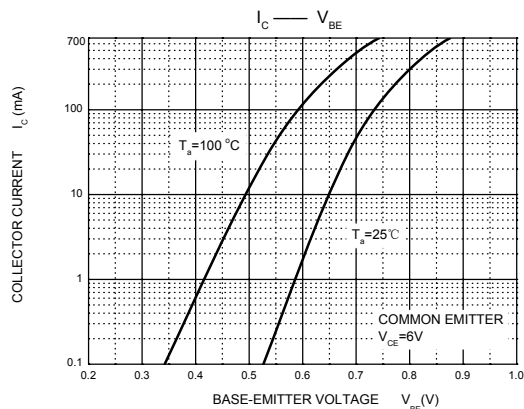
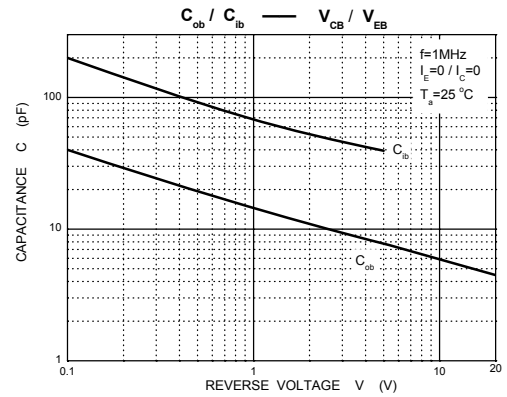
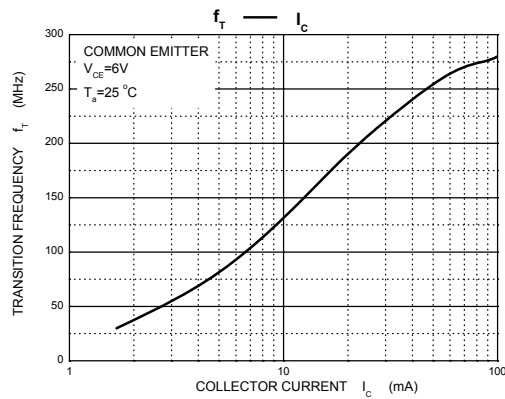
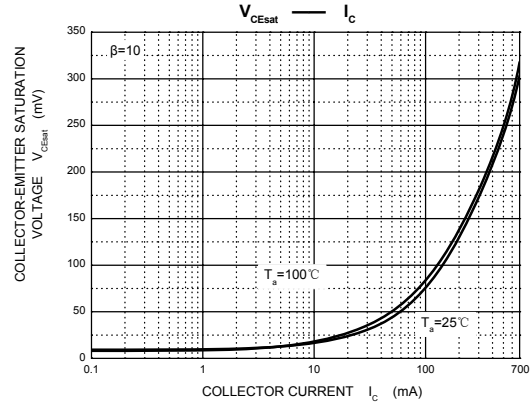
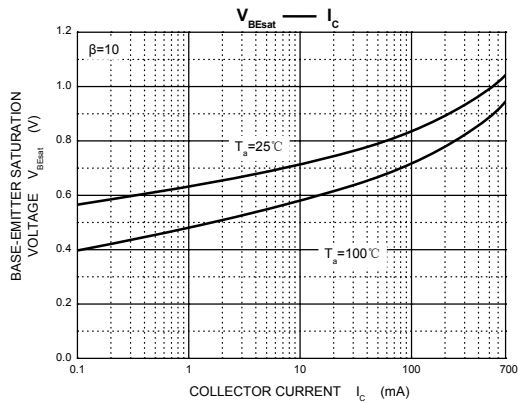
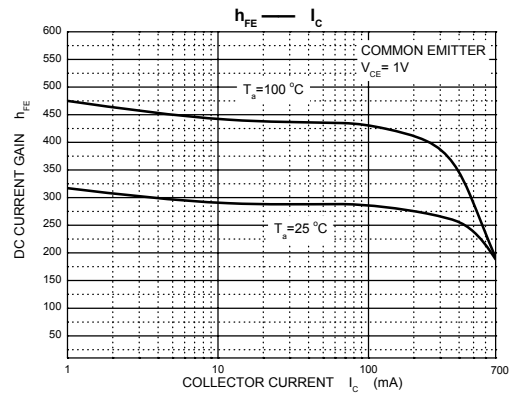
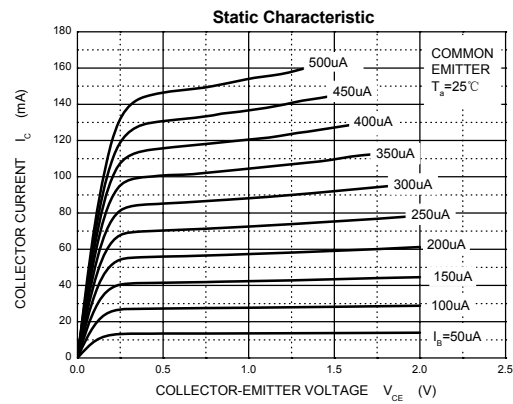
ELECTRICAL CHARACTERISTICS ($T_j = 25^{\circ}\text{C}$ unless otherwise specified)

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

CLASSIFICATION OF $h_{\text{FE}(1)}$

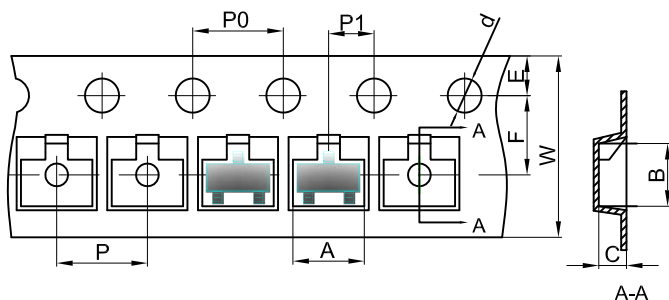
RANK	2SD596-DV1	2SD596-DV2	2SD596-DV3	2SD596-DV4	2SD596-DV5
RANGE	110-180	135-220	170-270	200-320	250-400
MARKING	DV1	DV2	DV3	DV4	DV5

Typical Characteristics



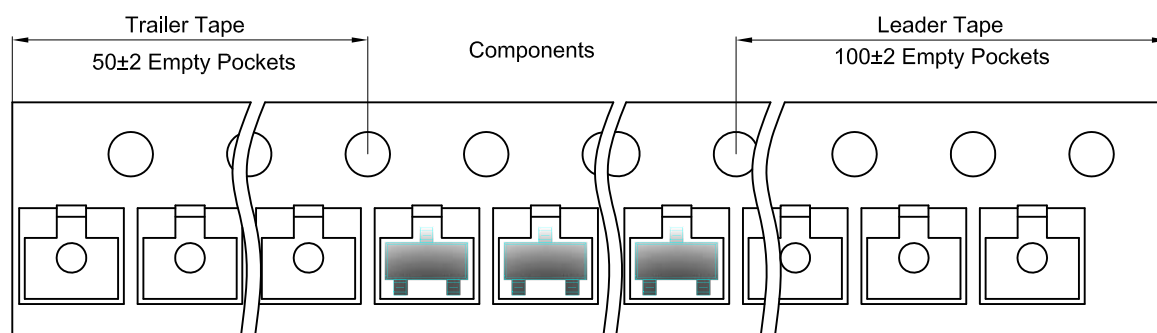
SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

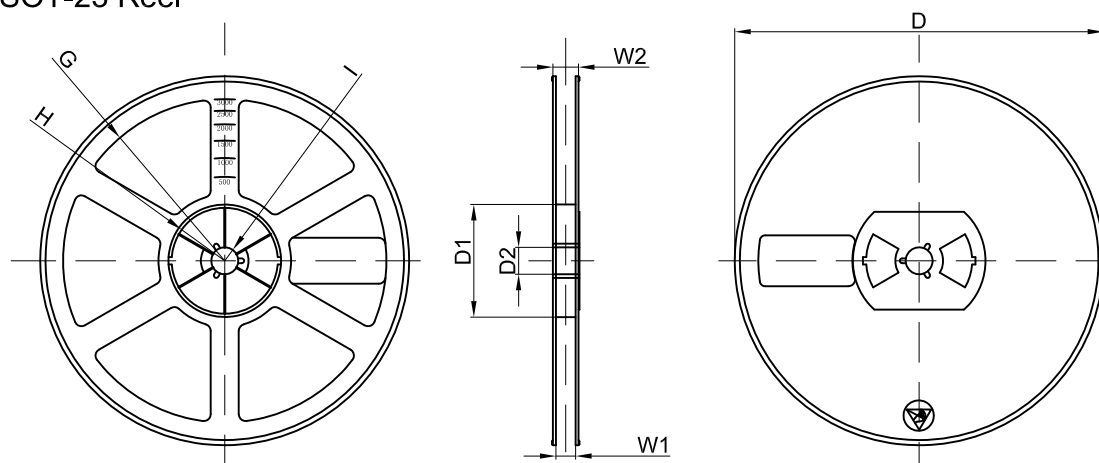


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer

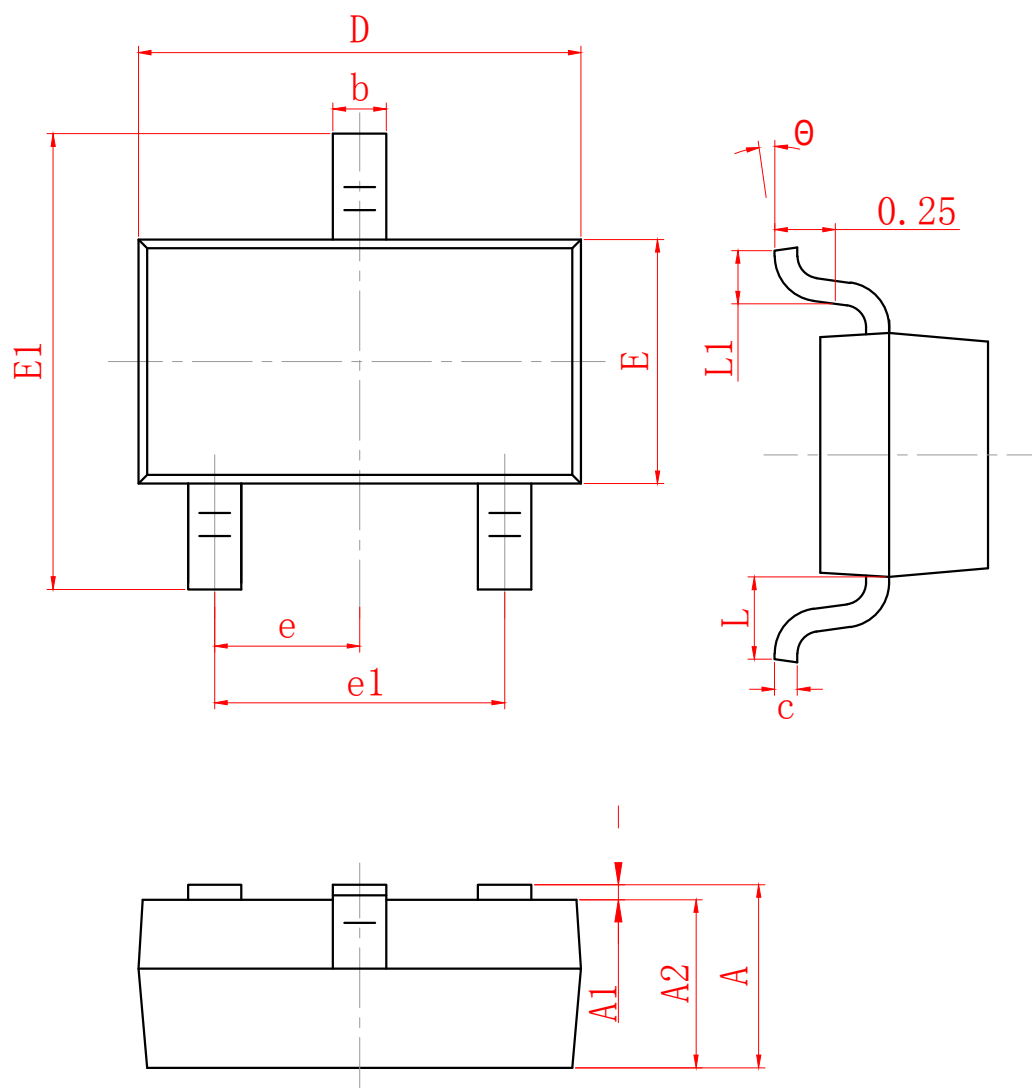


SOT-23 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	



SYMBOL	MILLIMETER	
	MIN	MAX
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950 TYP	
e1	1.800	2.000
L	0.550 REF	
L1	0.300	0.500
θ	0°	8°

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