



SOT-23 Plastic-Encapsulate Transistors

2SD596 TRANSISTOR (NPN)

FEATURES

- High DC Current gain.
- Complimentary to 2SB624

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V _{CB0}	Collector-Base Voltage	30	V
V _{CEO}	Collector-Emitter Voltage	25	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current -Continuous	700	mA
P _C	Collector Power Dissipation	200	mW
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C



SOT-23

- 1.BASE
- 2.EMITTER
- 3.COLLECTOR

ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

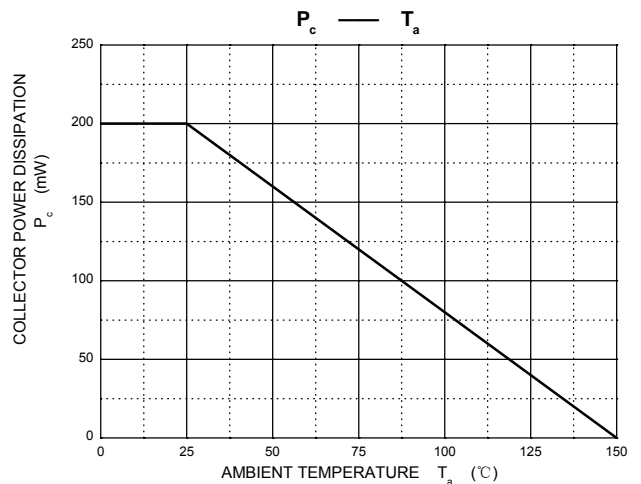
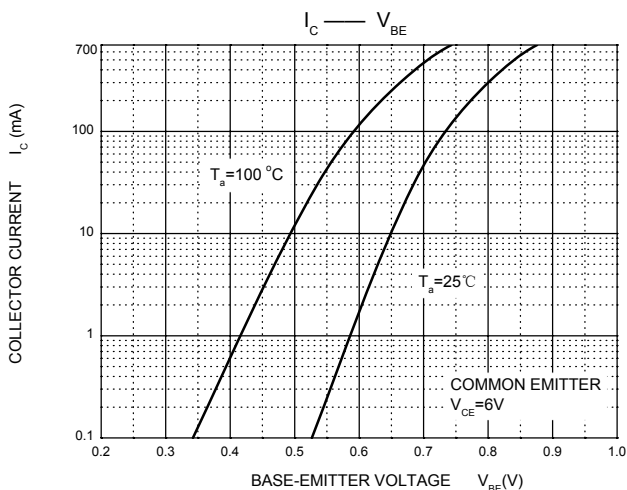
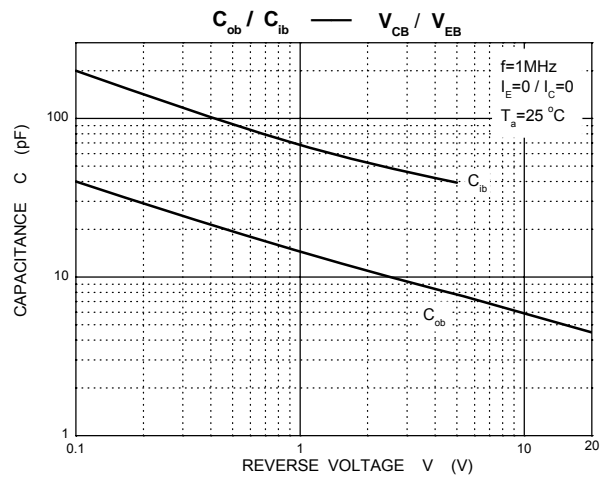
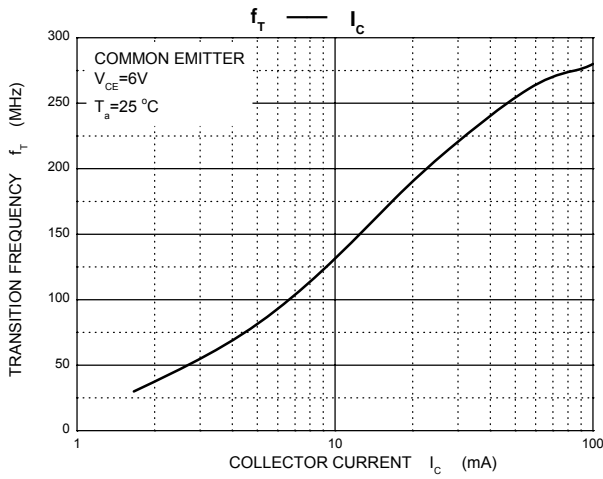
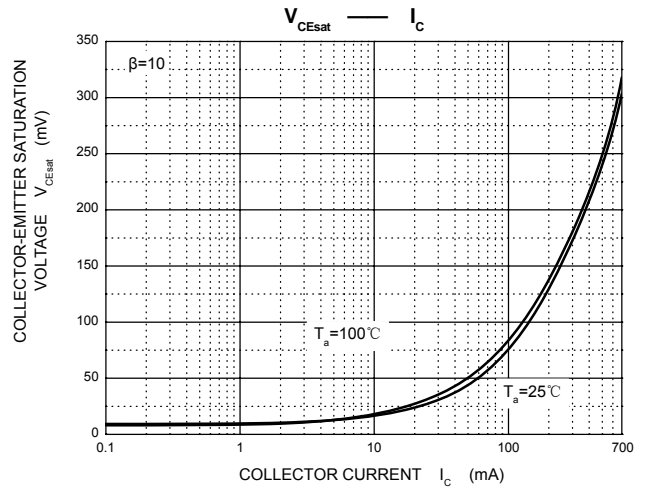
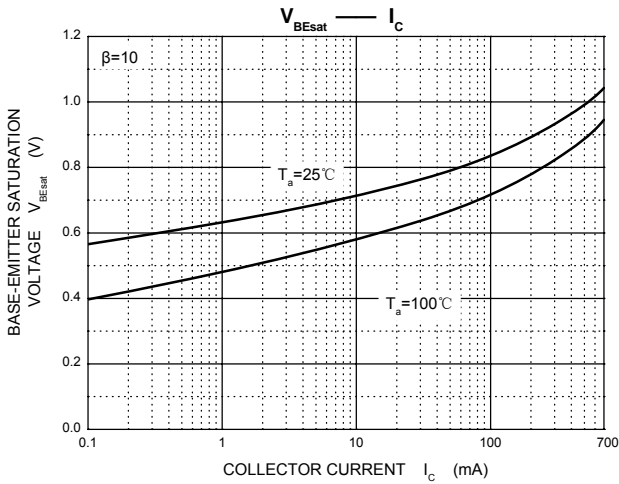
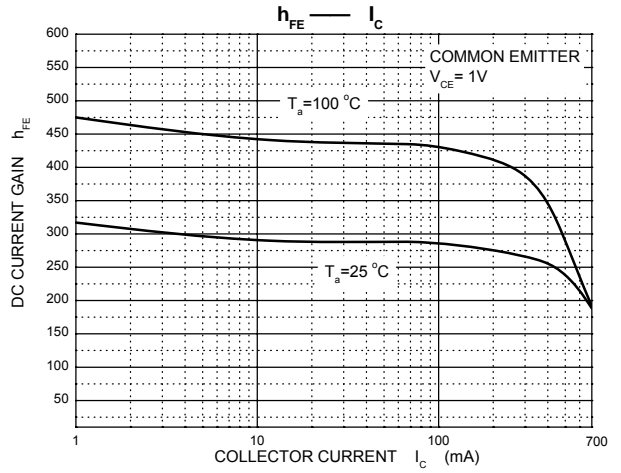
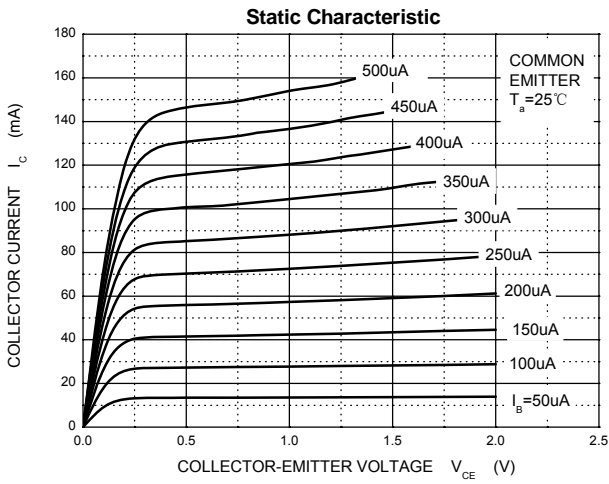
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =100μA, I _E =0	30			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = 1mA, I _B =0	25			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 100μA, I _C =0	5			V
Collector cut-off current	I _{CBO}	V _{CB} =30V, I _E =0			0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} = 5V, I _C =0			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	Cob	V _{CB} =6V, I _E =0, f=10MHz		12		pF

* Pulse test : Pulse width ≤350μs, Duty Cycle≤2%.

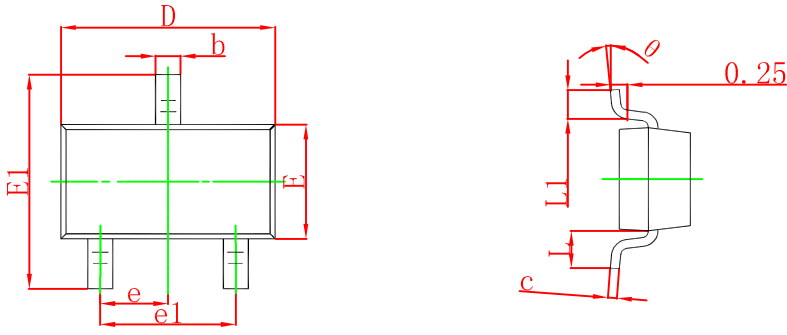
CLASSIFICATION OF h_{FE(1)}

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

Typical Characteristics

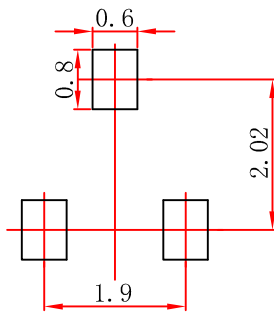


SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.