

SOT-23 Plastic-Encapsulate Transistors

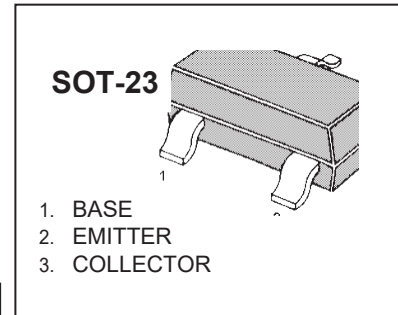
2SD596 TRANSISTOR (NPN)

FEATURES

- High DC Current gain.
- Complimentary to 2SB624

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

Symbol	Parameter	Value	Unit
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	700	mA
P_C	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	625	$^{\circ}\text{C}/\text{W}$
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$



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

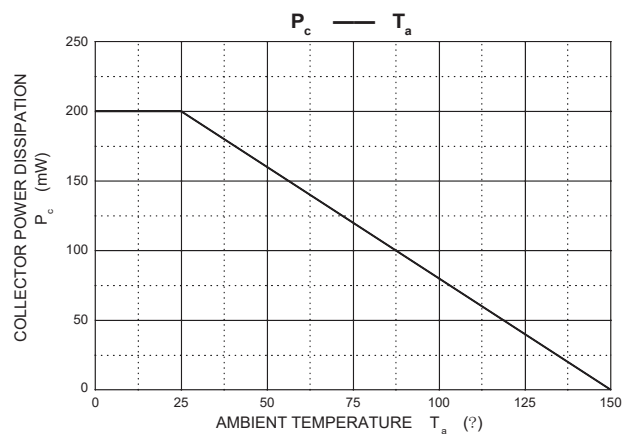
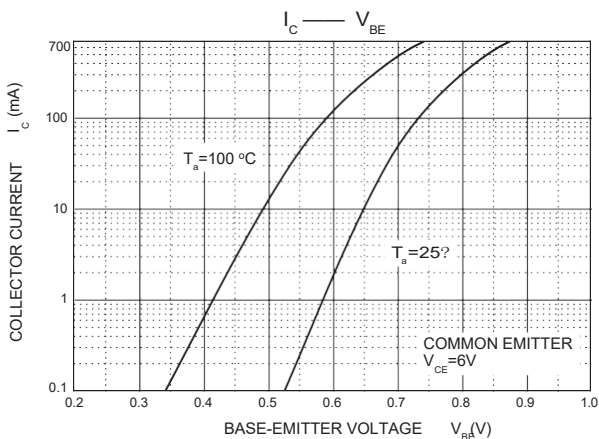
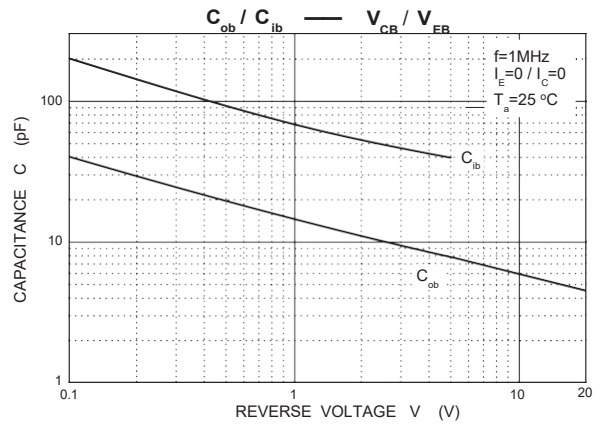
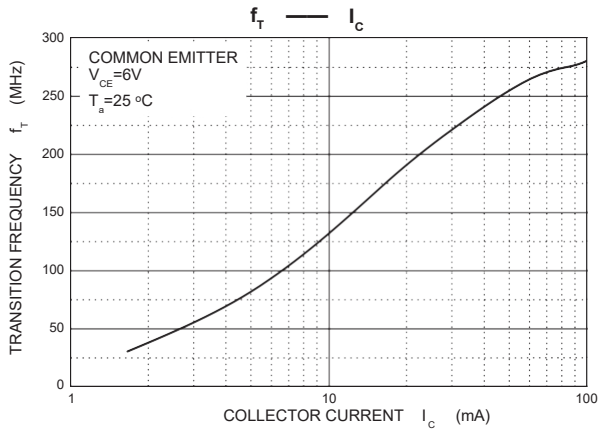
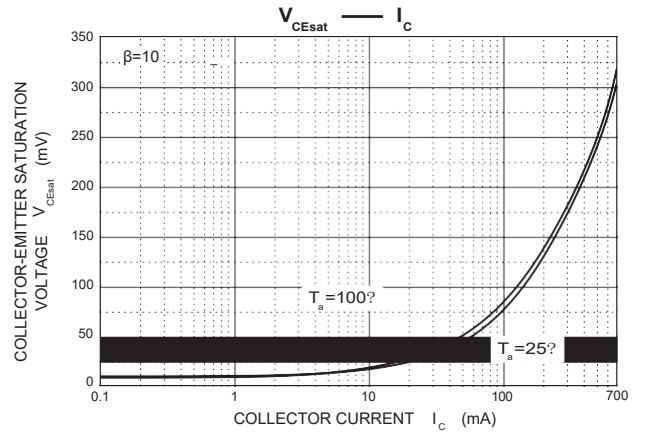
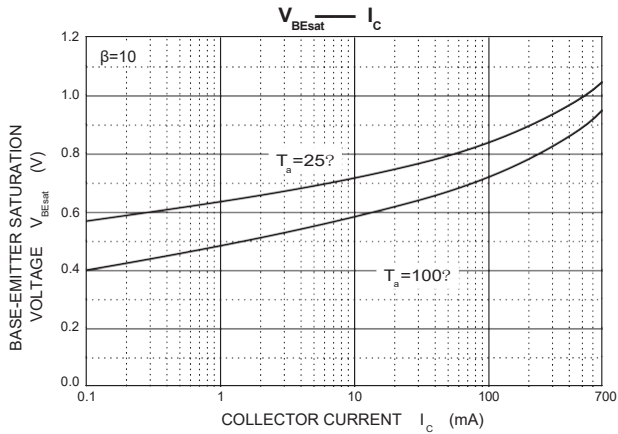
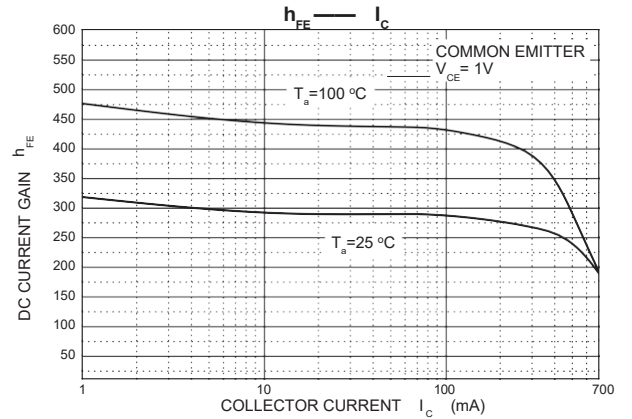
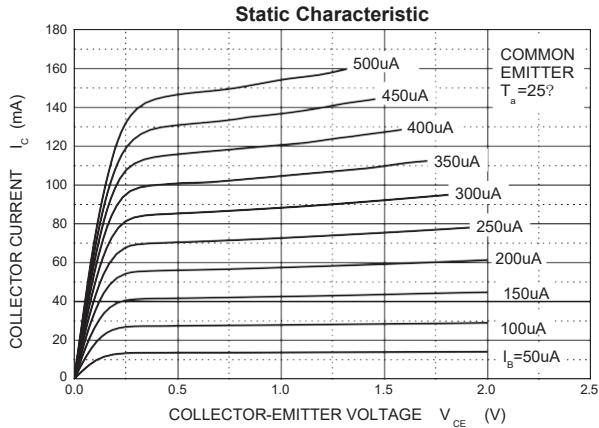
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector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

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

CLASSIFICATION OF $h_{FE(1)}$

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

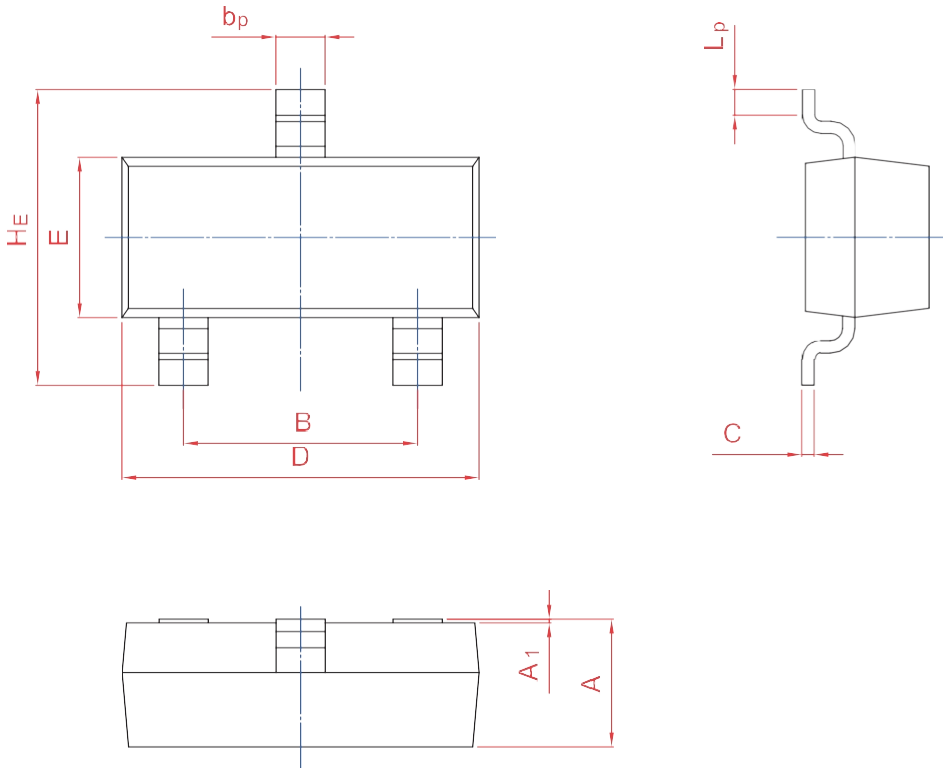
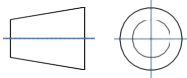
Typical Characteristics



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b _p	C	D	E	HE	A ₁	L _p
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20