

SOT-23 Plastic-Encapsulate Transistors

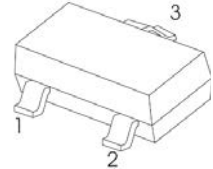
2SD1306 TRANSISTOR (NPN)

ApplicationLow

- frequency amplifier, Muting

SOT-23

1. BASE
2. EMITTER
3. COLLECTOR



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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector -Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Continuous Collector Current	0.7	A
P_C	Collector Dissipation	0.15	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	833	$^{\circ}\text{C}/\text{W}$
T_J, T_{stg}	Junction Temperature	-55~+150	$^{\circ}\text{C}$

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

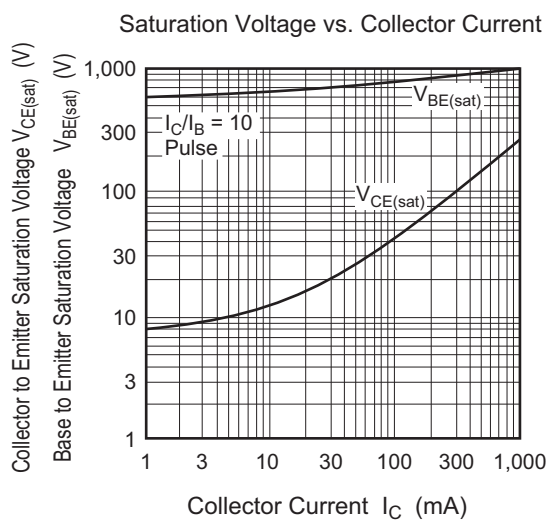
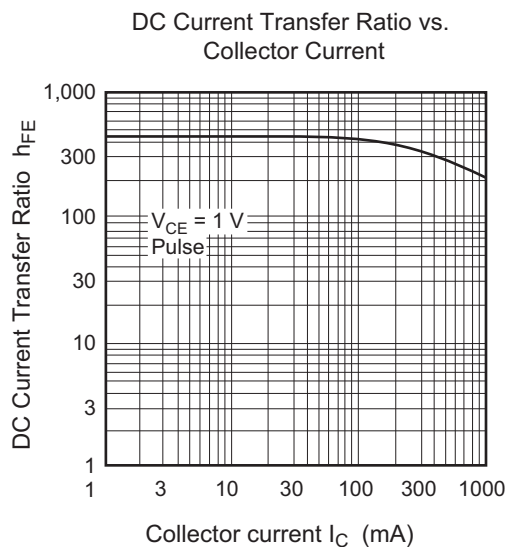
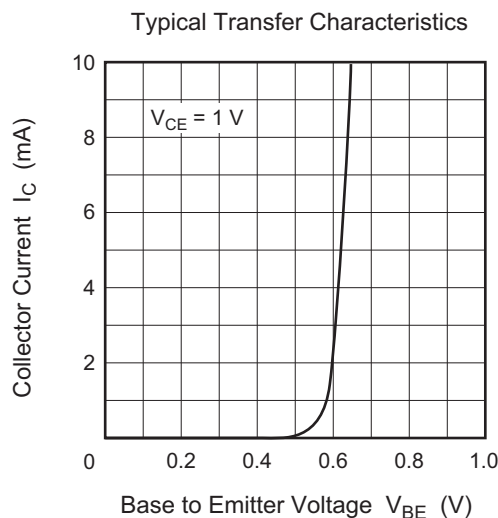
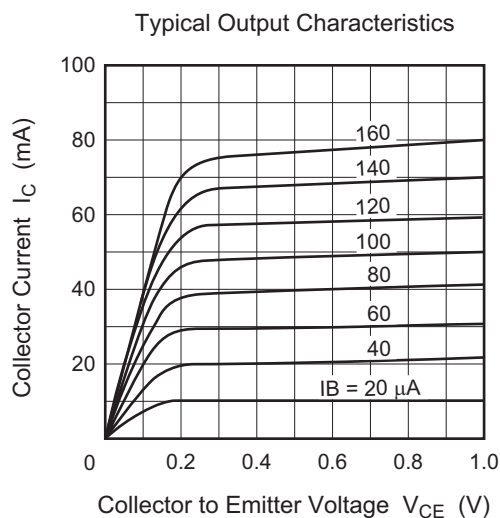
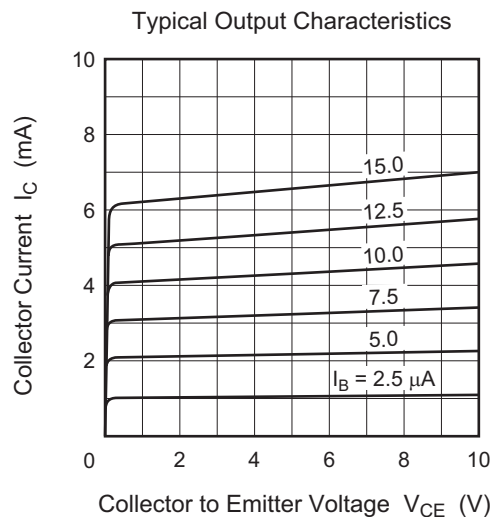
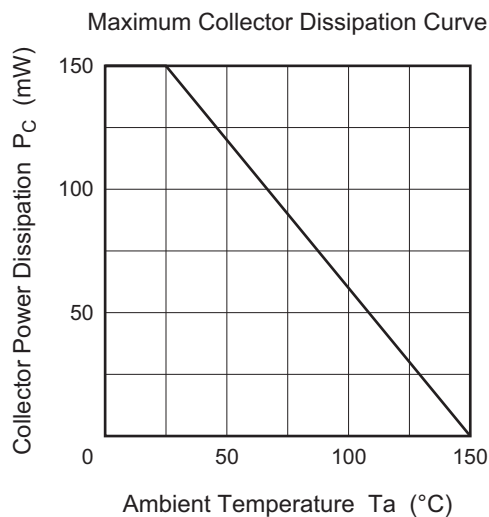
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	15			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=20\text{V}, I_E=0$			1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			1	μA
DC current gain	h_{FE}^*	$V_{CE}=1\text{V}, I_C=150\text{mA}$	250		800	
Collector-emitter saturation voltage	$V_{CE(sat)}^*$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.5	V
Base-emitter voltage	V_{BE}^*	$V_{CE}=1\text{V}, I_C=150\text{mA}$			1	V
Transition frequency	f_T^*	$V_{CE}=1\text{V}, f=150\text{MHz}$		250		MHz

* Pulse test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$.

CLASSIFICATION of h_{FE}

Rank	D	E
Range	250-500	400-800
Marking	ND	NE

Typical Characteristics



Typical Characteristics

