

**2SD1111****Driver Applications****Applications**

- Motor drivers, printer hammer drivers, relay drivers, voltage regulator control.

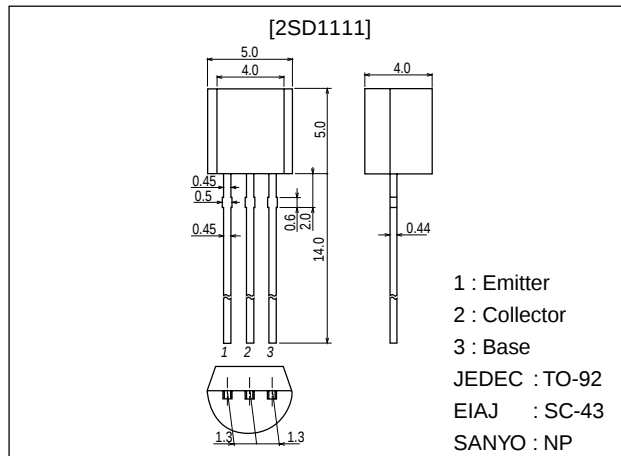
Features

- High DC Current Gain (5000 or greater).
- Large current capacity and wide ASO.
- Low saturation voltage ($V_{CE(sat)}$ =0.8V typ).

Package Dimensions

unit:mm

2003B

**Specifications****Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$**

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		80	V
Collector-to-Emitter Voltage	V_{CEO}		50	V
Emitter-to-Base Voltage	V_{EBO}		10	V
Collector Current	I_C		0.7	A
Collector Current (Pulse)	I_{CP}		2	A
Collector Dissipation	P_C		600	mW
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=40\text{V}, I_E=0$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=8\text{V}, I_C=0$			0.1	μA
DC Current Gain	h_{FE1}	$V_{CE}=2\text{V}, I_C=50\text{mA}$	5000			
	h_{FE2}	$V_{CE}=2\text{V}, I_C=500\text{mA}$	4000			
Gain-Bandwidth Product	f_T	$V_{CE}=5\text{V}, I_C=50\text{mA}$		200		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$		10		pF

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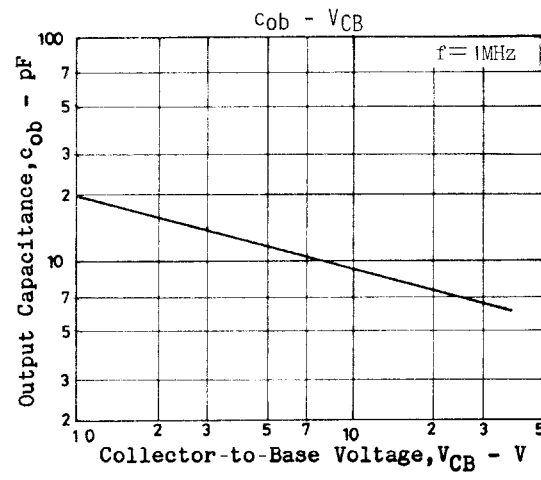
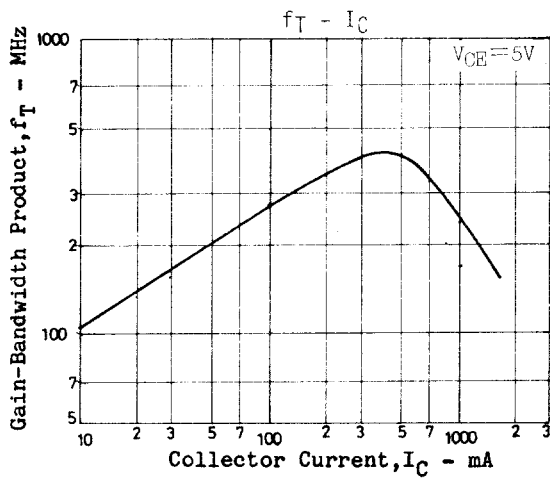
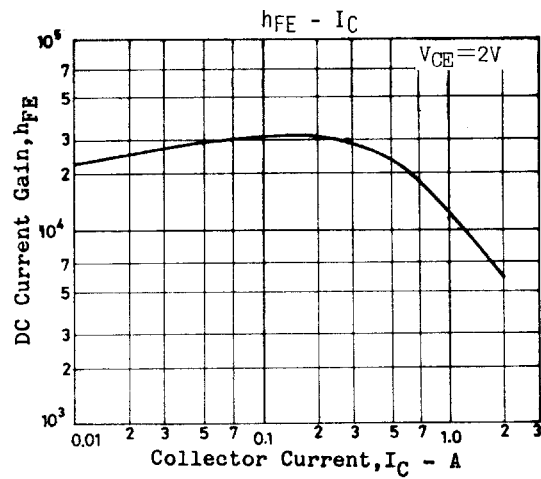
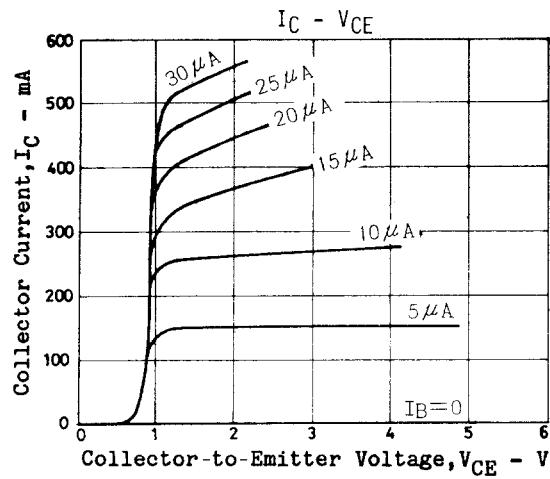
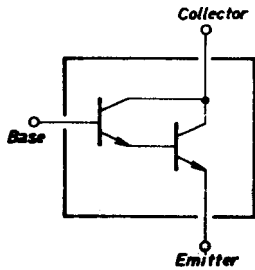
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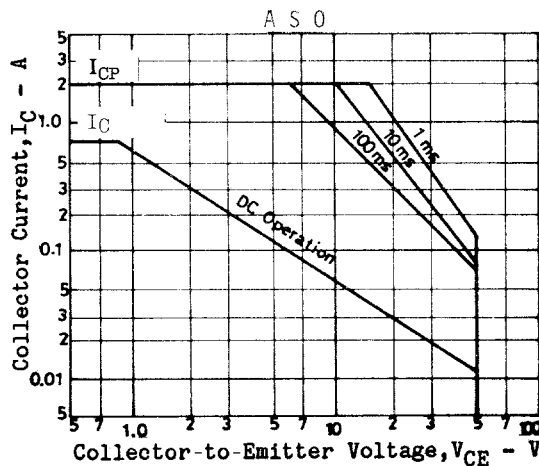
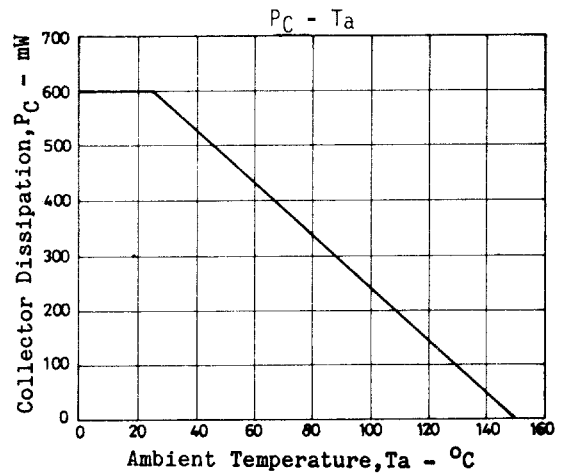
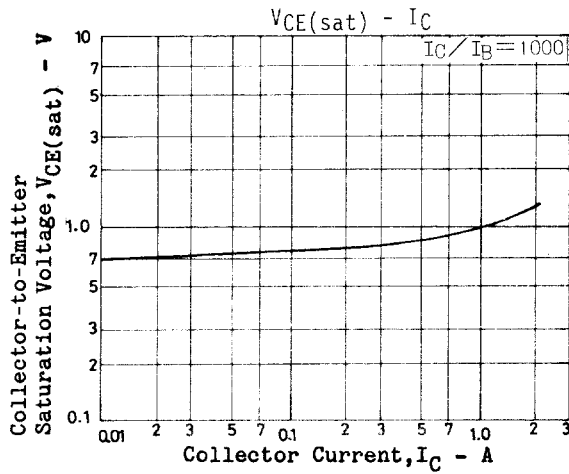
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100\text{mA}$, $I_B=0.1\text{mA}$		0.8	1.2	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100\text{mA}$, $I_B=0.1\text{mA}$		1.3	2.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}$, $I_E=0$	80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}$, $R_{BE}=\infty$	50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}$, $I_C=0$	10			V

Electrical Connection





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