

**2SD1953****120V/1.5A Driver Applications****Applications**

- Motor drivers, printer hammer drivers, relay drivers.

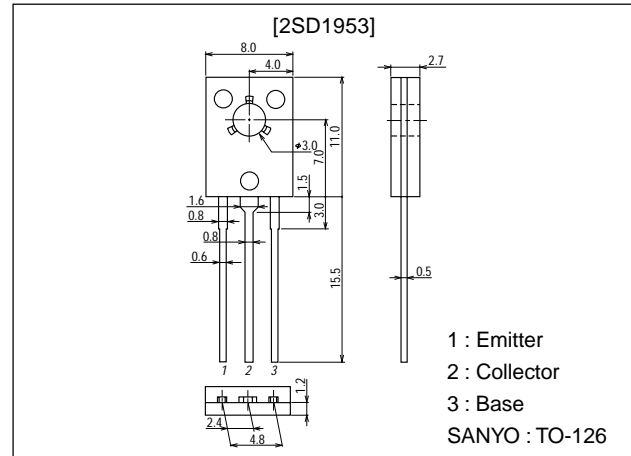
**Features**

- Darlingtion connection.
- High DC current gain.
- Low dependence of DC current gain on temperature.

**Package Dimensions**

unit:mm

2009A

**Specifications****Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		120	V
Collector-to-Emitter Voltage	$V_{CEO}$		120	V
Emitter-to-Base Voltage	$V_{EBO}$		6	V
Collector Current	$I_C$		1.5	A
Collector Current (Pulse)	$I_{CP}$		3	A
Collector Dissipation	$P_C$		1	W
		$T_c=25^\circ\text{C}$	10	W
Junction Temperature	$T_j$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

**Electrical Characteristics at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=100\text{V}, I_E=0$			10	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$			2.5	mA
DC Current Gain	$h_{FE1}$	$V_{CE}=3\text{V}, I_C=0.5\text{A}$	1000			
	$h_{FE2}$	$V_{CE}=3\text{V}, I_C=1\text{A}$	2000		30000	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1\text{A}, I_B=2\text{mA}$			1.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1\text{A}, I_B=2\text{mA}$			2.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	120			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, R_{BE}=\infty$	120			V

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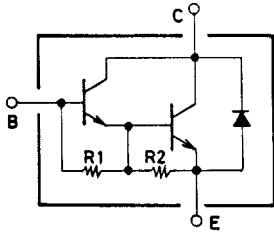
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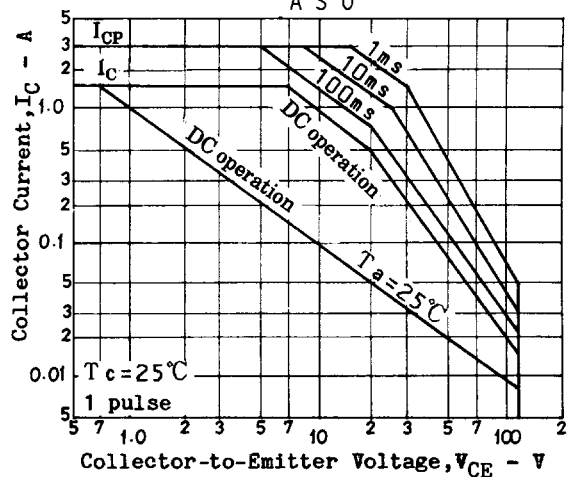
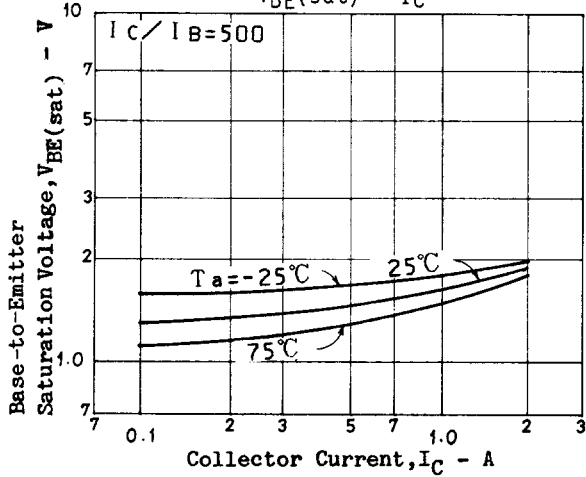
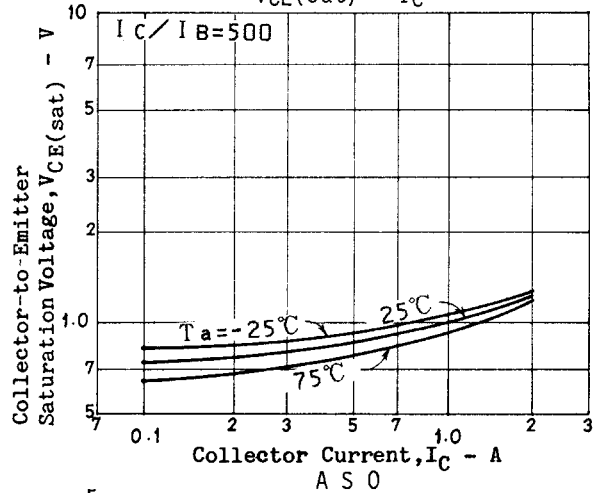
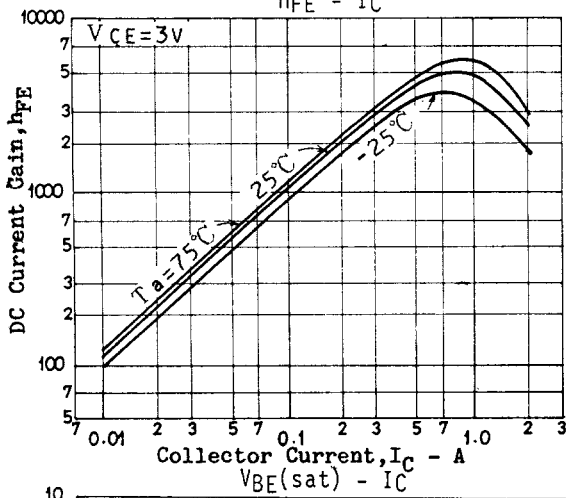
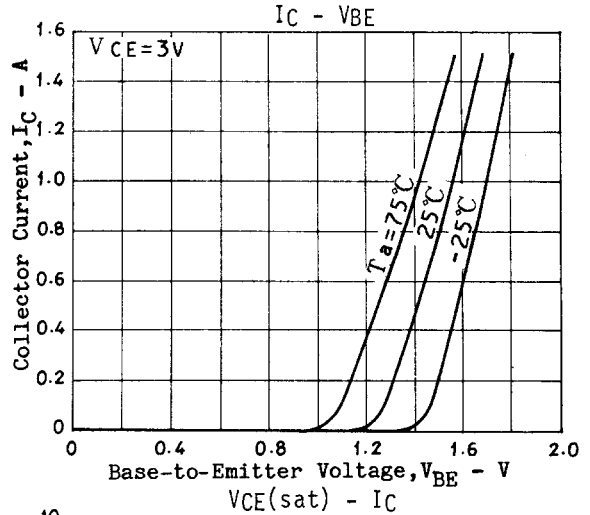
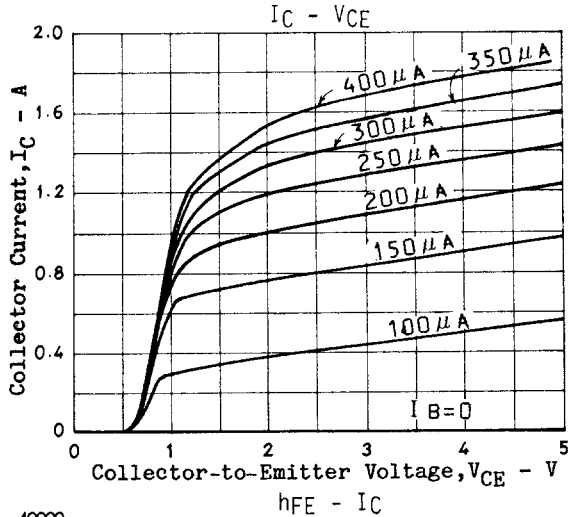
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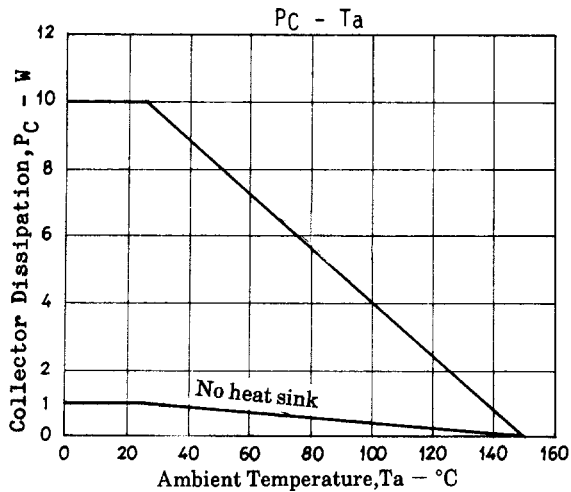
Electrical Connection



$R1 \approx 5k\Omega$   
 $R2 \approx 500\Omega$



## 2SD1953



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