

Ordering number:EN2507

NPN Epitaxial Planar Silicon Transistor



2SD1953

120V/1.5A Driver Applications

Applications

- Motor drivers, printer hammer drivers, relay drivers.

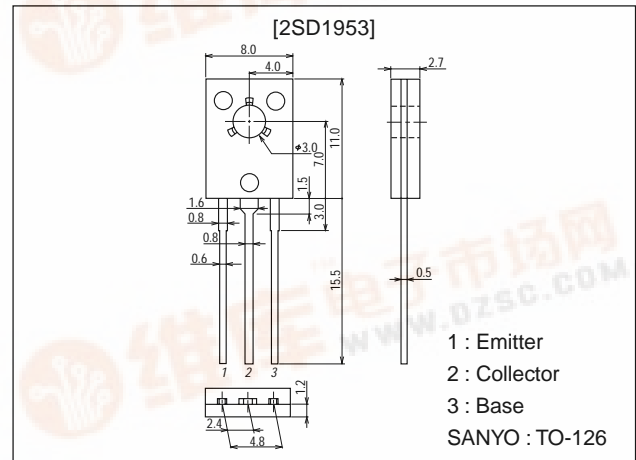
Features

- Darlington 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_{CB0}		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

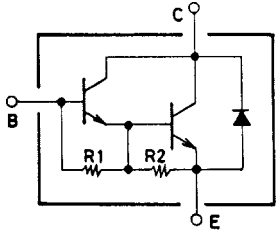
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=100\text{V}, I_E=0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			2.5	mA
DC Current Gain	h_{FE1}	$V_{CE}=3\text{V}, I_C=0.5\text{A}$	1000			
	h_{FE2}	$V_{CE}=3\text{V}, I_C=1\text{A}$	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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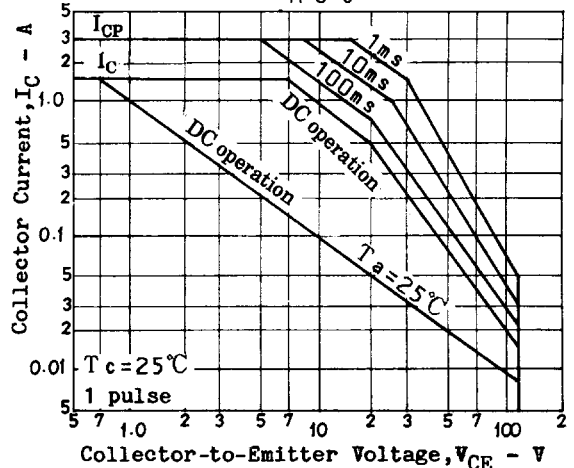
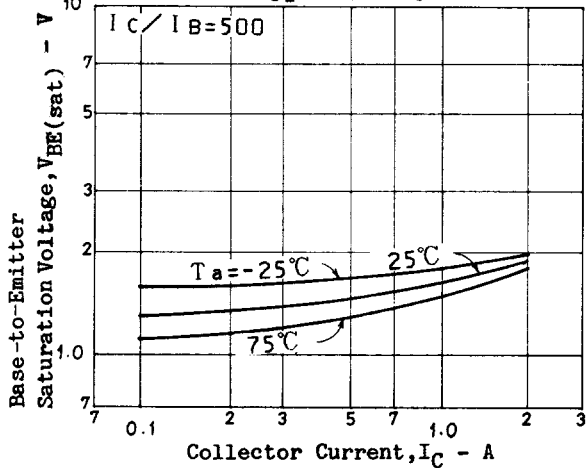
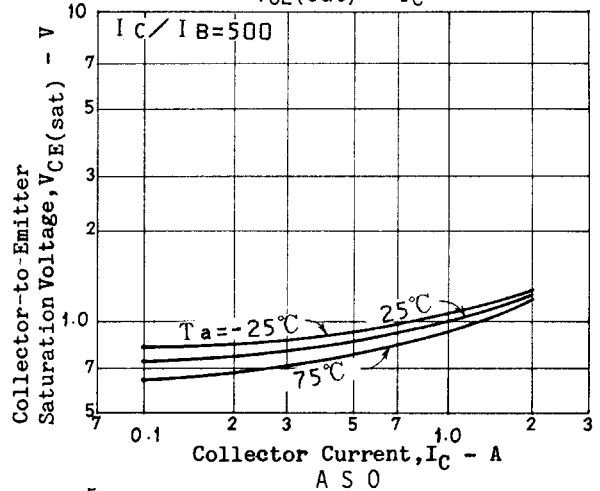
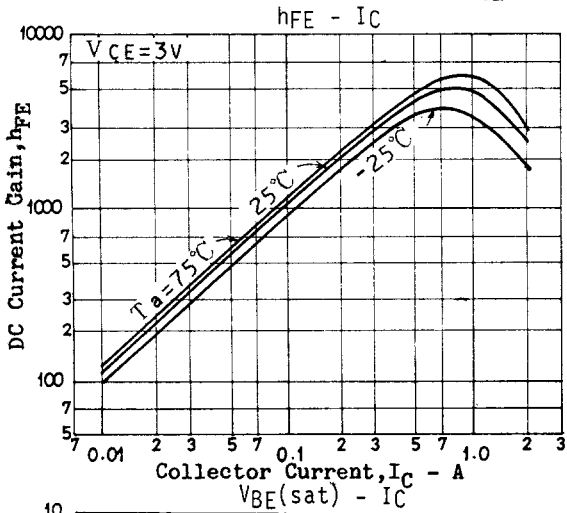
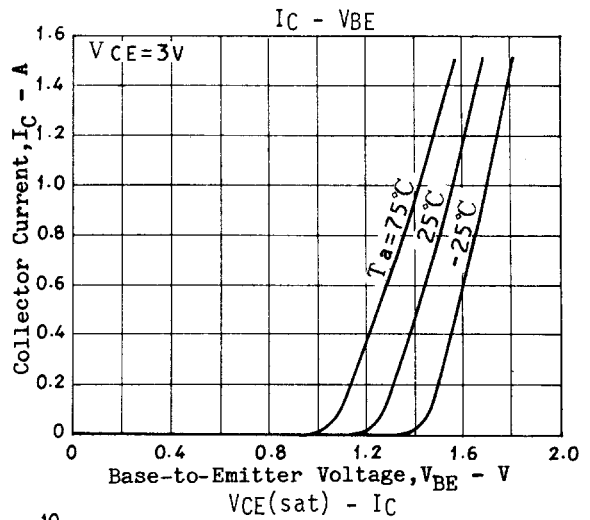
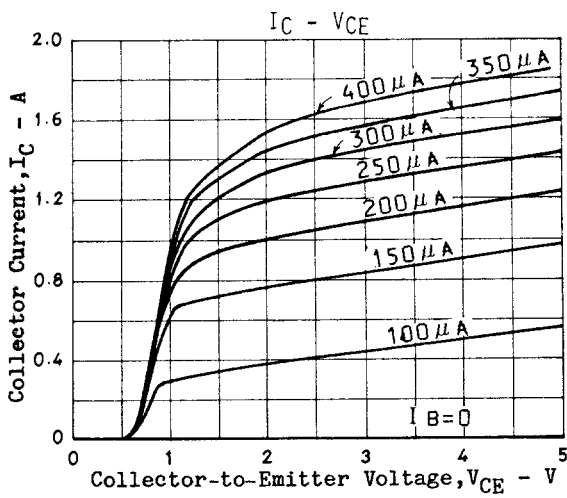


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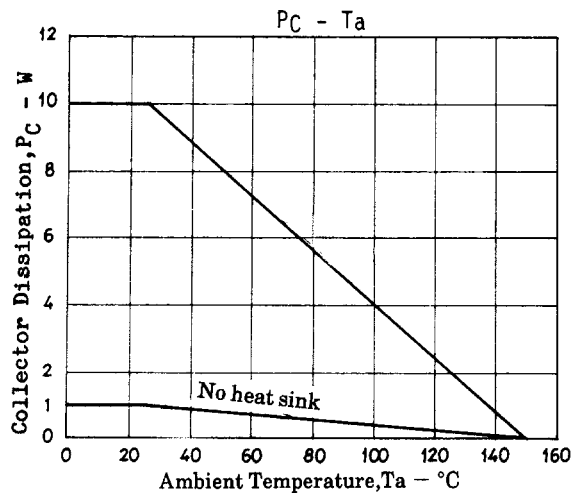
Electrical Connection



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



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