

NPN Epitaxial Planar Silicon Darlington Transistor



2SD1853

Driver Applications

Applications

- Motor drivers, hammer drivers, relay drivers.

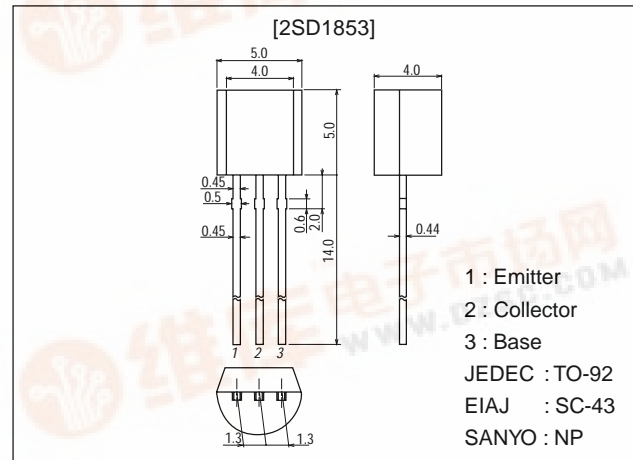
Features

- High DC current gain.
- Low saturation voltage.

Package Dimensions

unit:mm

2003B



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		80	V
Collector-to-Emitter Voltage	V_{CEO}		60	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		0.7	W
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

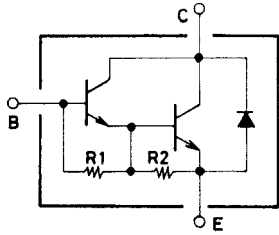
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=60V, I_E=0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5V, I_C=0$			2.5	mA
DC Current Gain	h_{FE1}	$V_{CE}=2V, I_C=0.5A$	1000			
	h_{FE2}	$V_{CE}=2V, I_C=1A$	2000			
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=1A, I_B=2mA$			1.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1A, I_B=2mA$			2.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=25mA, R_{BE}=\infty$	60			V

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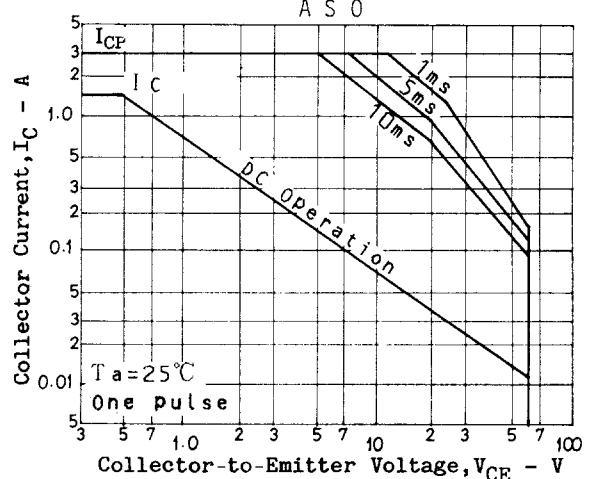
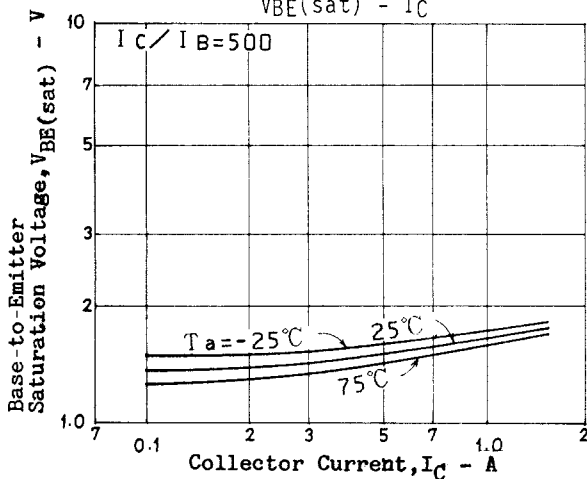
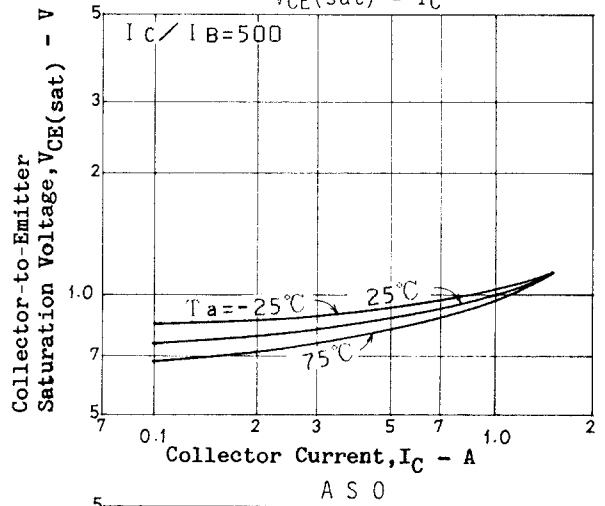
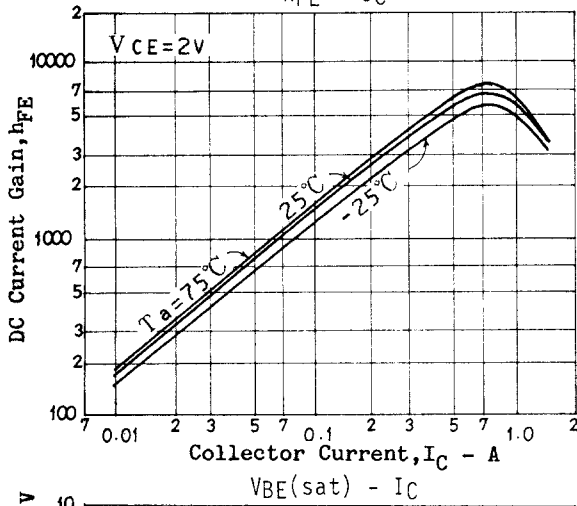
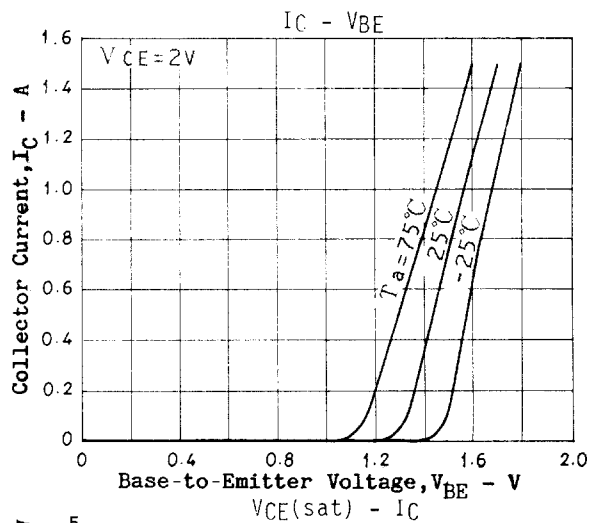
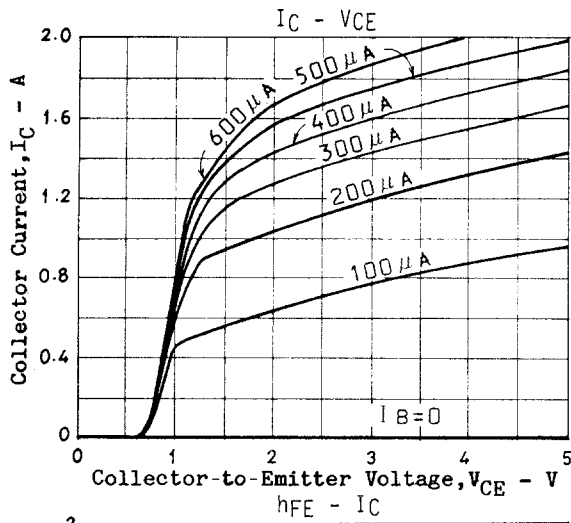
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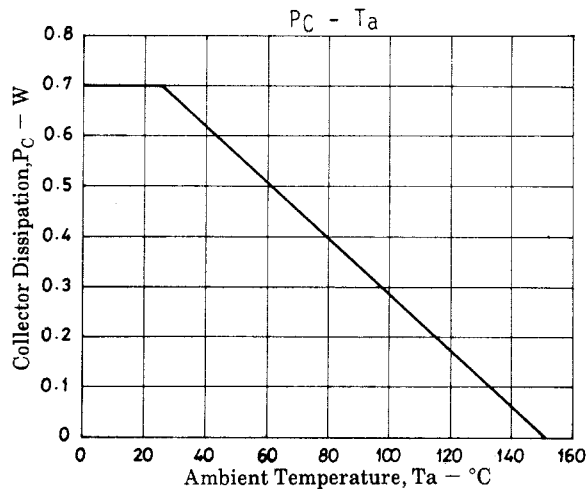
Electrical Connection



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



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