Ordering number: EN 2506

SANYO

No.2506

2SD1853

NPN Epitaxial Planar Silicon Darlington Transistor

Driver Applications

Applications

Motor drivers, hammer drivers, relay drivers

Features

- High DC current gain
- Low saturation voltage

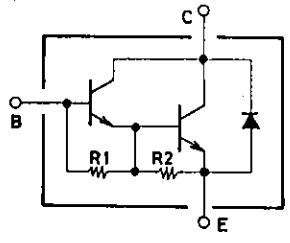
Absolute Maximum Ratings at Ta=25°C

			unit
Collector to Base Voltage	V_{CBO}	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	Tj	150	°C
Storage Temperature	Tstg	-55 to +150	°C

Electrical Characteristics at Ta=25°C

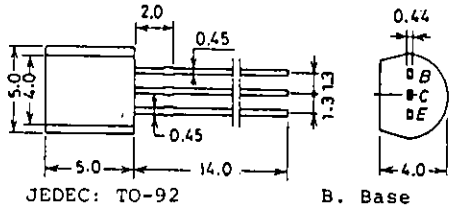
			min	typ	max	unit
Collector Curoff Current	I_{CBO}	V_{CB}=60V, I_E=0			10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0			2.5	mA
DC Current Gain	$h_{FE(1)}$	V_{CE}=2V, I_C=0.5A	1000			
	$h_{FE(2)}$	V_{CE}=2V, I_C=1A	2000			
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=1A, I_B=2mA			1.5	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=1A, I_B=2mA			2.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=1mA, I_E=0	80			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=25mA, R_{BE}=∞	60			V

Electrical Connection



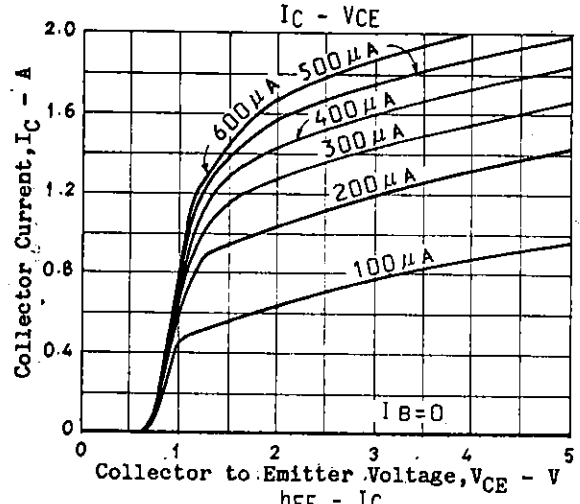
R1 ≒ 5kΩ
R2 ≒ 500Ω

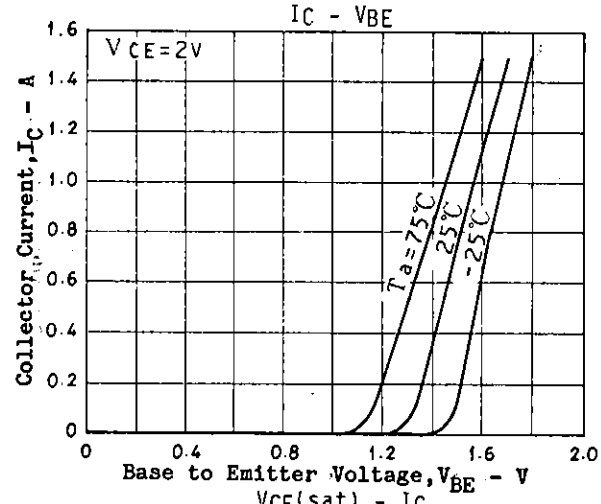
Package Dimensions 2003A
(unit: mm)

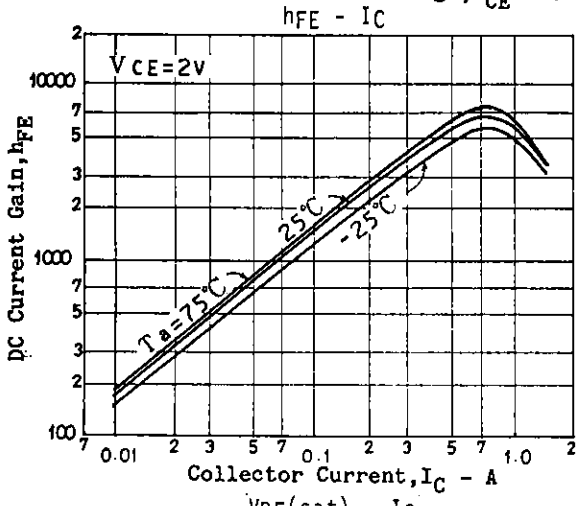


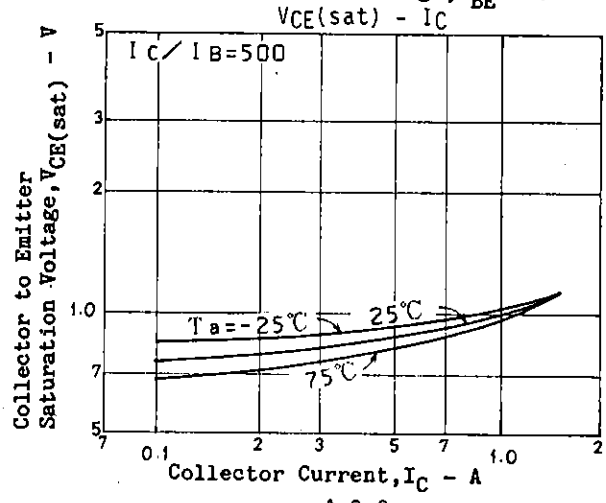
JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

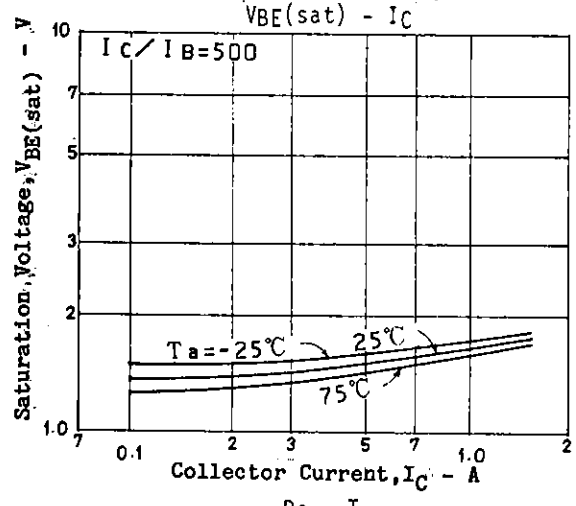
B. Base
C. Collector
E. Emitter

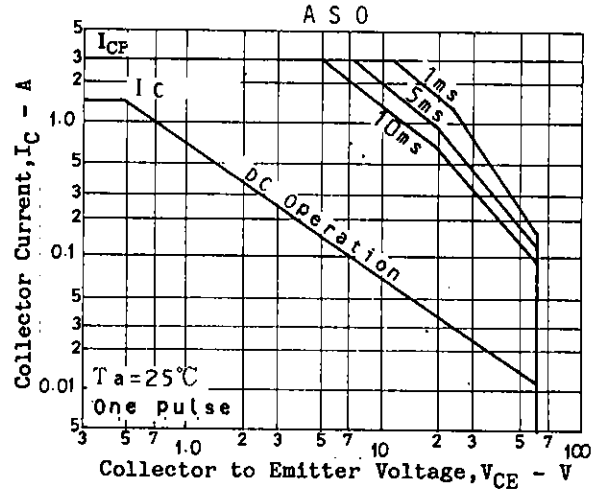

IC - VCE
Collector Current, IC - A
Collector to Emitter Voltage, VCE - V
600μA
500μA
400μA
300μA
200μA
100μA
IB=0

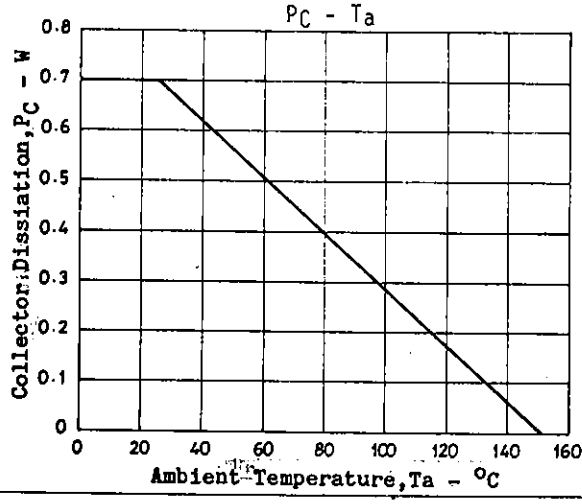

IC - VBE
VCE=2V
Collector Current, IC - A
Base to Emitter Voltage, VBE - V
Ta=75℃
25℃
-25℃


hFE - IC
VCE=2V
DC Current Gain, hFE
Collector Current, IC - A
Ta=75℃
25℃
-25℃


VCE(sat) - IC
IC/IB=500
Collector to Emitter Saturation Voltage, VCE(sat) - V
Collector Current, IC - A
Ta=-25℃
25℃
75℃


VBE(sat) - IC
IC/IB=500
Saturation Voltage, VBE(sat) - V
Collector Current, IC - A
Ta=-25℃
25℃
75℃


A S O
ICP
IC
1ms
5ms
10ms
DC Operation
Ta=25℃
One pulse
Collector Current, IC - A
Collector to Emitter Voltage, VCE - V


PC - Ta
Collector Dissiation, PC - W
Ambient Temperature, Ta - °C

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