Ordering number:EN2111B

NPN Epitaxial Planar Silicon Transistor

2SD1800

Driver Applications

Applications

· Relay drivers, hammer drivers, lamp drivers, motor drivers.

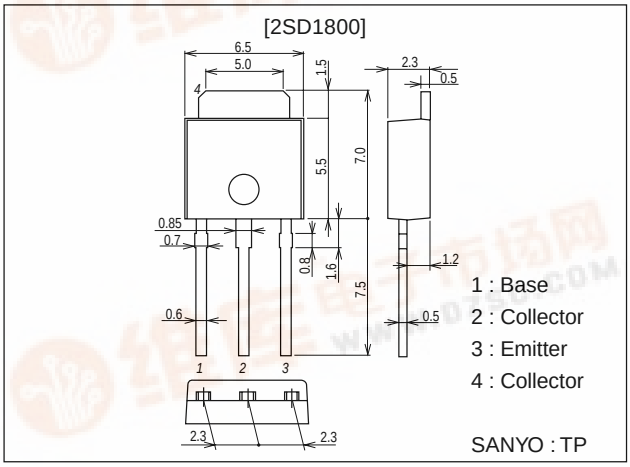
Features

· High DC current gain (h_{FE}≥4000).
· Large current capacity.
· Small and slim package making it easy to make 2SD1800-applied sets smaller.

Package Dimensions

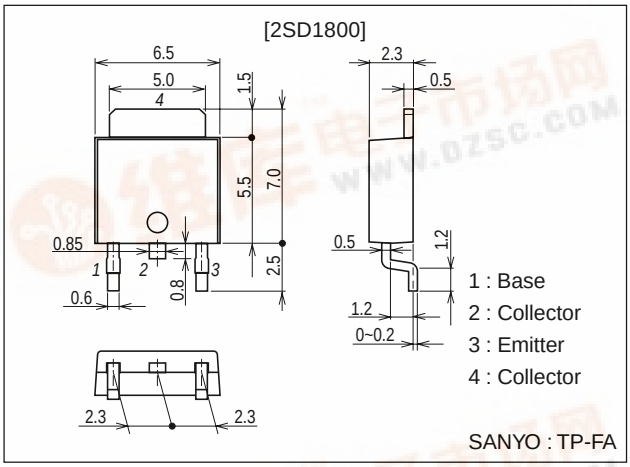
unit:mm

2045B



unit:mm

2044B



SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Specifications

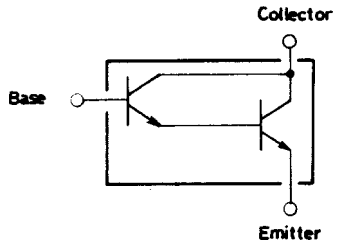
Absolute Maximum Ratings at Ta = 25˚C

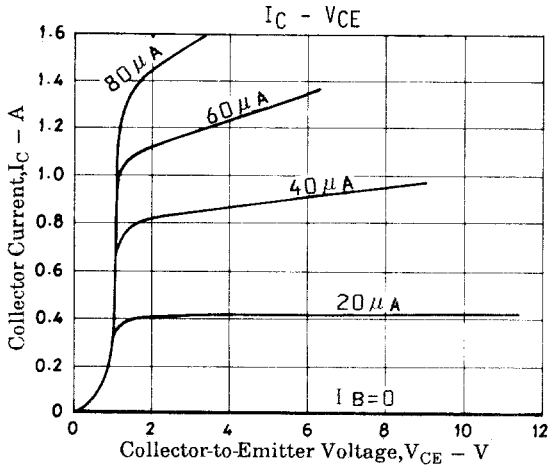
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		80	V
Collector-to-Emitter Voltage	V_{CEO}		50	V
Emitter-to-Base Voltage	V_{EBO}		10	V
Collector Current	I_C		1.5	A
Collector Current (Pulse)	I_{CP}		3	A
Collector Dissipation	P_C		1	W
		Tc=25˚C	10	W
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

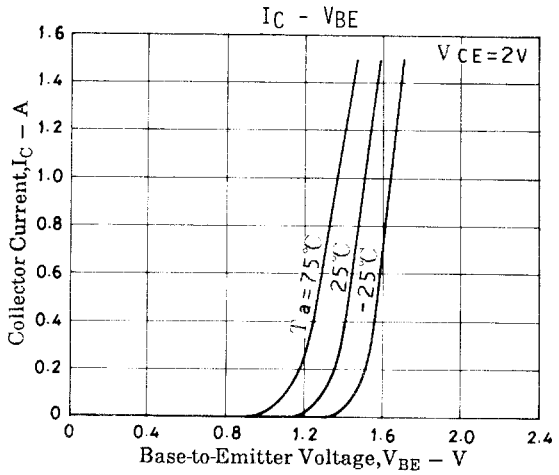
Electrical Characteristics at Ta = 25˚C

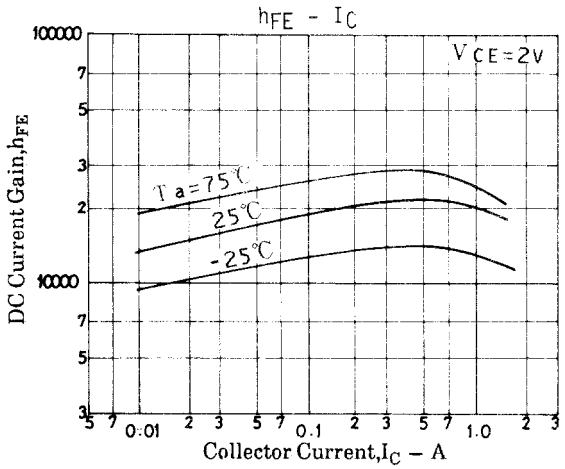
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=40V, I_E=0			100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}=8V, I_C=0			100	nA
DC Current Gain	$h_{FE}1$	V_{CE}=2V, I_C=500mA	4000			
	$h_{FE}2$	V_{CE}=2V, I_C=10mA	3000			
Gain-Bandwidth Product	f_T	V_{CE}=10V, I_C=50mA		120		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=500mA, I_B=0.5mA		0.9	1.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=500mA, I_B=0.5mA		1.5	2.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, R_{BE}=∞	50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	10			V

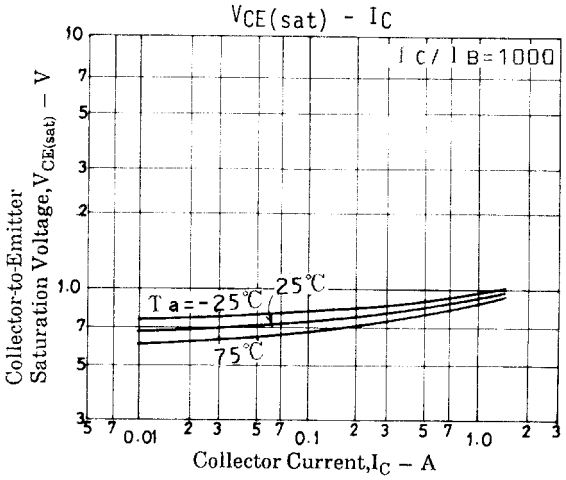
Electrical Connection

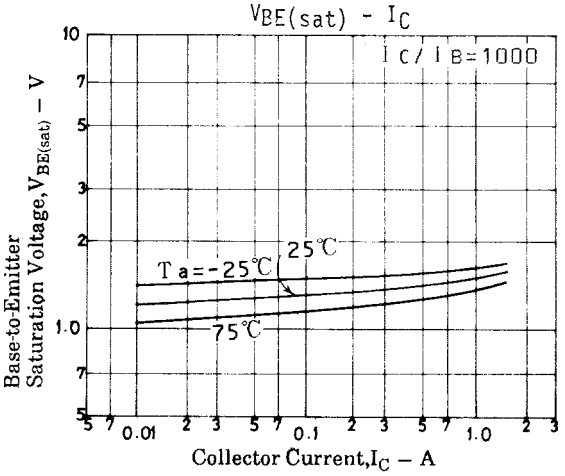


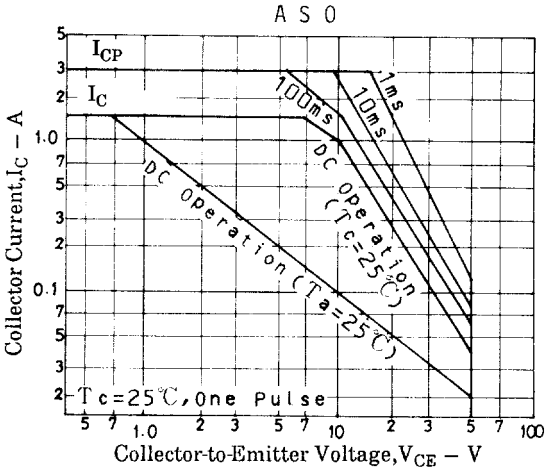


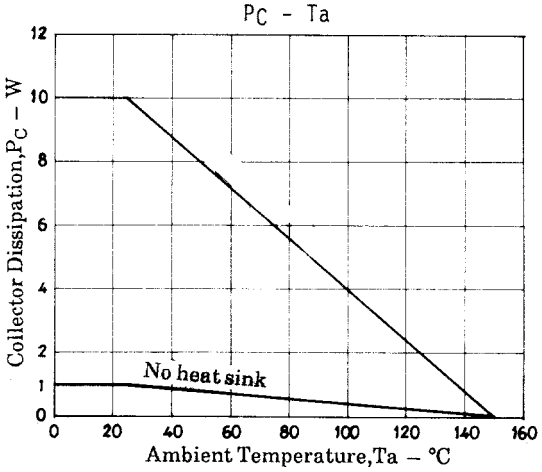



hFE - IC
VCE=2V
Ta=75℃
25℃
-25℃
DC Current Gain,hFE
Collector Current,IC – A


VCE(sat) - IC
IC/IB=1000
Ta=-25℃
25℃
75℃
Collector-to-Emitter Saturation Voltage,VCE(sat) – V
Collector Current,IC – A


VBE(sat) - IC
IC/IB=1000
Ta=-25℃
25℃
75℃
Base-to-Emitter Saturation Voltage,VBE(sat) – V
Collector Current,IC – A


A S O
ICP
IC
1ms
10ms
100ms
DC operation (Tc=25℃)
DC operation (Ta=25℃)
Tc=25℃, One Pulse
Collector Current,IC – A
Collector-to-Emitter Voltage,VCE – V


PC - Ta
No heat sink
Collector Dissipation,PC – W
Ambient Temperature,Ta – °C