Ordering number:ENN6177

NPN Triple Diffused Planar Silicon Transistor

2SC5303

Ultrahigh-Definition CRT Display Horizontal Deflection Output Applications

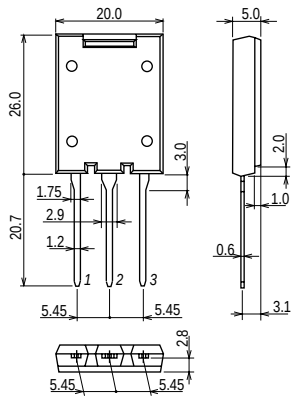
Features

- High speed (t_f=100ns typ).
- High breakdown voltage (V_{CBO}=1500V).
- High reliability (Adoption of HVP process).
- Adoption of MBIT process.

Package Dimensions

unit:mm

2111A



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		1500	V
Collector-to-Emitter Voltage	V_{CEO}		800	V
Emitter-to-Base Voltage	V_{EBO}		6	V
Collector Current	I_C		25	A
Collector Current (Pulse)	I_{CP}		50	A
Collector Dissipation	P_C		4.6	W
		Tc=25˚C	140	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_{CES}	V_{CE}=1500V, R_{BE}=0			1.0	mA
Collector-to-Emitter Sustain Voltage	$V_{CEO(sus)}$	I_C=100mA, I_B=0	800			V
Emitter Cutoff Current	I_{EBO}	V_{EB}=4V, I_C=0			1.0	mA
Collector Cutoff Current	I_{CBO}	V_{CB}=800V, I_E=0			10	µA
DC Current Gain	$h_{FE}1$	V_{CE}=5V, I_C=1.0A	20		30	
	$h_{FE}2$	V_{CE}=5V, I_C=20A	4		7	

Continued on next page.

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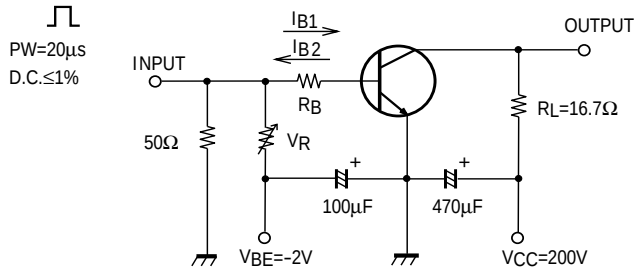
■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges,or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

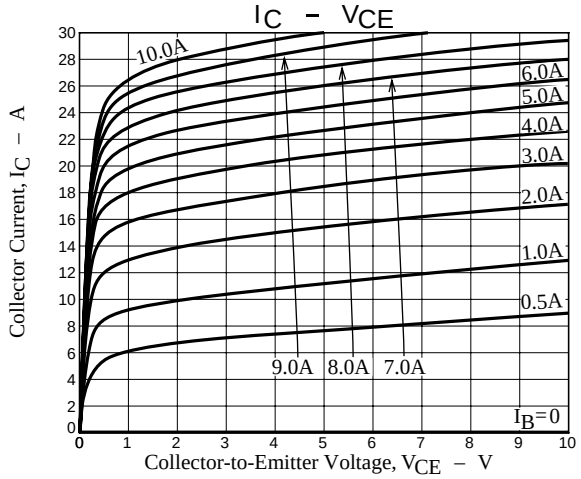
SANYO Electric Co.,Ltd. Semiconductor Company
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

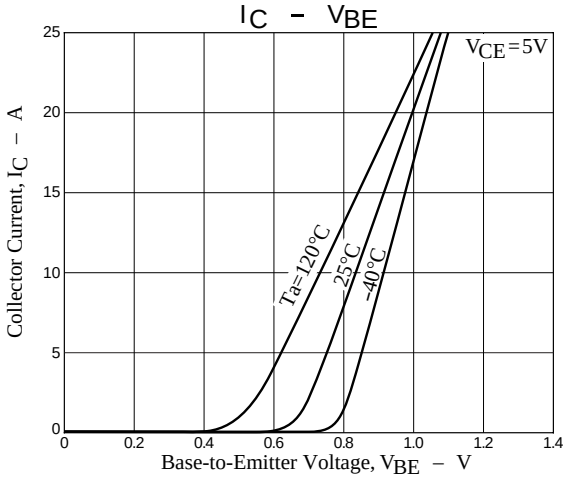
Continued from preceding page.

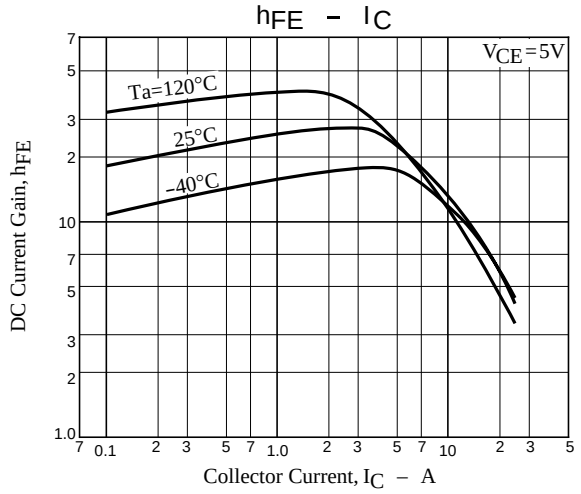
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=20A, I_B=5A			5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=20A, I_B=5A			1.5	V
Storage Time	t_{stg}	I_C=12A, I_{B1}=2.4A, I_{B1}=–4.8A			3.0	µs
Fall Time	t_f	I_C=12A, I_{B1}=2.4A, I_{B1}=–4.8A			0.2	µs

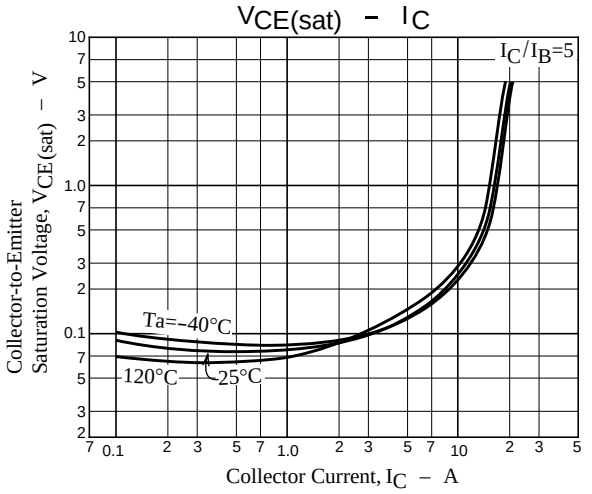
Switching Time Test Circuit

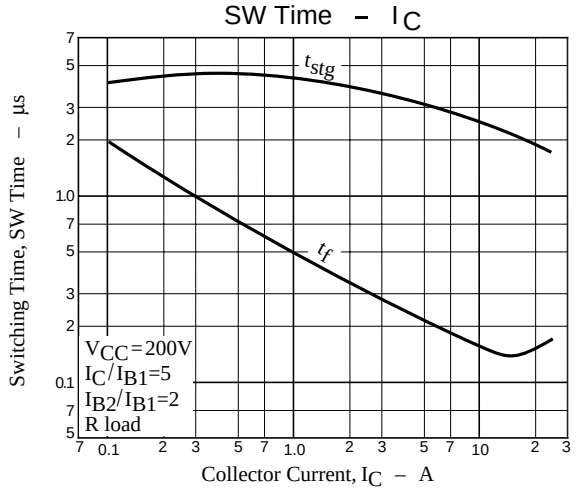


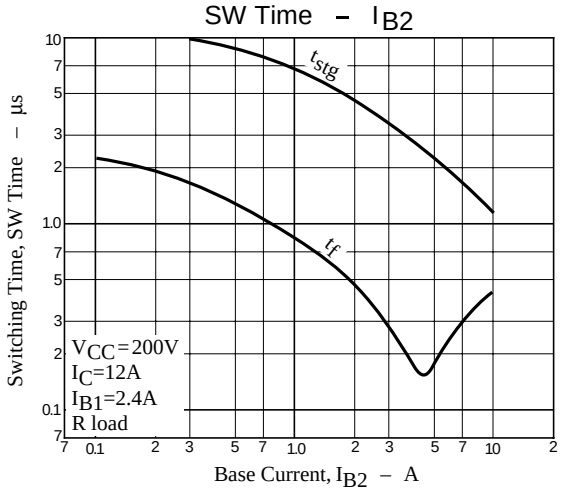


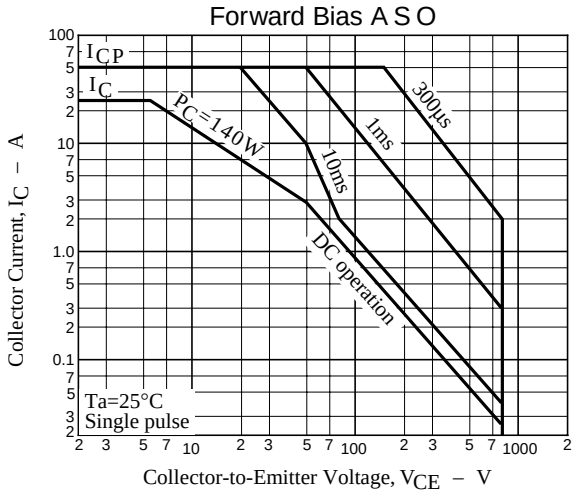


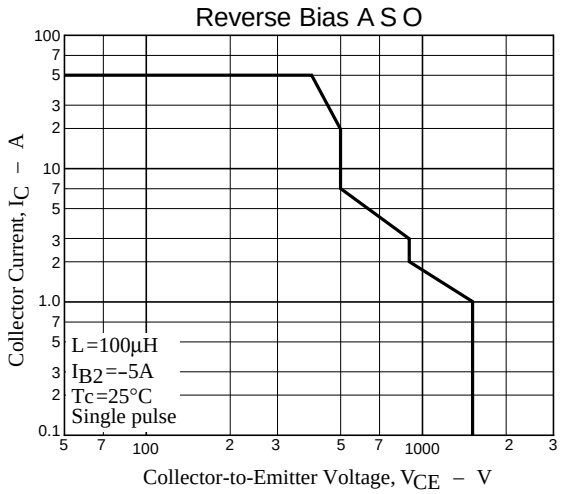


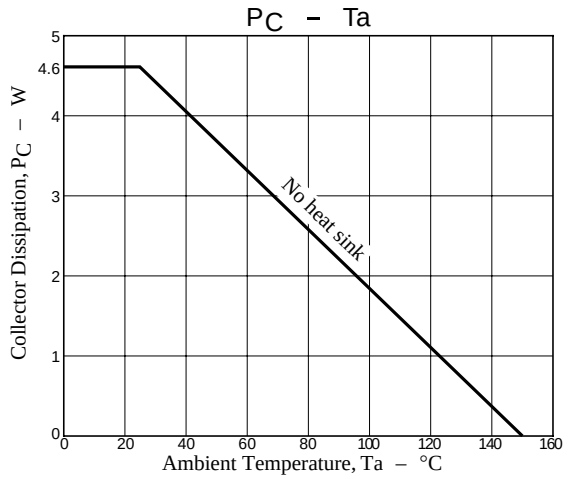


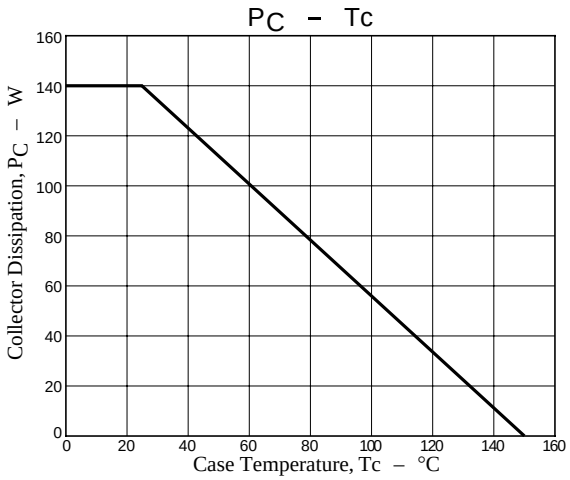

SW Time – IC
Switching Time, SW Time – μs
Collector Current, IC – A
tstg
tf
VCC=200V
IC/IB1=5
IB2/IB1=2
R load


SW Time – IB2
Switching Time, SW Time – μs
Base Current, IB2 – A
tstg
tf
VCC=200V
IC=12A
IB1=2.4A
R load


Forward Bias A S O
Collector Current, IC – A
Collector-to-Emitter Voltage, VCE – V
ICP
IC
PC=140W
300μs
1ms
10ms
DC operation
Ta=25°C
Single pulse


Reverse Bias A S O
Collector Current, IC – A
Collector-to-Emitter Voltage, VCE – V
L=100μH
IB2=–5A
Tc=25°C
Single pulse


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


PC – Tc
Collector Dissipation, PC – W
Case Temperature, Tc – °C

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