Ordering number:EN5363B

NPN Triple Diffused Planar Silicon Transistor

2SC5302

Ultrahigh-Definition CRT Display Horizontal Deflection Output Applications

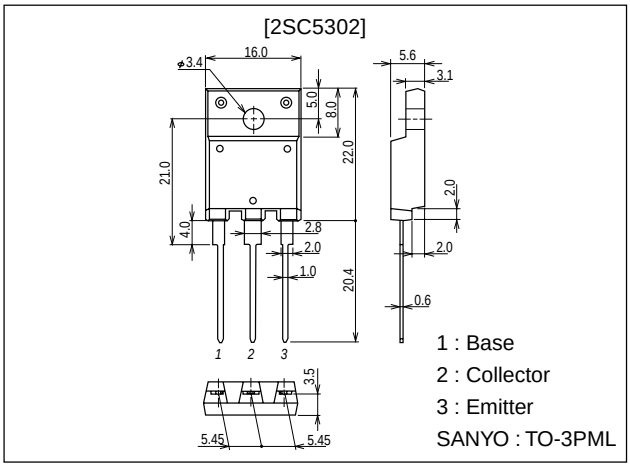
Features

- Fast 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

2039D



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Condition	Rating	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		15	A
Collector Current (pulse)	I_{CP}		35	A
Collector Dissipation	P_C		3	W
		Tc=25˚C	75	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	mA
Collector 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	mA
Collector Cutoff Current	I_{CBO}	V_{CB}=800V, I_E=0			1	μA
DC Current Gain	h_{FE1}	V_{CE}=5V, I_C=1.0A	20		30	
	h_{FE2}	V_{CE}=5V, I_C=12A			7	

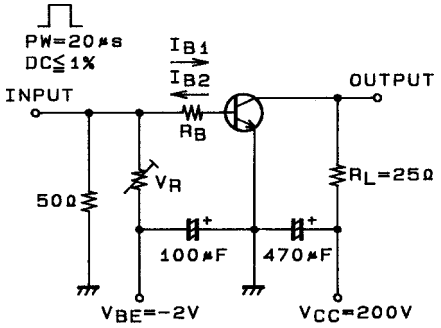
Continued on next page.

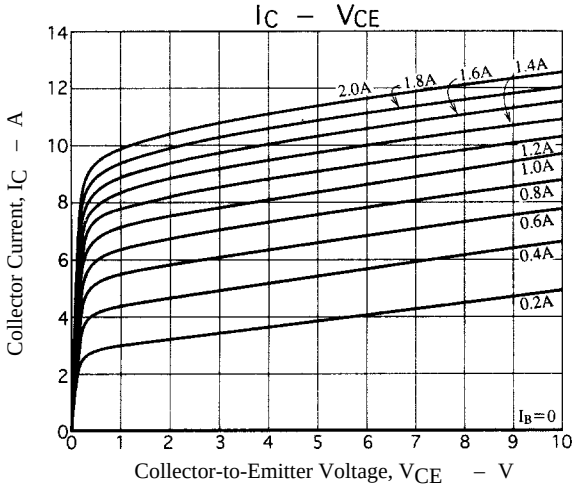
SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

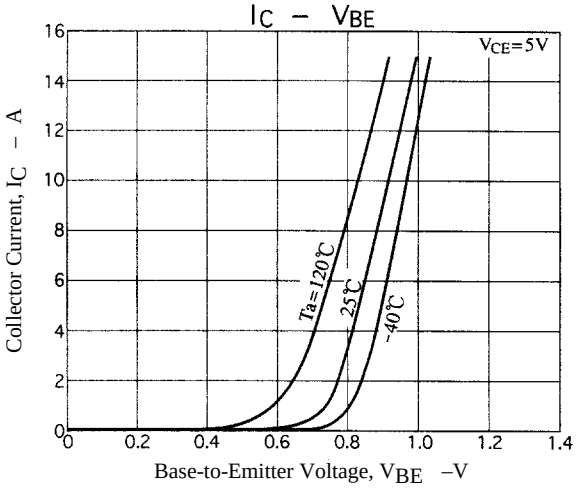
Continued from preceding page.

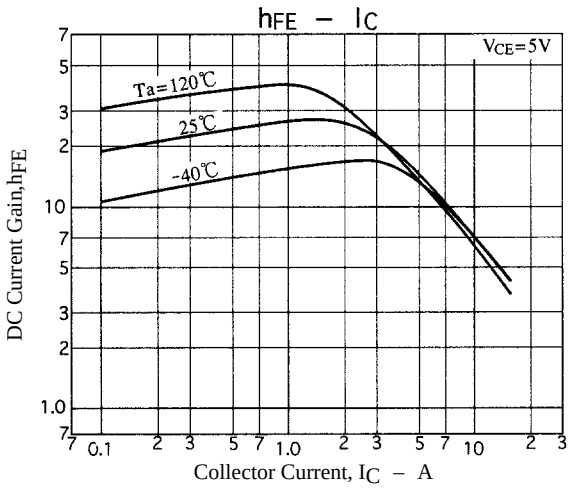
Parameter	Symbo	Condition	Ratings			Unit
			mi n	ty p	ma	
Collector-to-Emitter Saturation Voltage	CE(sat)	I_C=12A, I_B=3A				V
Base-to-Emitter Saturation Voltage	BE(sat)	I_C=12A, I_B=3A			1.V	
Storage Time	stg	I_C=8A, I_B1=1.6A, I_B2=–3.2A			3s	µ
Fall Time	f	I_C=8A, I_B1=1.6A, I_B2=–3.2A			0s	µ

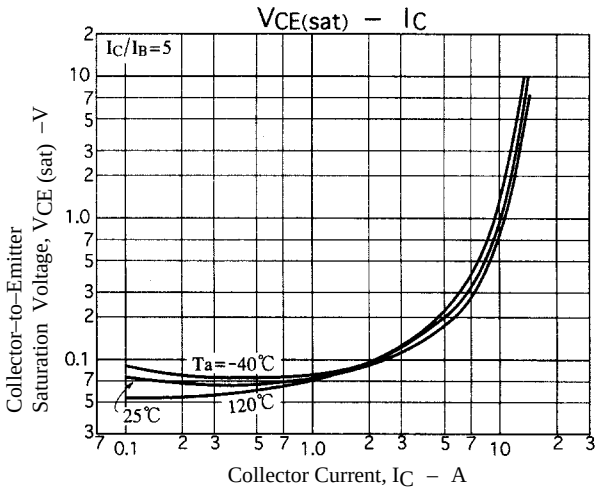
Switching Time Test Circuit

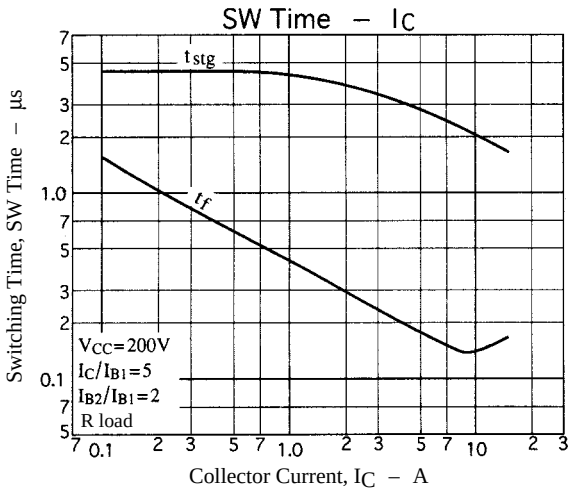


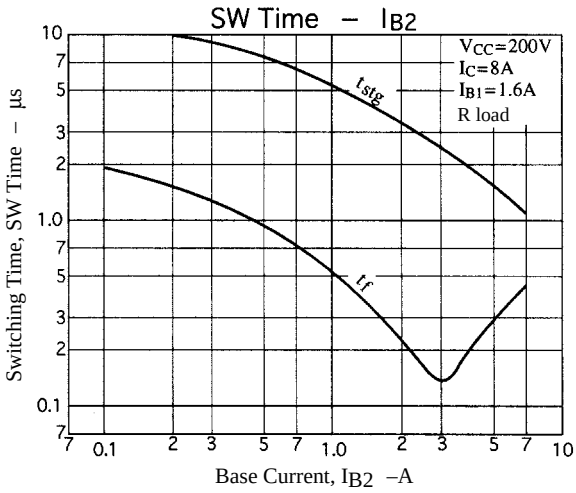


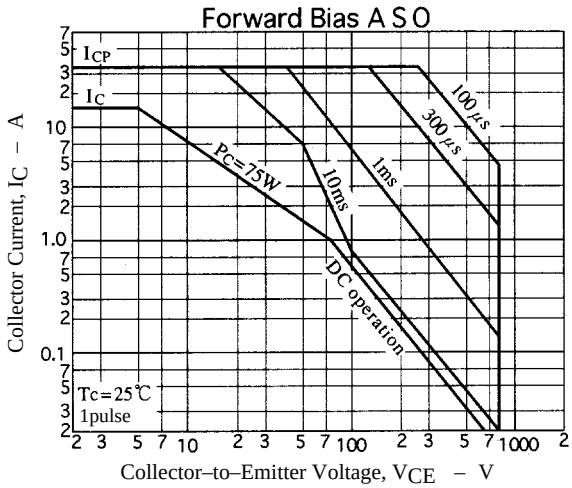


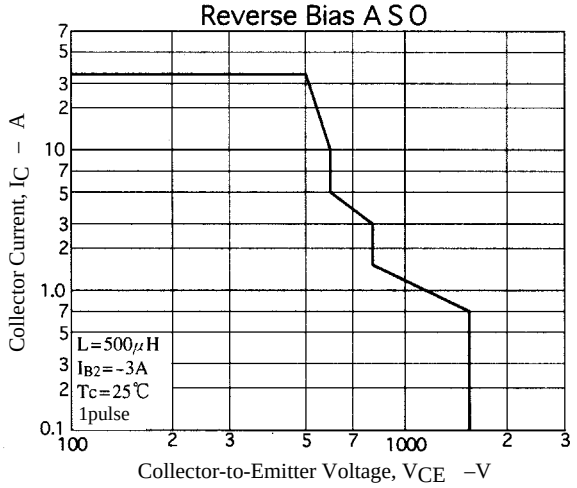


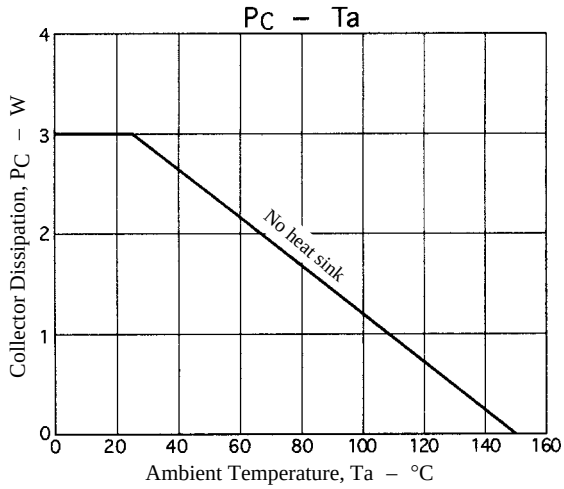


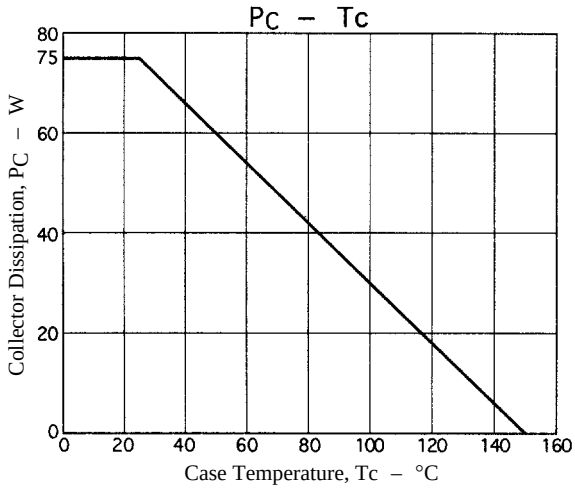

SW Time – IC
tstg
tf
VCC=200V
IC/IB1=5
IB2/IB1=2
R load
Switching Time, SW Time – µs
Collector Current, IC – A


SW Time – IB2
VCC=200V
IC=8A
IB1=1.6A
R load
tstg
tf
Switching Time, SW Time – µs
Base Current, IB2 –A


Forward Bias A S O
ICP
IC
100µs
300µs
1ms
10ms
DC operation
PC=75W
Tc=25℃
1pulse
Collector Current, IC – A
Collector–to–Emitter Voltage, VCE – V


Reverse Bias A S O
L=500µH
IB2=-3A
Tc=25℃
1pulse
Collector Current, IC – A
Collector-to-Emitter Voltage, VCE –V


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


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