Ordering number : EN2509C

SANYO

No.2509C

2SC3996

NPN Triple Diffused Planar Silicon Transistor

Ultrahigh-Definition Display Horizontal Deflection Output Applications

Features

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

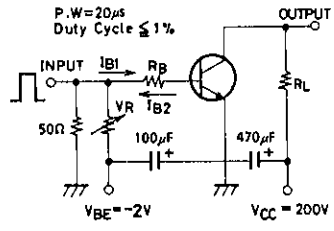
Absolute Maximum Ratings at Ta = 25°C

				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	Tc = 25°C	180	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		−55 to +150	°C

Electrical Characteristics at Ta = 25°C

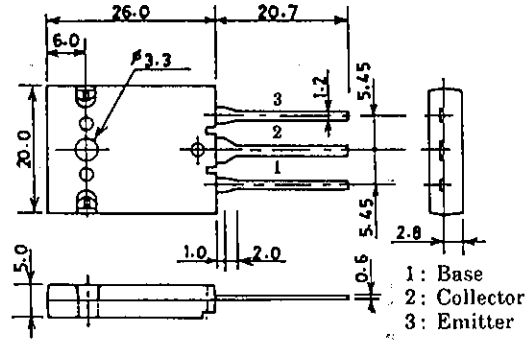
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB} = 800V, I_E = 0			10	μA
Collector Cutoff Current	I_{CES}	V_{CE} = 1500V, R_{BE} = 0			1.0	mA
Collector Sustain Voltage	$V_{CEO(sus)}$	I_C = 100mA, I_B = 0	800			V
Emitter Cutoff Current	I_{EBO}	V_{EB} = 4V, I_C = 0			1.0	mA
C-E Saturation Voltage	$V_{CE(sat)}$	I_C = 12A, I_B = 3.0A			5	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C = 12A, I_B = 3.0A			1.5	V
DC Current Gain	$h_{FE}(1)$	V_{CE} = 5V, I_C = 1.0A	8		30	
	$h_{FE}(2)$	V_{CE} = 5V, I_C = 12A	4		8	
Storage Time	t_{stg}	I_C = 8A, I_{B1} = 1.6A, I_{B2} = −3.2A			3.0	μs
Fall Time	t_f	I_C = 8A, I_{B2} = 1.6A, I_{B2} = −3.2A			0.2	μs

Switching Time Test Circuit



Package Dimensions 2048B

(unit : mm)

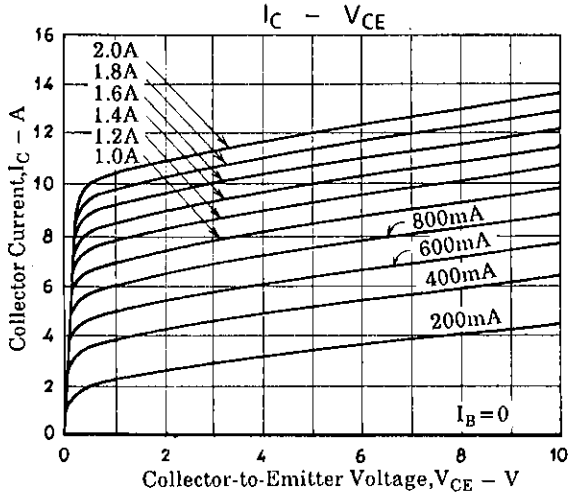


1 : Base
2 : Collector
3 : Emitter

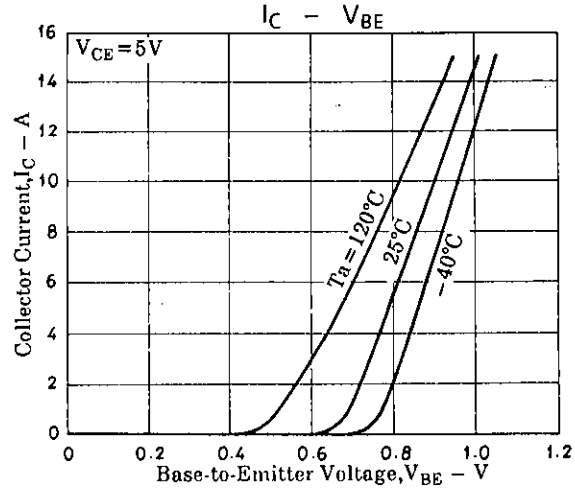
SANYO : TO-3PBL

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

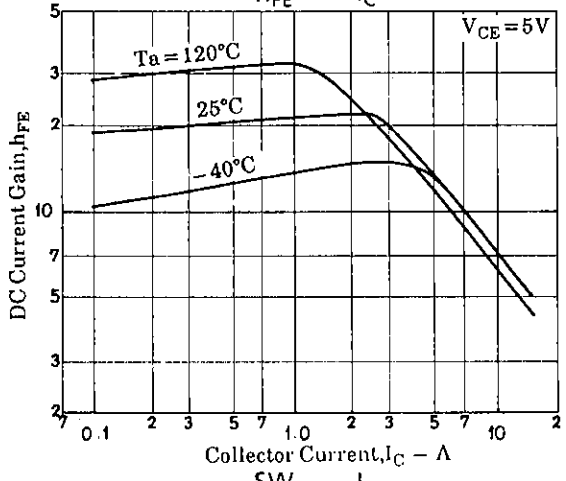
I_C – V_{CE}



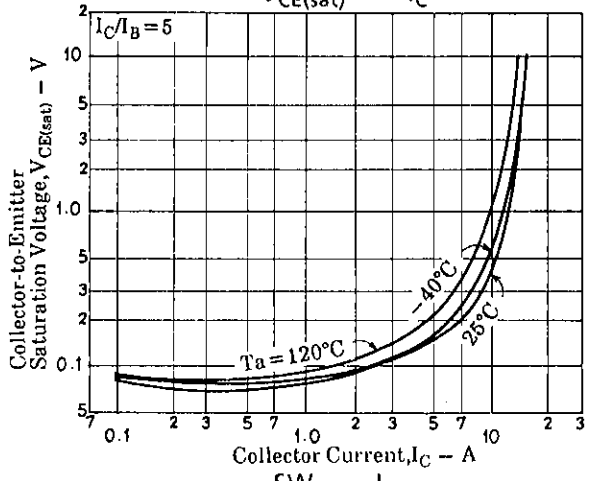
I_C – V_{BE}



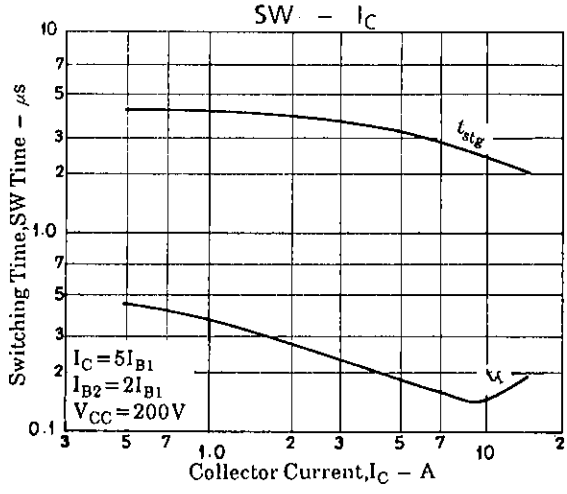
h_{FE} – I_C



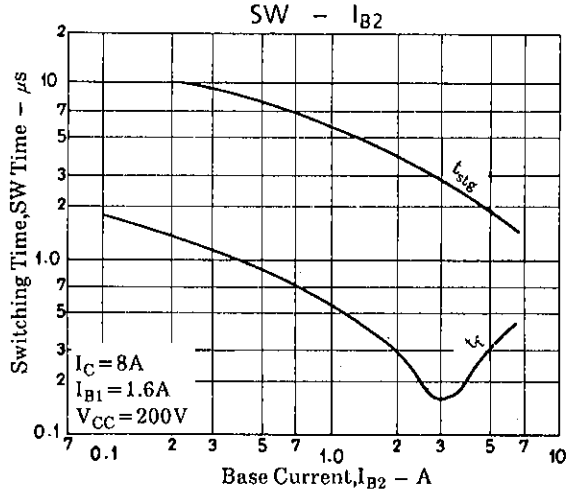
$V_{CE(sat)}$ – I_C



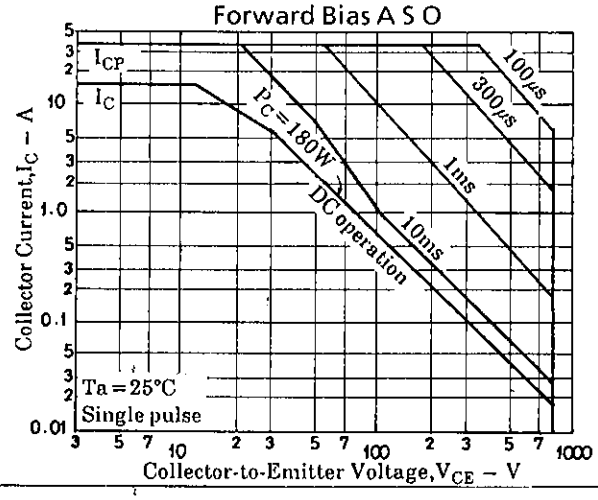
SW – I_C



SW – I_{B2}



Forward Bias A S O



Reverse Bias A S O