Ordering number:EN5126

NPN Triple Diffused Planar Silicon Transistor

2SC5238

Ultrahigh-Definition Color Display Horizontal Deflection Output Applications

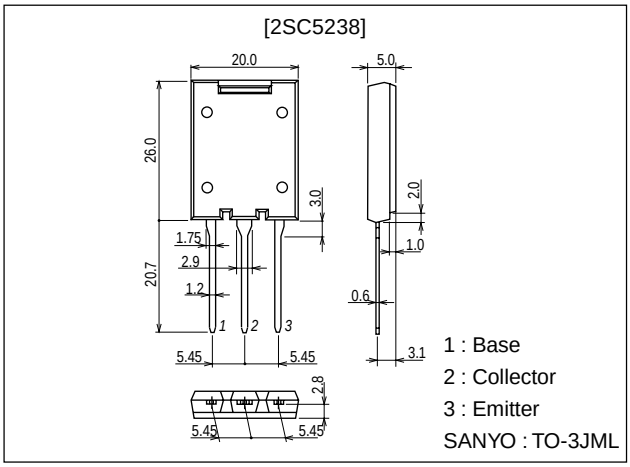
Features

- 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		50	A
Collector Current (Pulse)	I_{CP}		100	A
Collector Dissipation	P_C		5.3	W
		Tc=25˚C	160	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			1.0	mA
Collector-to-Emitter Sastain 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=40A	4		7	

Continued on next page.

■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

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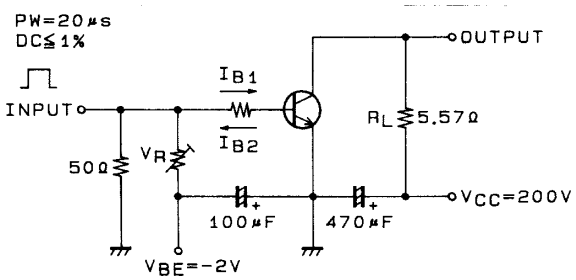
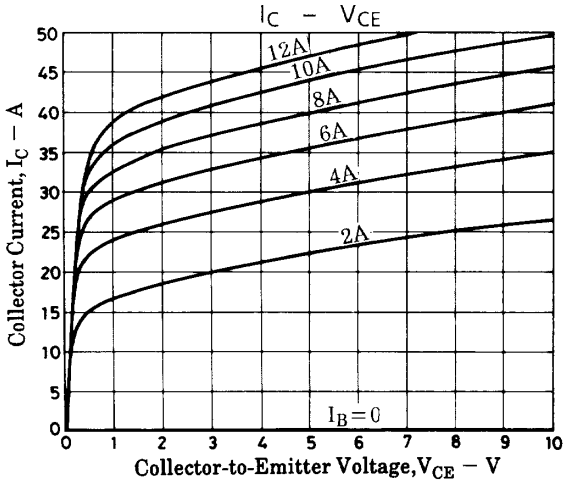
SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

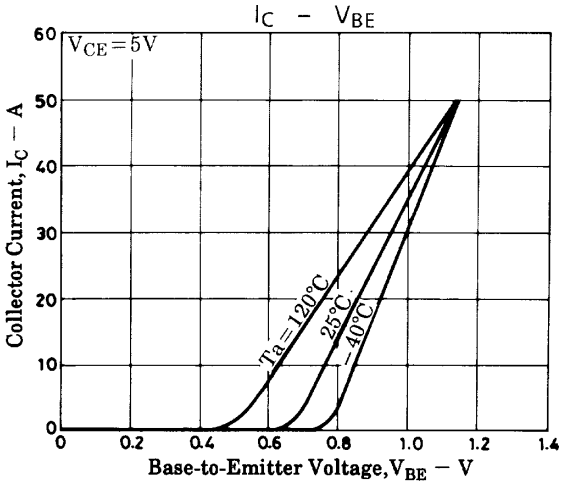
Continued from preceding page.

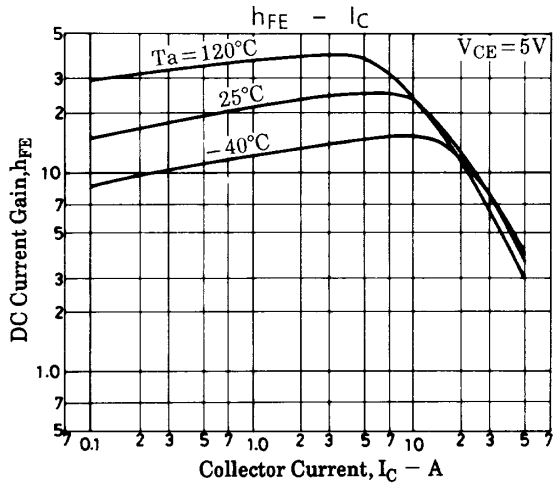
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=40A, I_B=10A			5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=40A, I_B=10A			1.5	V
Storage Time	t_{stg}	I_C=30A, I_{B1}=5A, I_{B2}=–15A			2.0	μs
Fall Time	t_f	I_C=30A, I_{B1}=5A, I_{B2}=–15A		0.1	0.2	μs

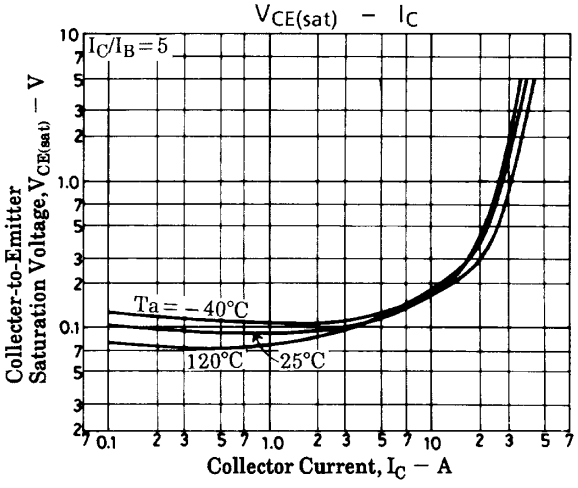
Switching Time Test Circuit

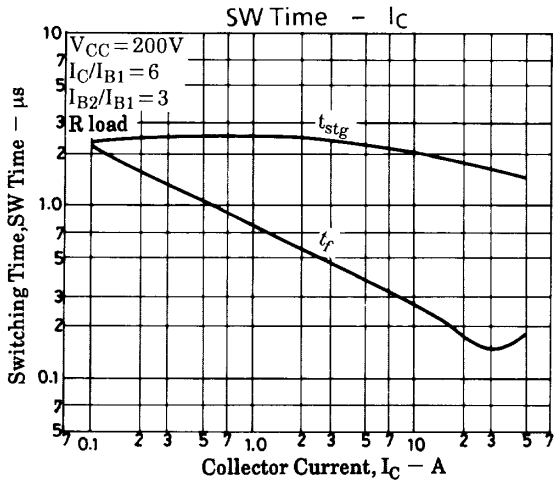


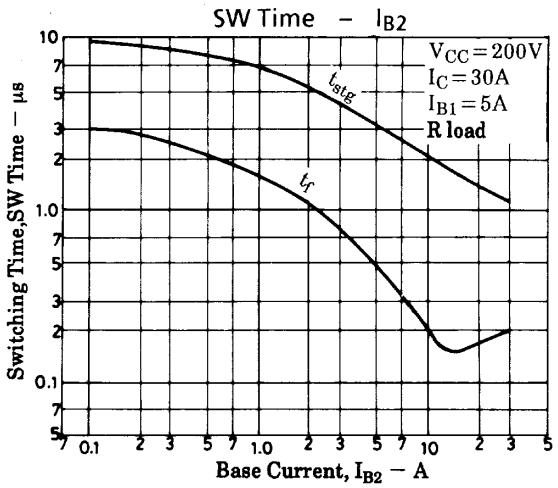


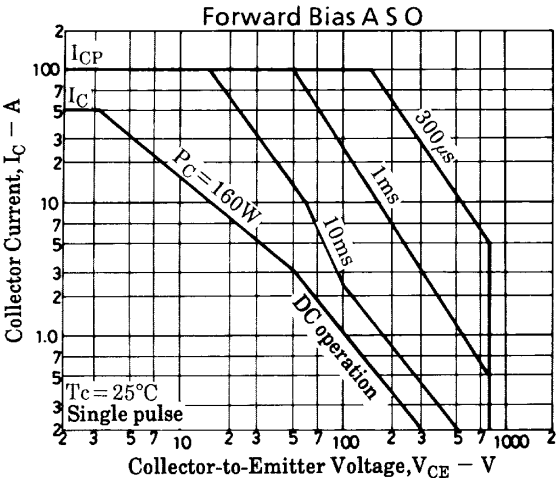


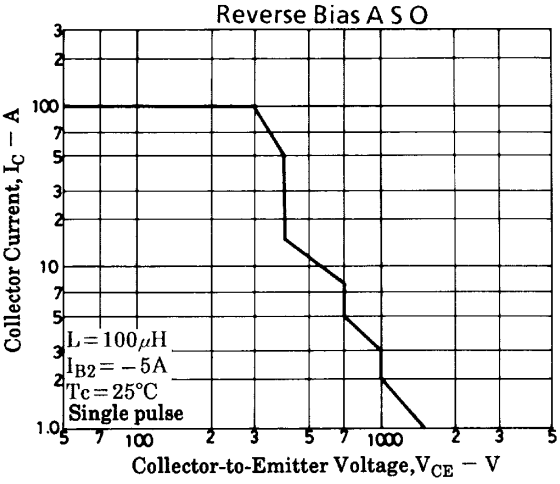


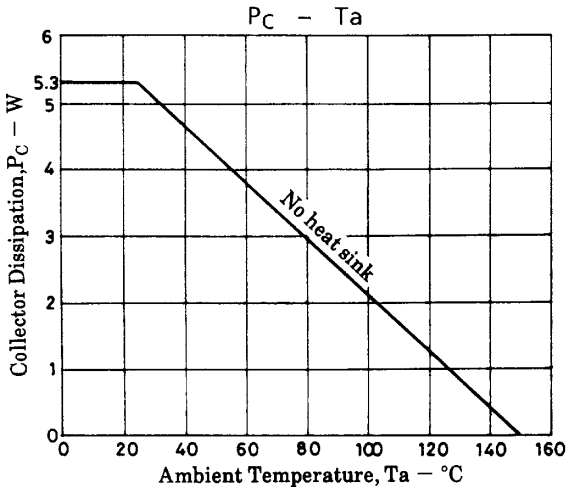


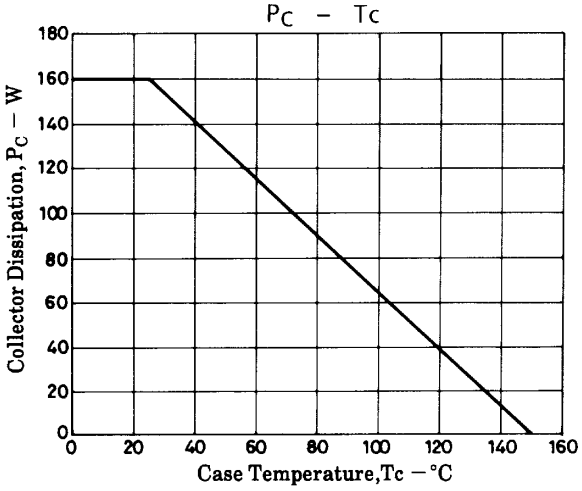

SW Time – IC
VCC = 200V
IC/IB1 = 6
IB2/IB1 = 3
R load
tstg
tf
Switching Time,SW Time – μs
Collector Current, IC – A


SW Time – IB2
VCC = 200V
IC = 30A
IB1 = 5A
R load
tstg
tf
Switching Time,SW Time – μs
Base Current, IB2 – A


Forward Bias A S O
ICP
IC
PC = 160W
300μs
1ms
10ms
DC operation
Tc = 25°C
Single pulse
Collector Current, IC – A
Collector-to-Emitter Voltage,VCE – V


Reverse Bias A S O
L = 100μH
IB2 = – 5A
Tc = 25°C
Single pulse
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

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