



No.5291

2SC5297
NPN Triple Diffused Planar Silicon Transistor
Ultrahigh-Definition CRT Display
Horizontal Deflection Output Applications

Ultrahigh-Definition CRT Display Horizontal Deflection Output Applications

Features

- High Speed : $t_r = 100\text{ns}$ typ.
- High breakdown voltage : $V_{CBO} = 1500\text{V}$.
- High reliability (Adoption of HVP process).
- Adoption of MBIT process.

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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	8	A
Collector Current (Pulse)	I _{CP}	16	A
Collector Dissipation	P _C	3.0	W
		60	W
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55 to +150	°C

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Collector Current (Pulse)	I_{CP}	16	A
Collector Dissipation	P_C	3.0	W
	$T_c = 25^\circ\text{C}$	60	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics at Ta = 25°C			min	typ	max	unit
Collector Cutoff Current	ICBO	VCE = 800V, IE = 0			10	μA
Collector Cutoff Current	ICES	VCE = 1500V, VBE = 0			1.0	mA
Collector Sustaining Voltage	VCEO(SUS)	IC = 100mA, IB = 0	800			V
Emitter Cutoff Current	IEBO	VEB = 4V, IC = 0			1.0	mA
C-E Saturation Voltage	VCE(sat)	IC = 5A, IB = 1.25A			5	V
B-E Saturation Voltage	VBE(sat)	IC = 5A, IB = 1.25A			1.5	V
DC Current Gain	hFE(1)	VCE = 5V, IC = 1A	20		30	
	hFE(2)	VCE = 5V, IC = 5A	4		7	
Storage Time	tstg	IC = 4A, IB1 = 0.8A, IB2 = -1.6A			3.0	μs
Fall Time	tf	IC = 4A, IB1 = 0.8A, IB2 = -1.6A	0.1		0.2	μs

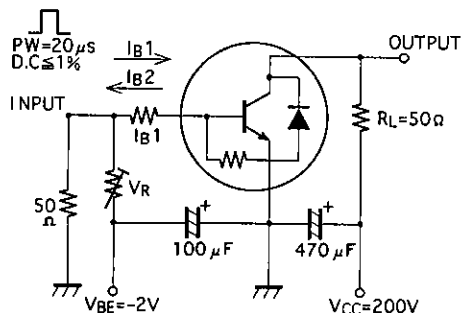
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=800V, I_E=0$			10	μA
Collector Cutoff Current	I_{CES}	$V_{CE}=1500V, R_{BE}=0$			1.0	mA
Collector Sustaining Voltage	$V_{CEO(SUS)}$	$I_C=100mA, I_B=0$	800			V
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4V, I_C=0$			1.0	mA
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=5A, I_B=1.25A$			5	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=5A, I_B=1.25A$			1.5	V
DC Current Gain	$h_{FE(1)}$	$V_{CE}=5V, I_C=1A$	20		30	
	$h_{FE(2)}$	$V_{CE}=5V, I_C=5A$	4		7	
Storage Time	t_{stg}	$I_C=4A, I_{B1}=0.8A, I_{B2}=-1.6A$			3.0	μs
Fall Time	t_f	$I_C=4A, I_{B1}=0.8A, I_{B2}=-1.6A$	0.1		0.2	μs

Switching Time Test Circuit

$PW = 20\mu s$
 $D.C. \leq 1\%$

I_{B1}
 I_{B2}

INPUT
 50Ω
 V_R
 $V_{BE} = -2V$
 $100\mu F$
 $470\mu F$
 $V_{CC} = 200V$
 $R_L = 50\Omega$
 OUTPUT

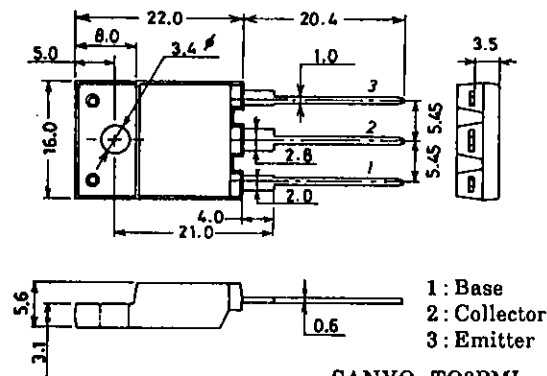


Package Dimensions 2039C
(unit : mm)

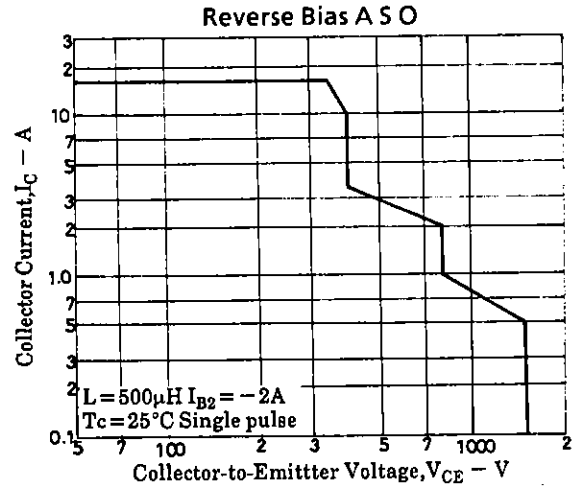
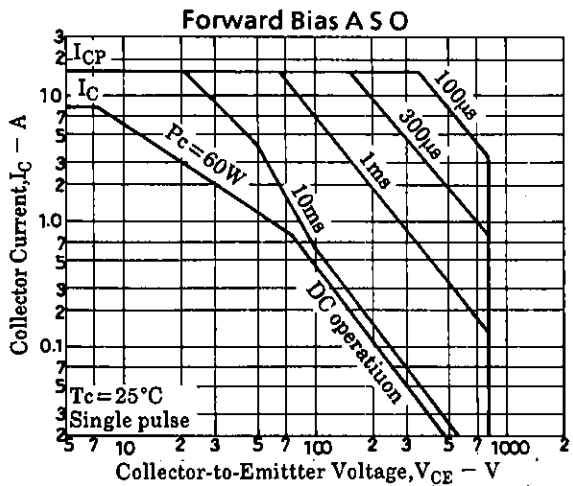
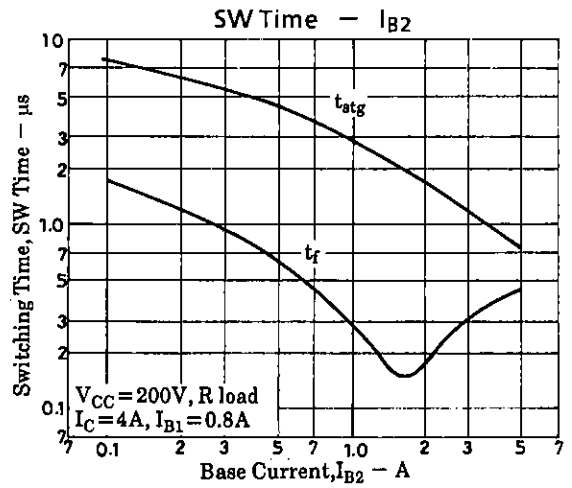
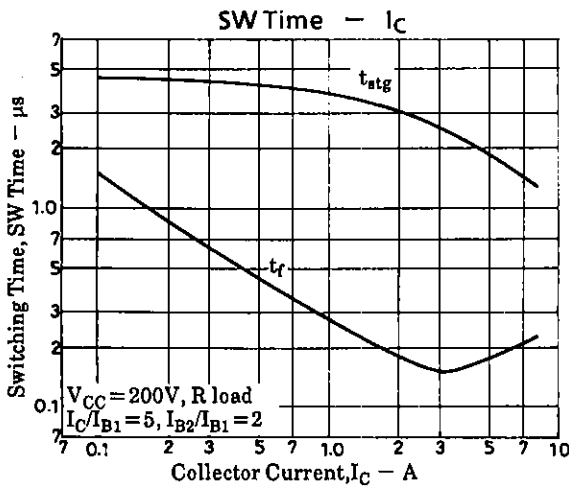
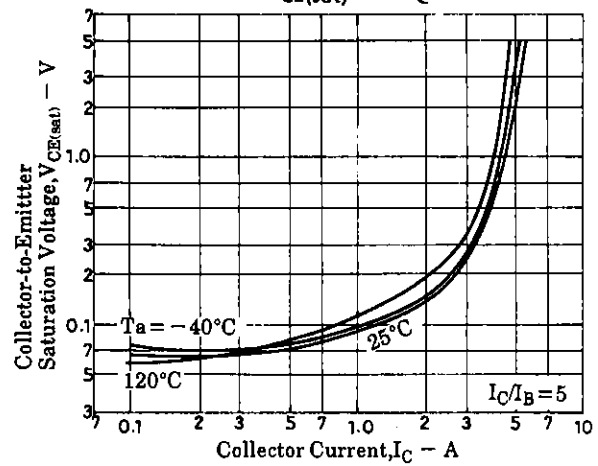
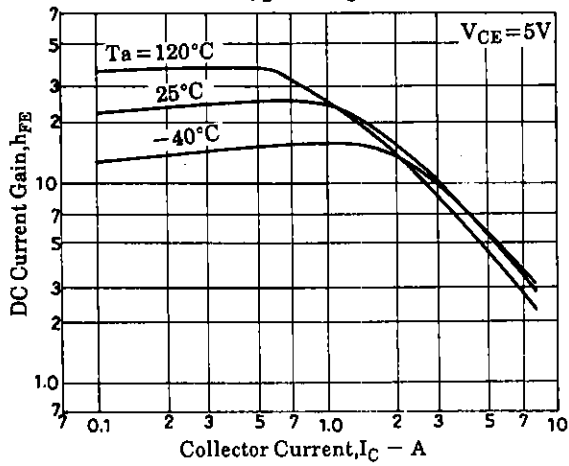
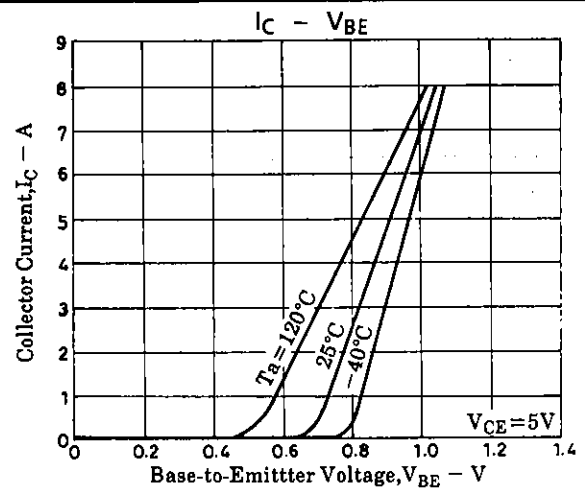
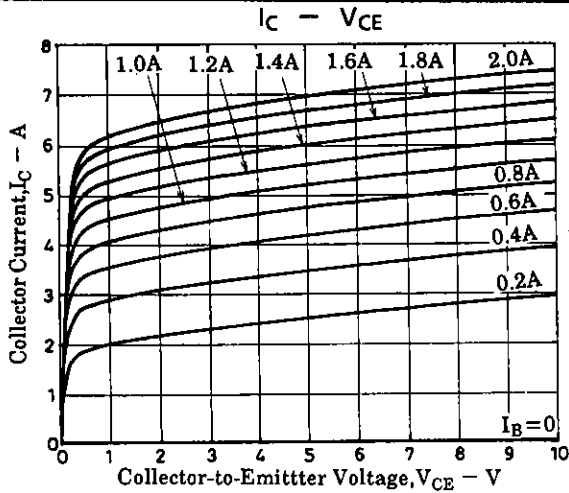
The technical drawing illustrates the TO3PML package dimensions in millimeters. The top view shows a rectangular body with a width of 22.0 mm and a total length of 21.0 mm. A mounting tab on the left is 8.0 mm wide and 5.0 mm high. The main body has a diameter of 3.4 mm. The base has a width of 20.4 mm. The side view shows a total height of 16.0 mm and a base thickness of 4.0 mm. The top view also shows three pins: Pin 1 (Emitter) with a length of 2.0 mm, Pin 2 (Collector) with a length of 2.6 mm, and Pin 3 (Base) with a length of 1.0 mm. The pins are spaced 5.45 mm apart. A detail view of the pins shows a base diameter of 5.6 mm and a pin diameter of 0.6 mm. A legend identifies the pins: 1: Base, 2: Collector, 3: Emitter.

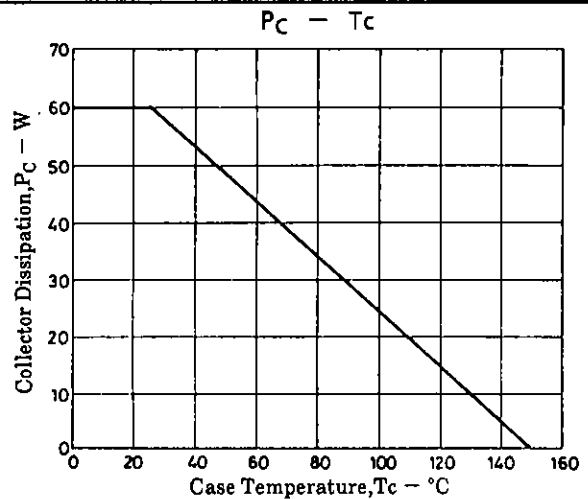
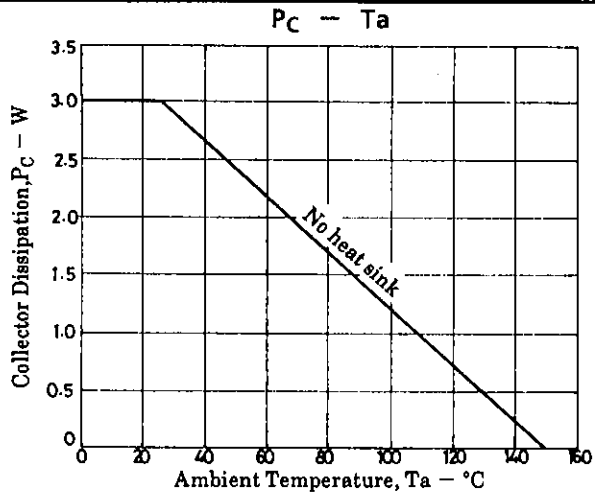
1: Base
2: Collector
3: Emitter

SANYO: TO3PML



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