

SANYO

No.2974A

2SA1700

PNP Epitaxial Planar Silicon Transistor

High-Voltage Driver Applications

Features

- High breakdown voltage
- Adoption of MBIT process
- Excellent h_{FE} linearity

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

			unit
Collector to Base Voltage	V_{CB0}	-400	V
Collector to Emitter Voltage	V_{CEO}	-400	V
Emitter to Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-200	mA
Collector Current(Pulse)	I_{CP}	-400	mA
Collector Dissipation	P_C	1	W
		10	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

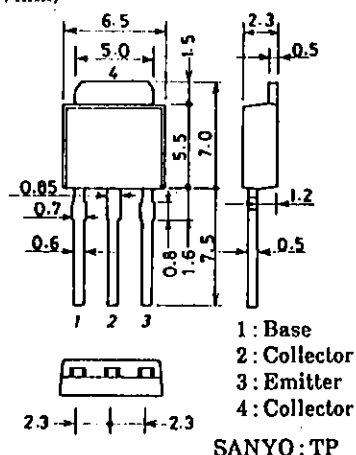
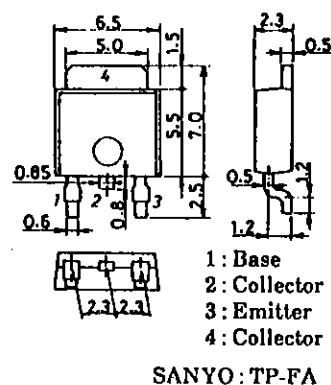
 $T_c = 25^\circ\text{C}$ **Electrical Characteristics at $T_a = 25^\circ\text{C}$**

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = -300\text{V}, I_E = 0$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0$			-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -10\text{V}, I_C = -50\text{mA}$	60*		200*	
Gain-Bandwidth Product	f_T	$V_{CE} = -30\text{V}, I_C = -10\text{mA}$		70		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = -50\text{mA}, I_B = -5\text{mA}$			-0.8	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = -50\text{mA}, I_B = -5\text{mA}$			-1.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}, I_E = 0$	-400			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, R_{BE} = \infty$	-400			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-5			V

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*: The 2SA1700 is classified by 50mA h_{FE} as follows:

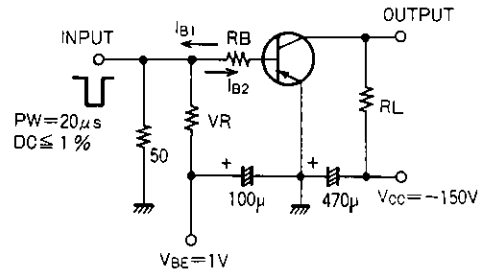
60	D	120	100	E	200
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Package Dimensions 2045B
(unit: mm)**Package Dimensions 2044B**
(unit: mm)

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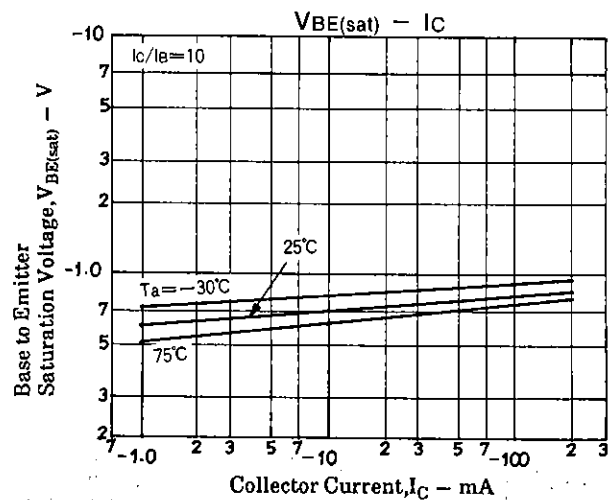
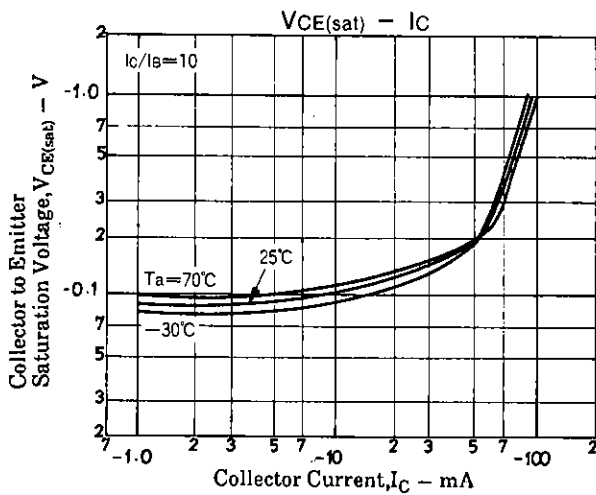
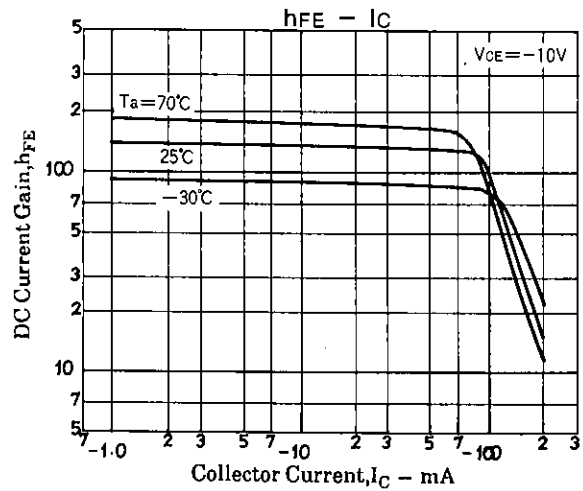
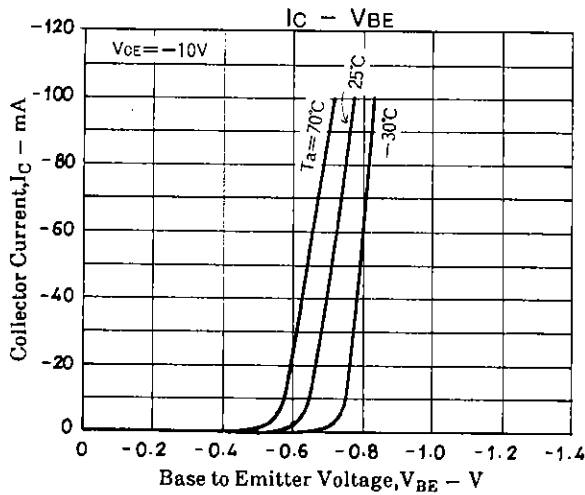
			min	typ	max	unit
Output Capacitance	c_{ob}	$V_{CB} = -30V, f = 1MHz$		5		pF
Reverse Transfer Capacitance	c_{re}	$V_{CB} = -30V, f = 1MHz$		4		pF
Turn-ON Time	t_{on}	See specified Test Circuit.		0.25		μs
Turn-OFF Time	t_{off}	"		5		μs

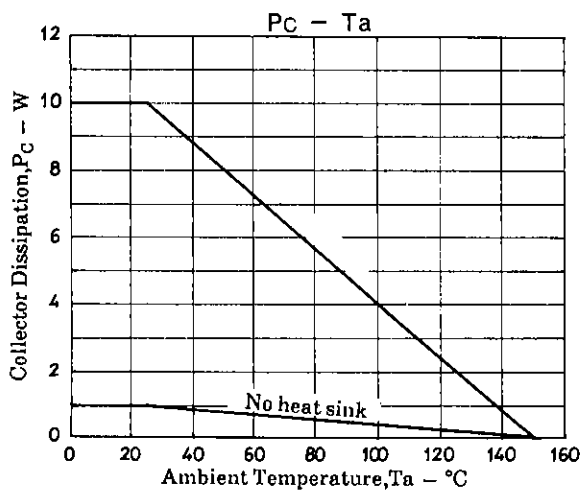
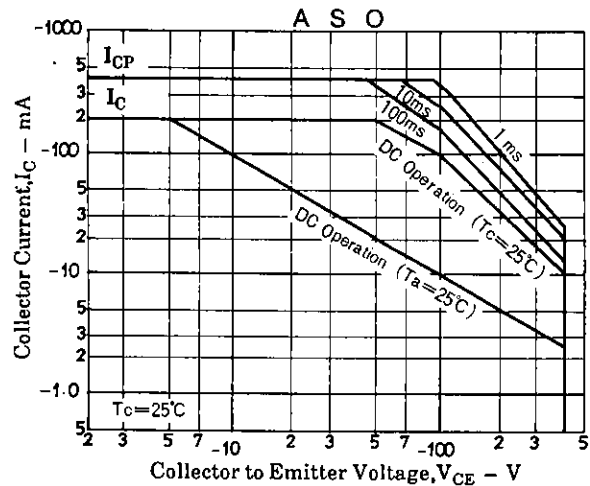
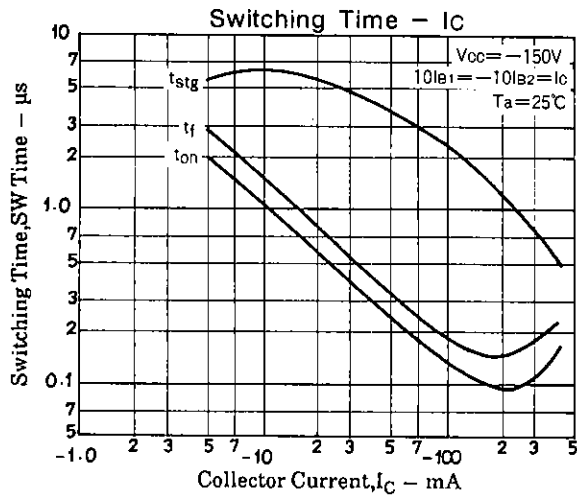
Switching Time Test Circuit



$$-10I_{B1} = 10I_{B2} = I_C = -50mA$$

$$R_L = 3k\Omega, R_B = 200\Omega \text{ at } I_C = -50mA$$

Unit (Resistance : Ω , Capacitance : F)



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