# 2SC5905

## Silicon NPN triple diffusion mesa type

Horizontal deflection output for TV, CRT monitor

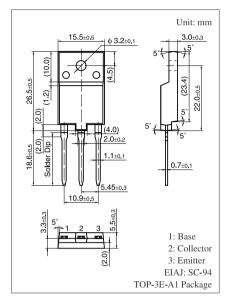
#### ■ Features

- High breakdown voltage:  $V_{CBO} \ge 1700 \text{ V}$
- High-speed switching:  $t_f < 200$  ns
- Wide safe operation area

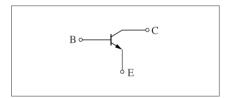
### ■ Absolute Maximum Ratings $T_C = 25$ °C

Parameter		Symbol	Rating	Unit	
Collector-base voltage (Emitter open)		V <sub>CBO</sub>	1 700	V	
Collector-emitter voltage (E-B short)		V <sub>CES</sub>	1 700	V	
Collector-emitter voltage (Base open)		V <sub>CEO</sub>	600	V	
Emitter-base voltage (Collector open)		$V_{EBO}$	7	V	
Base current		$I_{\mathrm{B}}$	8	A	
Collector current		$I_{C}$	20	A	
Peak collector current *		$I_{CP}$	30	A	
Collector power dissipation		P <sub>C</sub>	70	W	
	$T_a = 25^{\circ}C$		3.5		
Junction temperature		$T_j$	150	°C	
Storage temperature		T <sub>stg</sub>	-55 to +150	°C	

Note) \*: Non-repetitive peak collector current



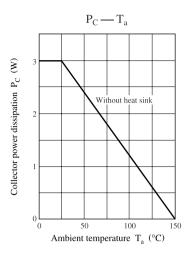
#### Internal Connection

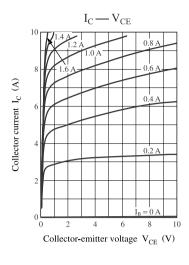


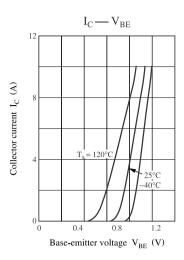
### ■ Electrical Characteristics $T_C = 25$ ° $C \pm 3$ °C

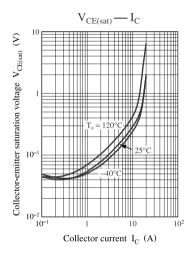
Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 1000 \text{ V}, I_E = 0$			50	μΑ
		$V_{CB} = 1700 \text{ V}, I_E = 0$			1	mA
Emitter-base cutoff current (Collector open)	$I_{EBO}$	$V_{EB} = 7 \text{ V}, I_C = 0$			50	μΑ
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 5 \text{ V}, I_{C} = 10 \text{ A}$	5		12	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	$I_C = 10 \text{ A}, I_B = 2.5 \text{ A}$			3	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	$I_C = 10 \text{ A}, I_B = 2.5 \text{ A}$			1.5	V
Transition frequency	$f_T$	$V_{CE} = 10 \text{ V}, I_{C} = 0.1 \text{ A}, f = 0.5 \text{ MHz}$		3		MHz
Storage time	t <sub>stg</sub>	$I_C = 10 A$ , Resistance loaded			3.0	μs
Fall time	t <sub>f</sub>	$I_{B1} = 2.5 \text{ A}, I_{B2} = -5.0 \text{ A}$			0.2	μs

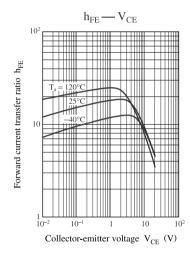
Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

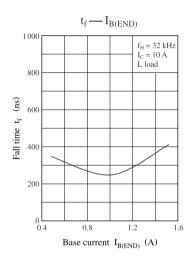


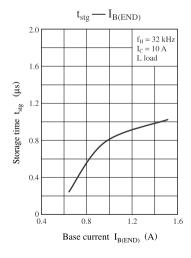


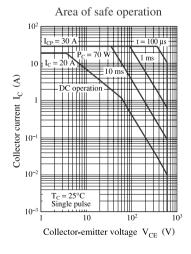


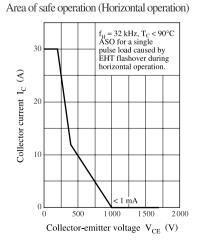












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