

**2SA1210**



2009A

PNP/NPN Epitaxial Planar Silicon Transistors

**2SC2912**

**High Voltage Switching, AF 150W Predriver Applications**

©780C

**Features**

- Adoption of FBET process
- High breakdown voltage
- Good linearity of  $h_{FE}$  and small  $c_{ob}$
- Fast switching speed

( ): 2SA1210

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

Parameter	Symbol	Value	unit
Collector to base voltage	$V_{CBO}$	(-)-200	V
Collector to emitter voltage	$V_{CEO}$	(-)-200	V
Emitter to base voltage	$V_{EBO}$	(-)-5	V
Collector current	$I_C$	(-)-140	mA
Peak collector current	$i_{cp}$	(-)-200	mA
Collector dissipation	$P_C$	1	W
		10	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 ~ +150	$^\circ\text{C}$

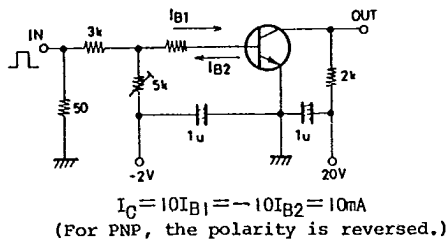
**Electrical Characteristics/ $T_a = 25^\circ\text{C}$**

Parameter	Symbol	Test Conditions	min	typ	max	unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = (-)160\text{V}, I_E = 0$			(-)-0.1	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = (-)4\text{V}, I_C = 0$			(-)-0.1	$\mu\text{A}$
Common emitter DC current gain	$h_{FE}$	$V_{CE} = (-)5\text{V}, I_C = (-)10\text{mA}$	100*		400*	
Gain band-width product	$f_T$	$V_{CE} = (-)10\text{V}, I_C = (-)10\text{mA}$		150		MHz
Common base output capacitance	$c_{ob}$	$V_{CB} = (-)10\text{V}, f = 1\text{MHz}$		(4.0)		pF
				3.0		
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = (-)50\text{mA}, I_B = (-)5\text{mA}$	(-)-0.14	(-)-0.4		V
			0.07	0.3		
Turn-on time	$t_{on}$	At specified test circuit		0.1		$\mu\text{s}$
Storage time	$t_{stg}$	At specified test circuit		1.5		$\mu\text{s}$
Fall time	$t_f$	At specified test circuit		0.1		$\mu\text{s}$

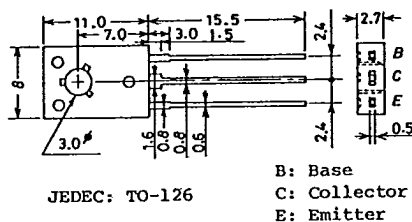
\*: The 2SA1210/2SC2912 are classified by 10 mA  $h_{FE}$  as follows:

100 R	200	140 S	280	200 T	400
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**Switching Time Test Circuit**



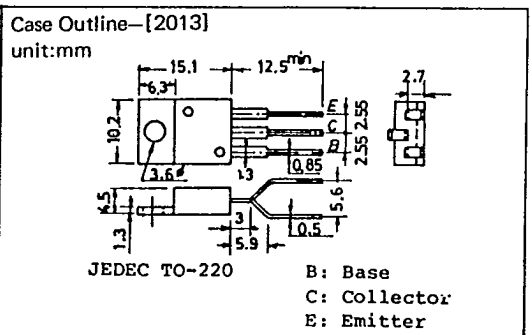
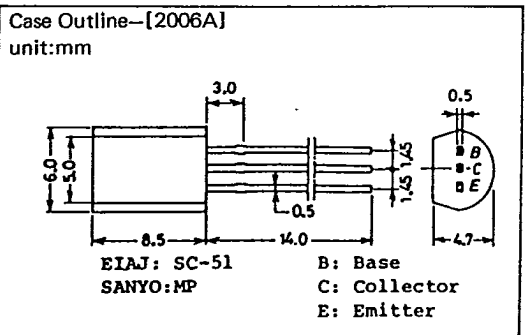
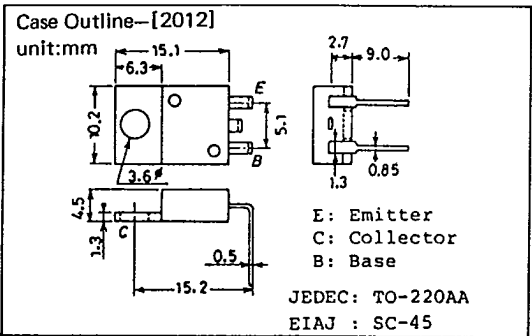
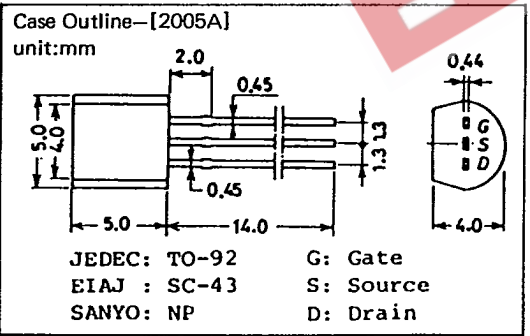
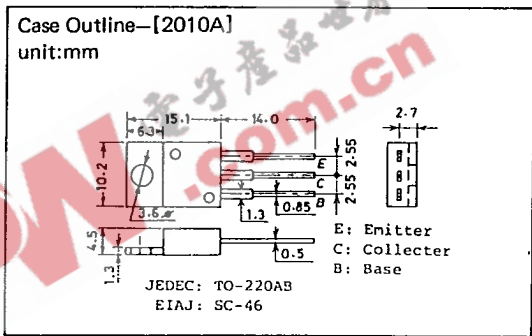
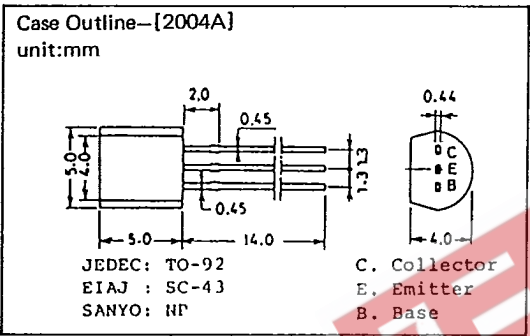
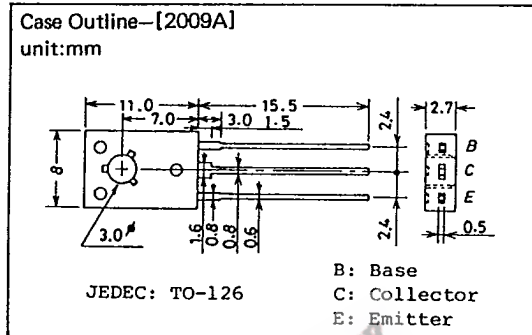
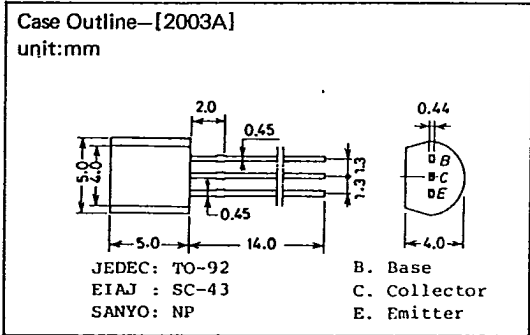
**Case Outline 2009A (unit: mm)**



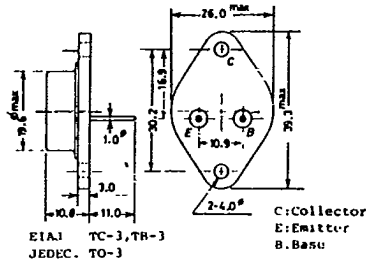
For details, refer to the description of the 2SC2912.

CASE OUTLINES AND ATTACHMENTS

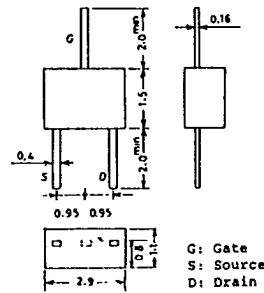
- All of Sanyo Transistor case outlines are illustrated below.
- All dimensions are in mm, and dimensions which are not followed by min. or max. are represented by typical values.
- No marking is indicated.



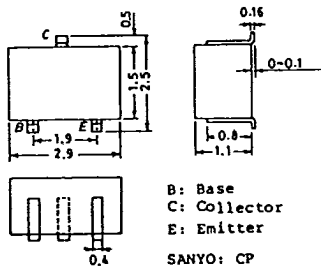
Case Outline-[2017]  
unit:mm



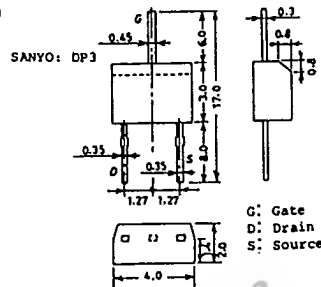
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unit:mm



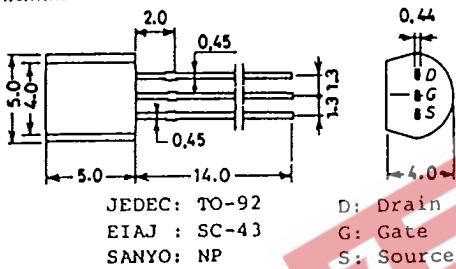
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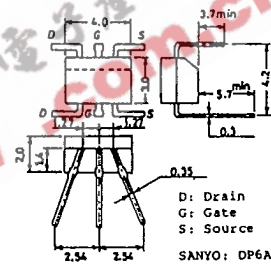
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unit:mm



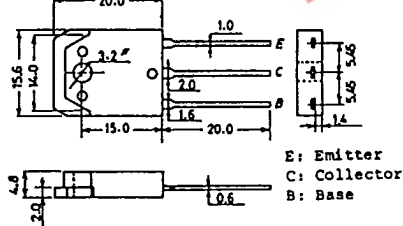
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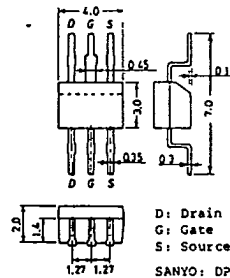
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unit:mm



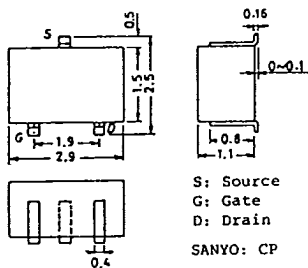
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unit:mm



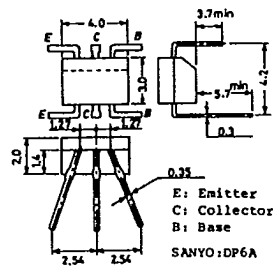
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unit:mm



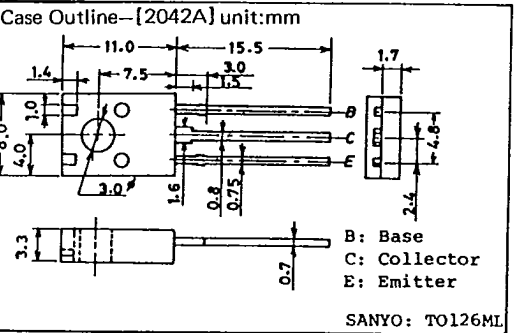
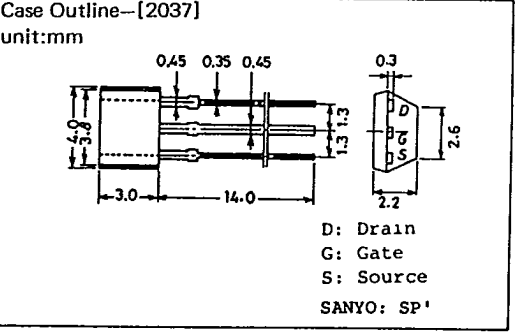
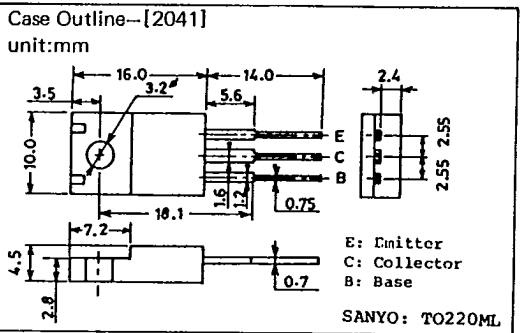
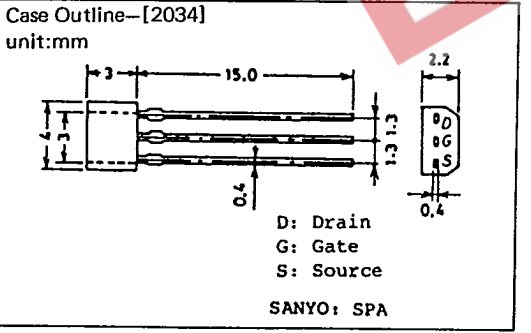
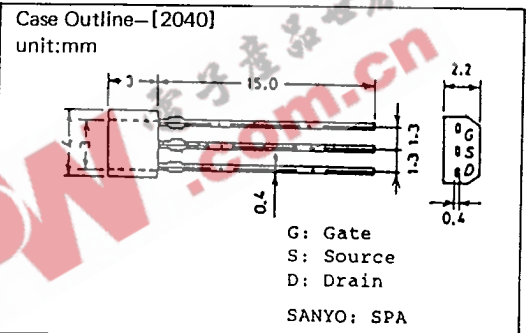
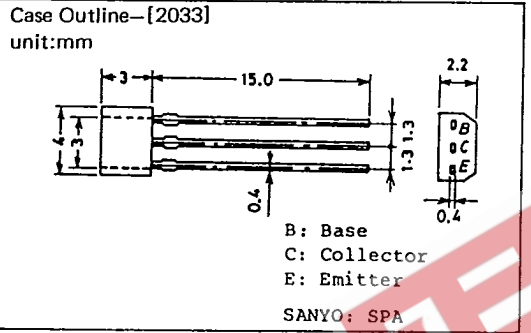
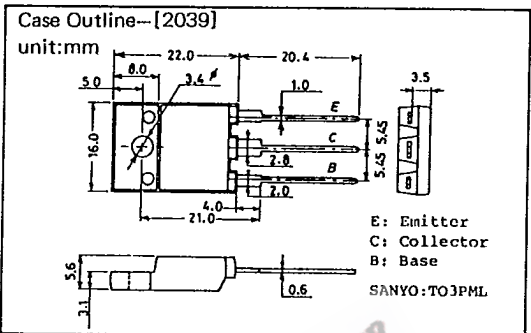
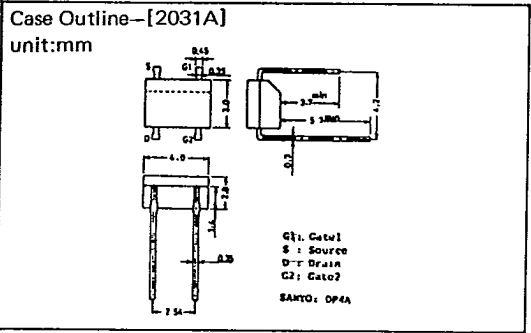
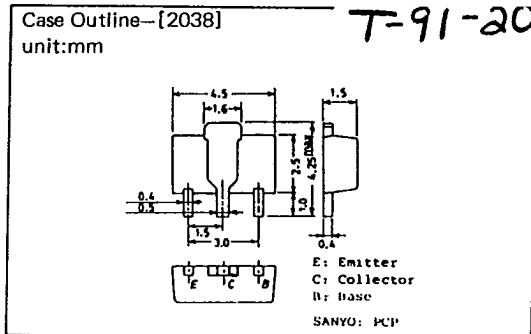
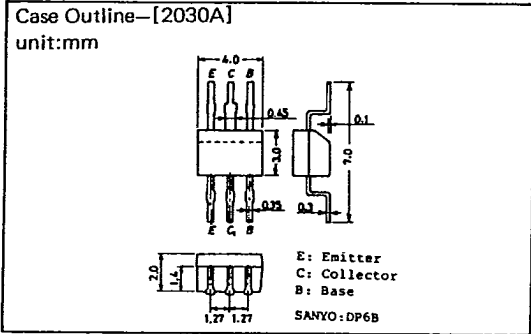
Case Outline-[2024A]  
unit:mm

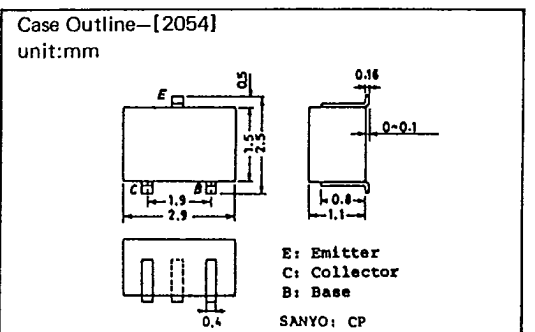
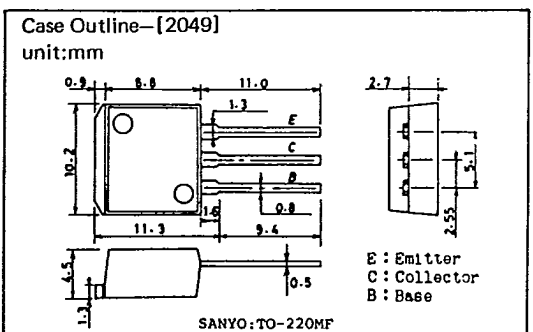
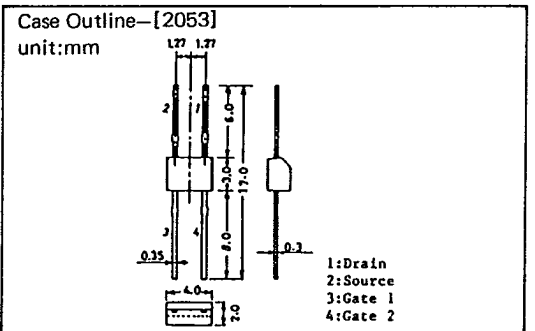
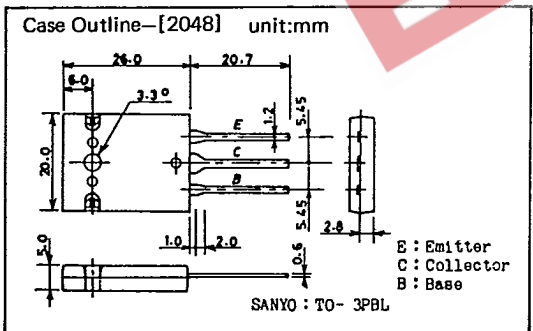
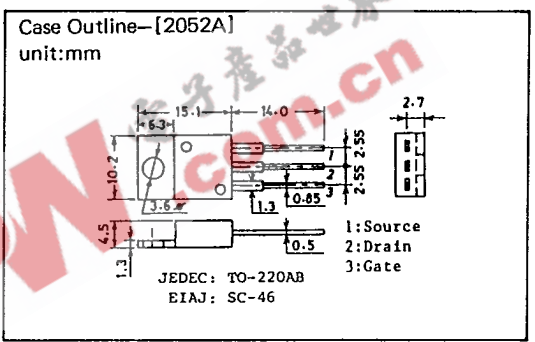
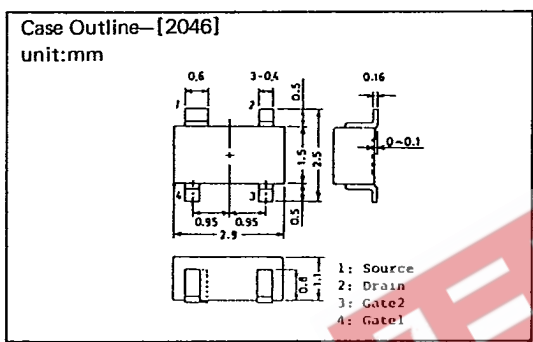
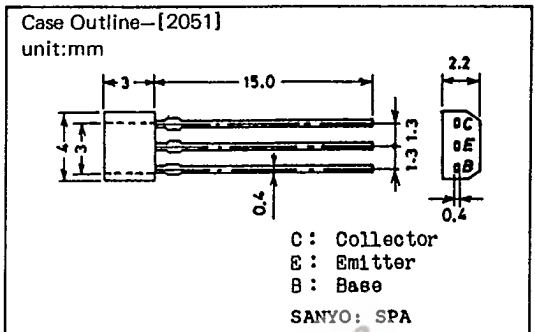
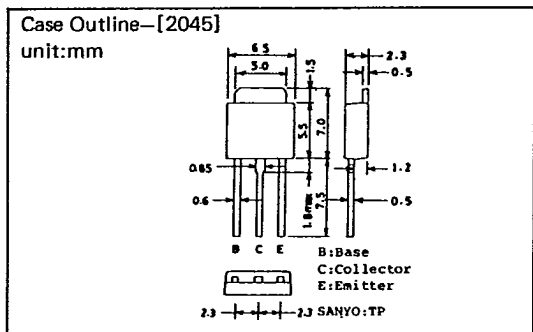
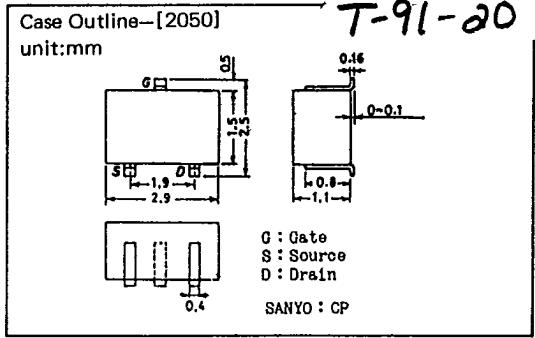
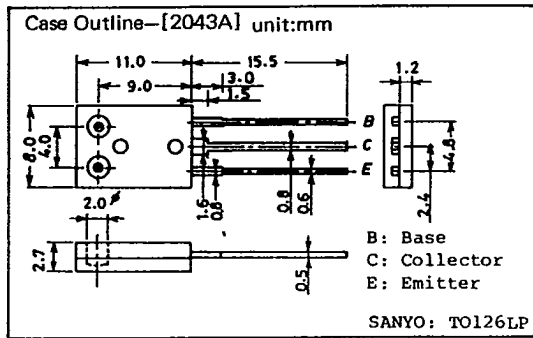


Case Outline-[2029A]  
unit:mm



T-91-20





T-91-20

