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# 2SC693



2003A

NPN Planar Silicon Transistor

## Low Frequency, Low Noise Amp Applications

©257E

### Absolute Maximum Ratings at Ta=25°C

			unit
Collector to Base Voltage	V <sub>CB0</sub>	40	V
Collector to Emitter Voltage	V <sub>CE0</sub>	20	V
Emitter to Base Voltage	V <sub>EB0</sub>	5	V
Collector Current	I <sub>C</sub>	50	mA
Collector Dissipation	P <sub>C</sub>	100	mW
Junction Temperature	T <sub>J</sub>	125	°C
Storage Temperature	T <sub>stg</sub>	-40 to +125	°C

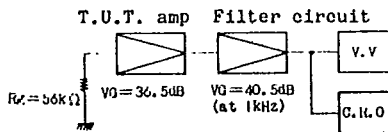
### Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =35V, I <sub>E</sub> =0			1.0	uA
Emitter Cutoff Current	I <sub>EB0</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0			1.0	uA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =6V, I <sub>C</sub> =1mA	160*		960*	
Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =6V, I <sub>C</sub> =1mA		100		MHz
Output Capacitance	c <sub>ob</sub>	V <sub>CB</sub> =6V, f=1MHz		3.5		pF
Output Noise Voltage	V <sub>NO</sub>	V <sub>CC</sub> =30V, I <sub>C</sub> =1mA, R <sub>g</sub> =56kohm, VG=77dB, f=1kHz(See Circuit.)			105	mV
Output Noise Voltage(Peak)					730	mV

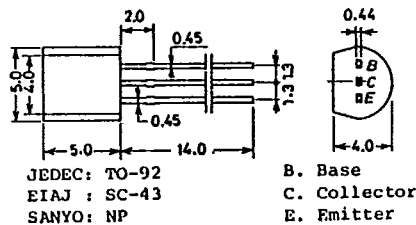
\*:The 2SC693 is classified by 1mA h<sub>FE</sub> as follows:

160	F	320	280	G	560	480	H	960
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### Noise Test Circuit



### Case Outline 2003A (unit:mm)



The 2SC693 is scheduled to be discontinued soon. Use the 2SC1570, instead of the 2SC693, in new applications where you are planning to use the 2SC693

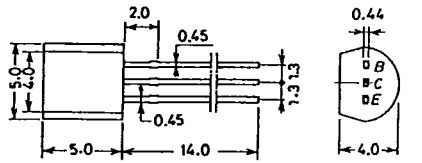
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# CASE OUTLINES AND ATTACHMENTS

- 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-[2003A]

unit:mm

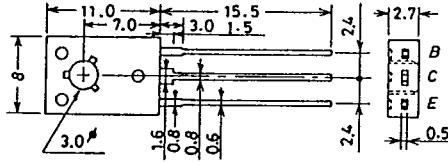


JEDEC: TO-92  
EIAJ: SC-43  
SANYO: NP

B. Base  
C. Collector  
E. Emitter

Case Outline-[2009A]

unit:mm

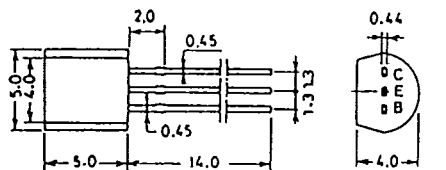


JEDEC: TO-126

B: Base  
C: Collector  
E: Emitter

Case Outline-[2004A]

unit:mm

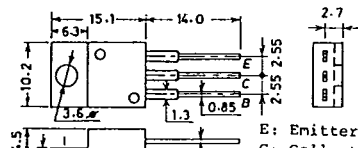


JEDEC: TO-92  
EIAJ: SC-43  
SANYO: NP

C. Collector  
E. Emitter  
B. Base

Case Outline-[2010A]

unit:mm

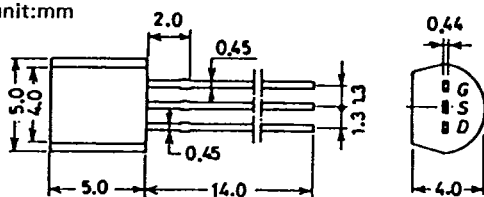


JEDEC: TO-220AB  
EIAJ: SC-46

E: Emitter  
C: Collector  
B: Base

Case Outline-[2005A]

unit:mm

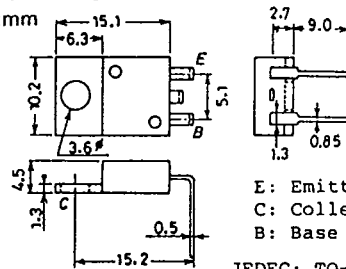


JEDEC: TO-92  
EIAJ: SC-43  
SANYO: NP

G: Gate  
S: Source  
D: Drain  
B: Base  
C: Collector

Case Outline-[2012]

unit:mm

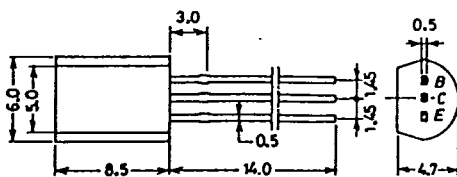


JEDEC: TO-220AA  
EIAJ: SC-45

E: Emitter  
C: Collector  
B: Base

Case Outline-[2006A]

unit:mm

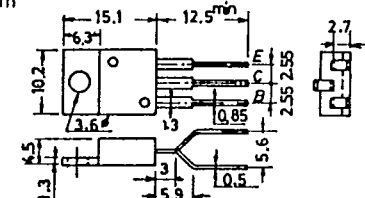


EIAJ: SC-51  
SANYO: MP

B: Base  
C: Collector  
E: Emitter

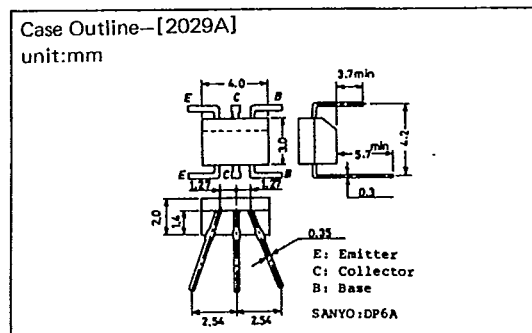
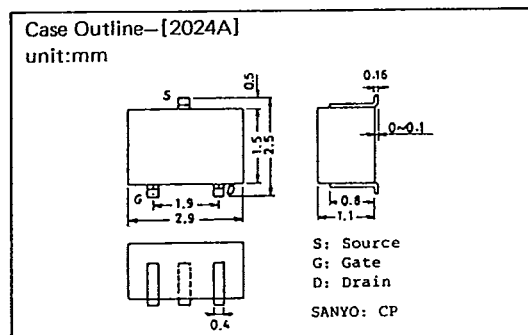
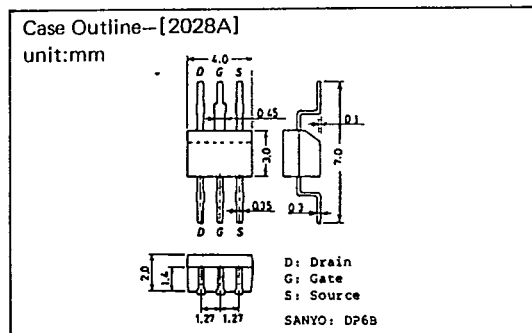
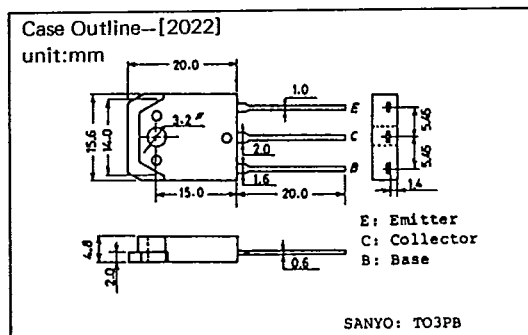
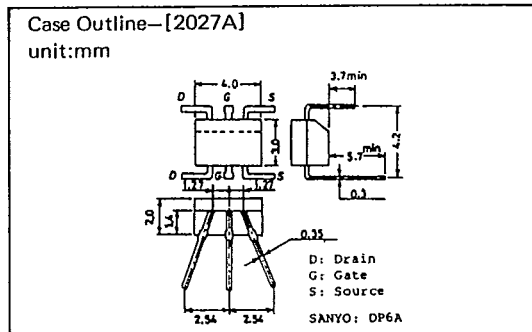
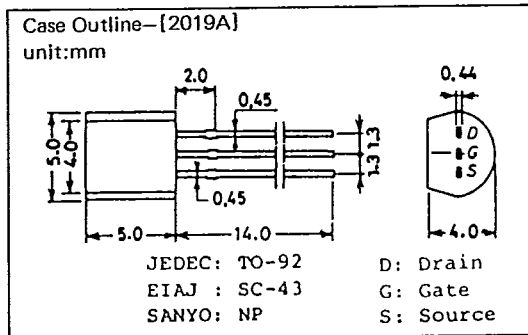
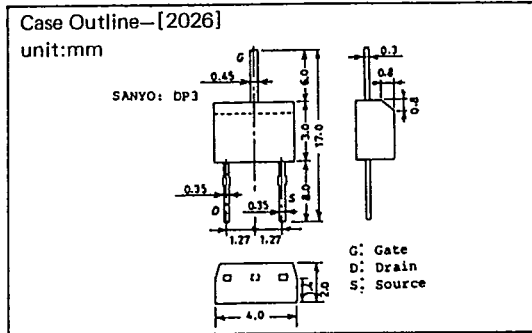
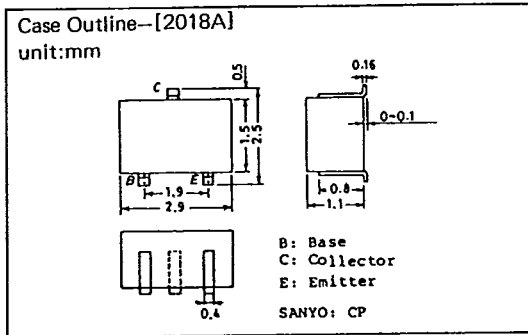
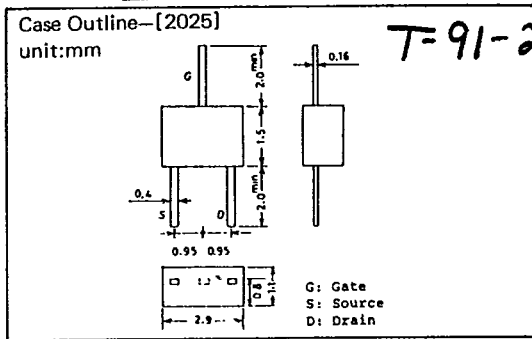
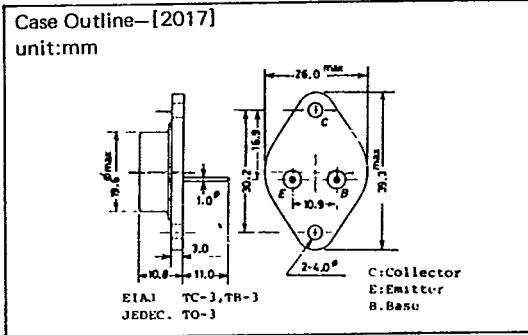
Case Outline-[2013]

unit:mm



JEDEC TO-220

B: Base  
C: Collector  
E: Emitter





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