

T-33-15

2SC3085



2017

NPN Triple Diffused Planar Silicon Transistor

Switching Regulator Applications

©1055A

Features

- High breakdown voltage ($V_{CBO} \geq 500V$)
- Fast switching speed.
- Wide ASO.

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

Parameter	Symbol	Value	unit
Collector to Base Voltage	V_{CBO}	500	V
Collector to Emitter Voltage	V_{CEO}	400	V
Emitter to Base Current	V_{EBO}	7	V
Collector Current	I_C	25	A
Peak Collector Current	i_{cp}	$PW \leq 300\mu s,$ $Duty\ Cycle \leq 10\%$	40 A
Base Current	I_B	8	A
Collector Dissipation	P_C	160	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$

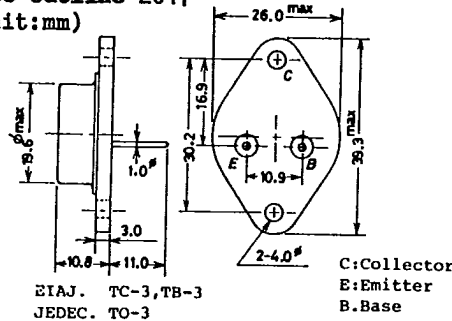
Electrical Characteristics at $T_a=25^\circ C$

Parameter	Symbol	Test Conditions	min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=400V, I_E=0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=5V, I_C=0$			10	μA
DC Current Gain	$h_{FE}(1)$	$V_{CE}=5V, I_C=3.2A$	15*		50*	
		$V_{CE}=5V, I_C=16A$	8			
Gain Bandwidth Product	f_T	$V_{CE}=10V, I_C=3.2A$		20		MHz
Output Capacitance	c_{ob}	$V_{CB}=10V, f=1MHz$		320		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=16A, I_B=3.2A$			1.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=16A, I_B=3.2A$			1.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	500			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10mA, R_{BE}=\infty$	400			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1mA, I_C=0$	7			V
C-E Sustain Voltage	$V_{CEO(sus)}$	$I_C=25A, L=50\mu H, I_B=5A$	400			V
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C=25A, I_{B1}=5A, L=200\mu H,$ $I_{B2}=-5A, clamped$	400			V
C-E Sustain Voltage	$V_{CEX(sus)}$	$I_C=6A, I_{B1}=1.2A, L=200\mu H,$ $I_{B2}=-1.2A, clamped$	450			V

*: The $h_{FE}(1)$ of the 2SC3085 is classified by 3.2A h_{FE} as follows. When specifying the $h_{FE}(1)$ rank, specify two ranks or more in principle.

15	L	30	20	M	40	30	N	50
----	---	----	----	---	----	----	---	----

Case Outline 2017 (unit:mm)



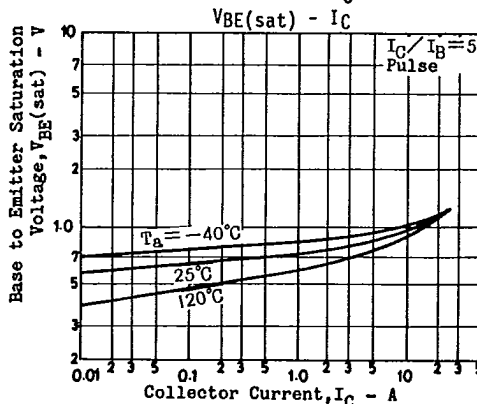
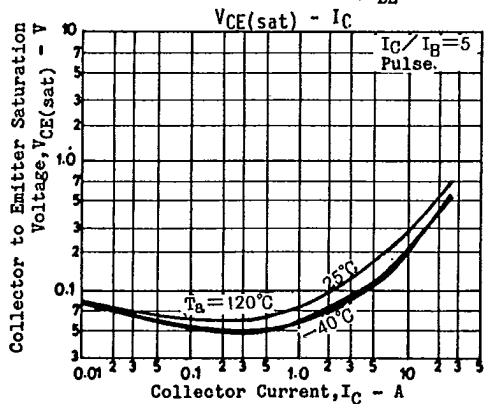
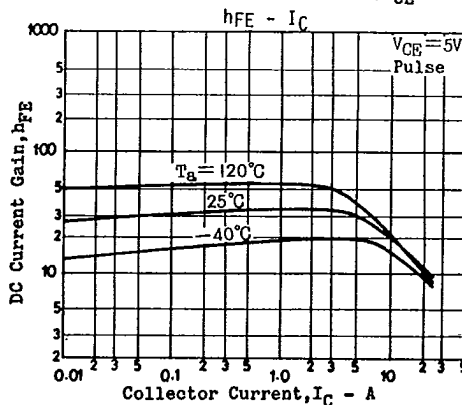
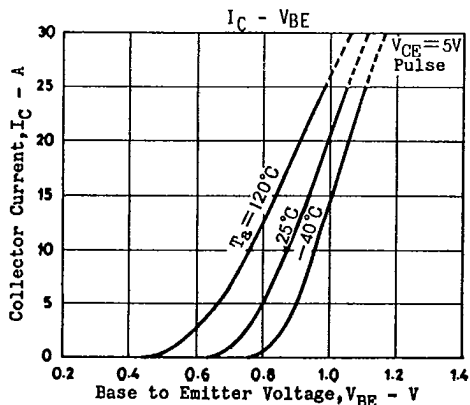
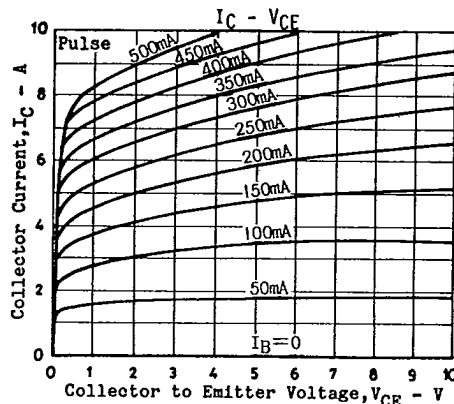
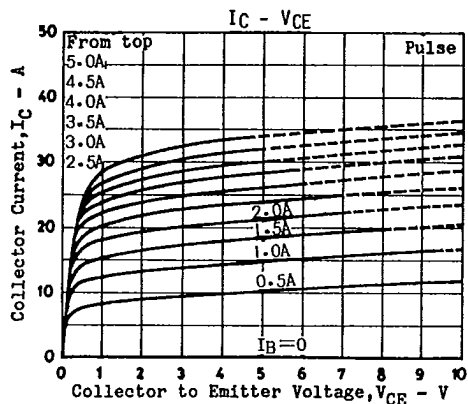
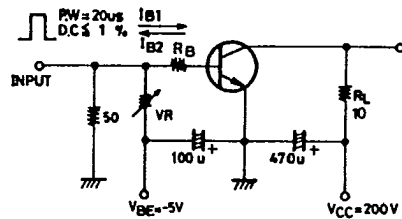
4207KI/2125MW, TS No. 1055-1/3

2SC3085

T-33-15

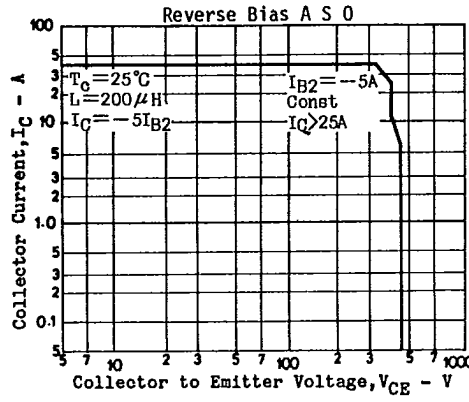
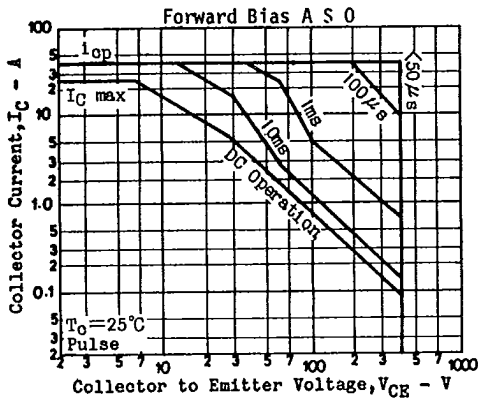
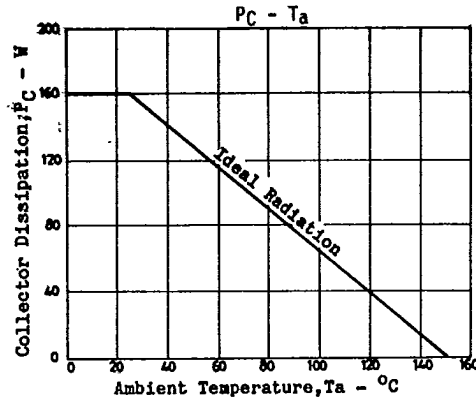
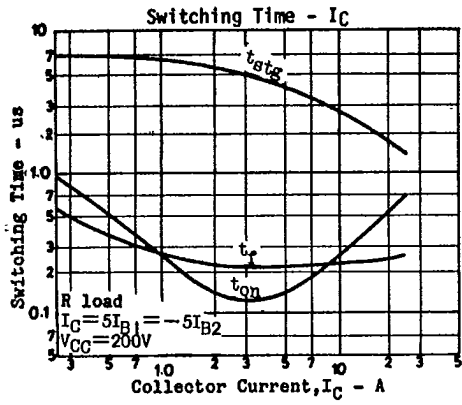
			min	typ	max	unit
Turn-ON Time	t_{on}	$I_C=20A, I_B=4A, I_{B0}=-4A,$ $R_L=10\Omega, V_{CC}=200V$			1.0	us
Storage Time	t_{stg}	" "			2.5	us
Fall Time	t_f	" "			1.0	us

Switching Time Test Circuit



2SC3085

T-33-15

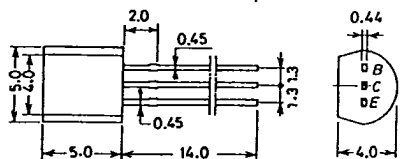


CASE OUTLINES AND ATTACHMENTS

- 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

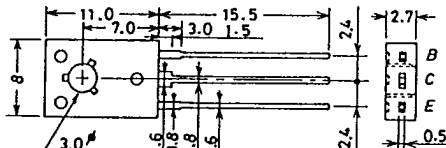


JEDEC: TO-92
EIAJ: SC-43
SANYO: NP

B: Base
C: Collector
E: Emitter

Case Outline-[2009A]

unit:mm

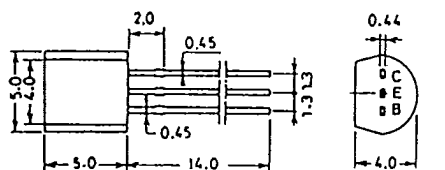


JEDEC: TO-126

B: Base
C: Collector
E: Emitter

Case Outline-[2004A]

unit:mm

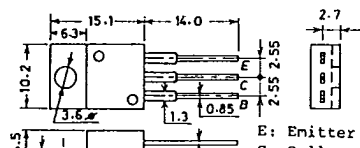


JEDEC: TO-92
EIAJ: SC-43
SANYO: NP

C: Collector
E: Emitter
B: Base

Case Outline-[2010A]

unit:mm

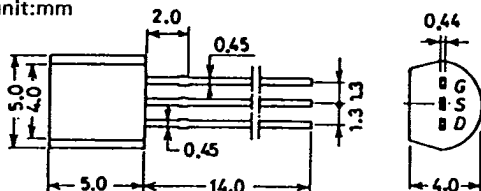


JEDEC: TO-220AB
EIAJ: SC-46

E: Emitter
C: Collector
B: Base

Case Outline-[2005A]

unit:mm

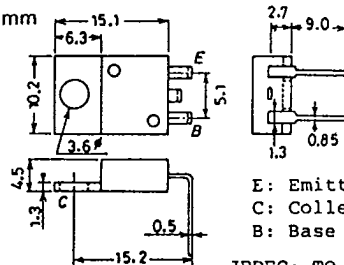


JEDEC: TO-92
EIAJ: SC-43
SANYO: NP

G: Gate
S: Source
D: Drain

Case Outline-[2012]

unit:mm

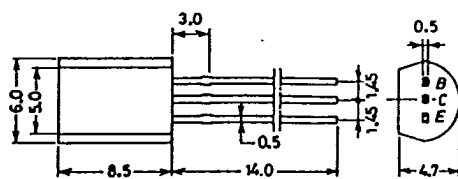


JEDEC: TO-220AA
EIAJ: SC-45

E: Emitter
C: Collector
B: Base

Case Outline-[2006A]

unit:mm

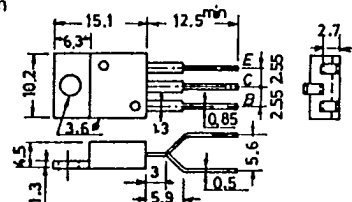


EIAJ: SC-51
SANYO: MP

B: Base
C: Collector
E: Emitter

Case Outline-[2013]

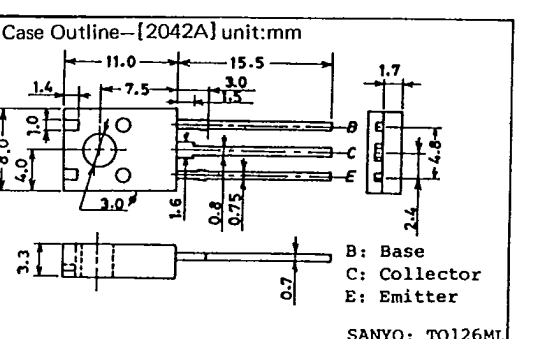
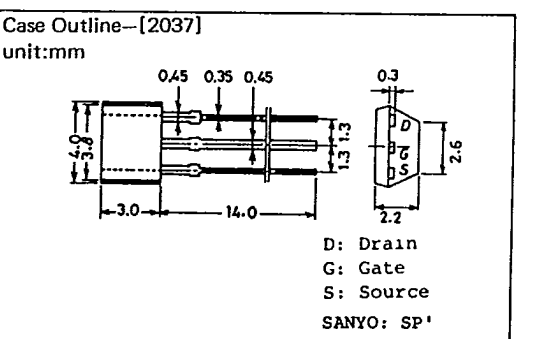
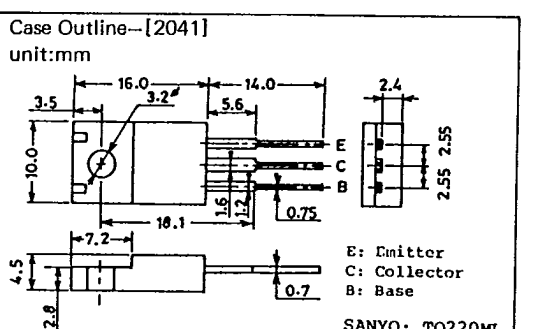
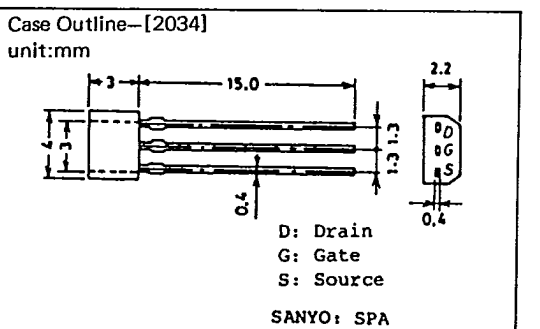
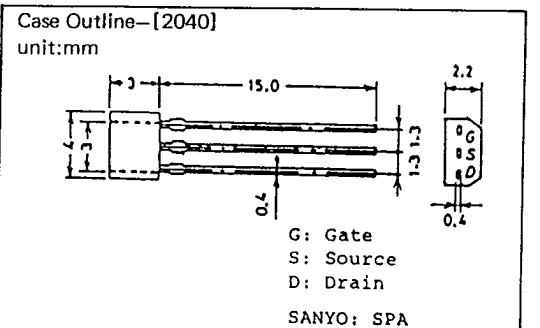
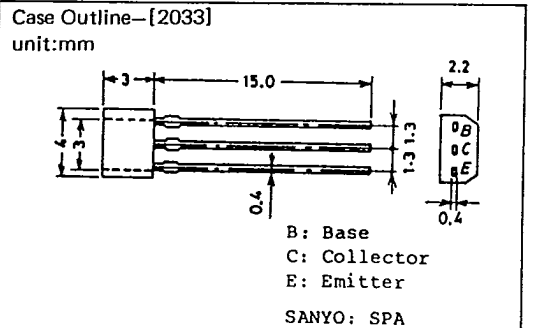
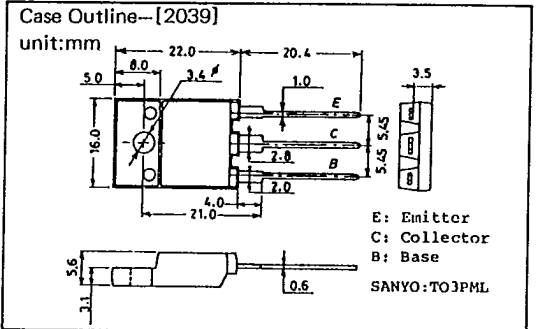
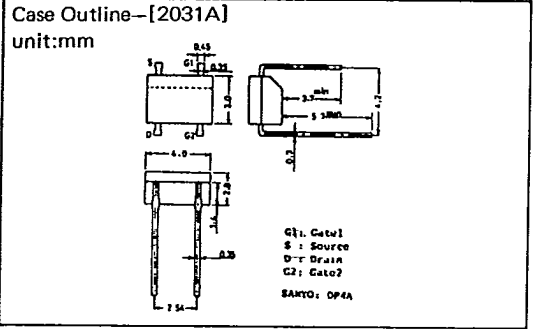
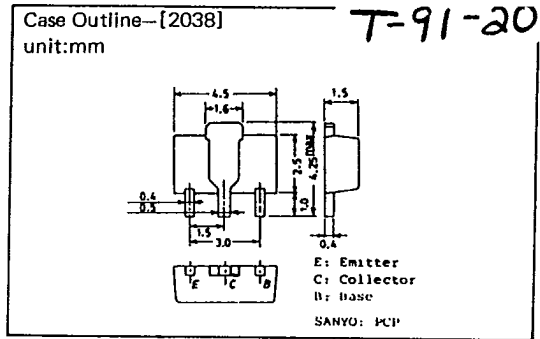
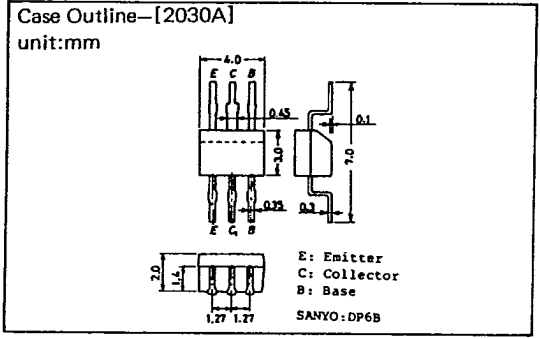
unit:mm



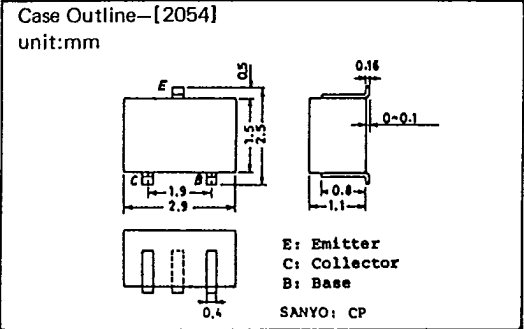
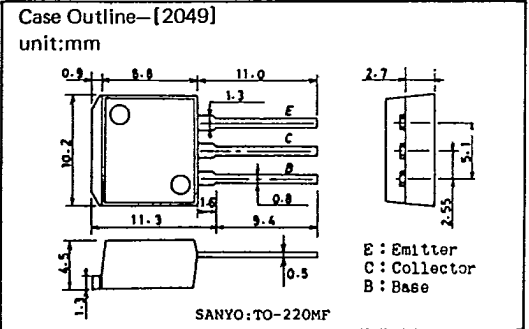
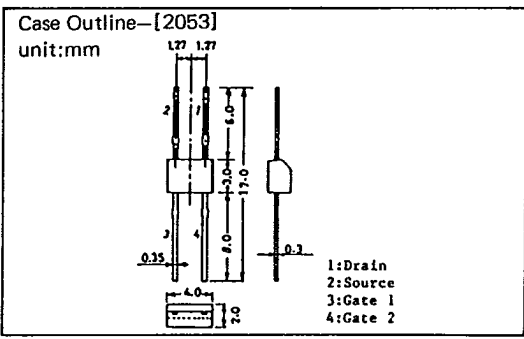
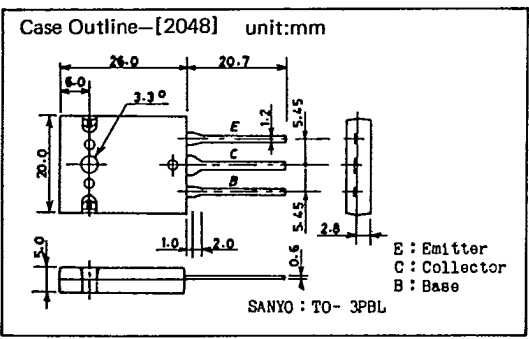
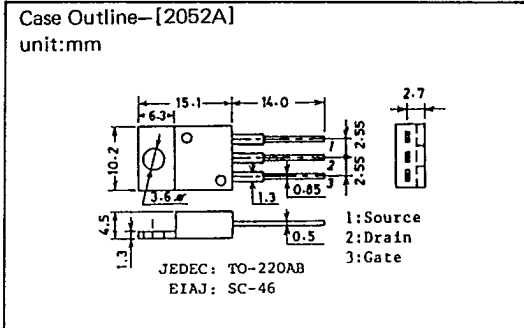
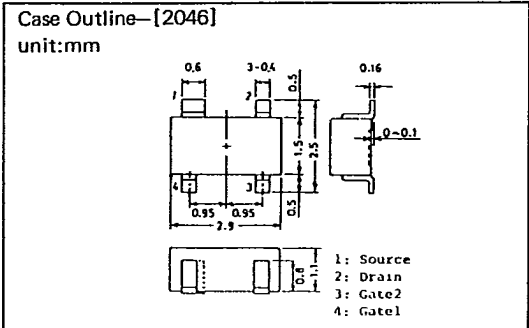
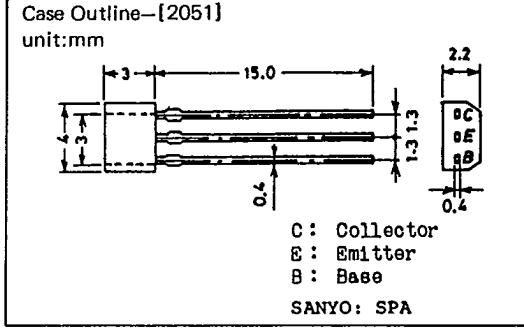
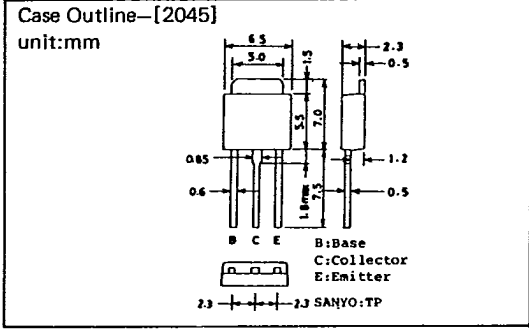
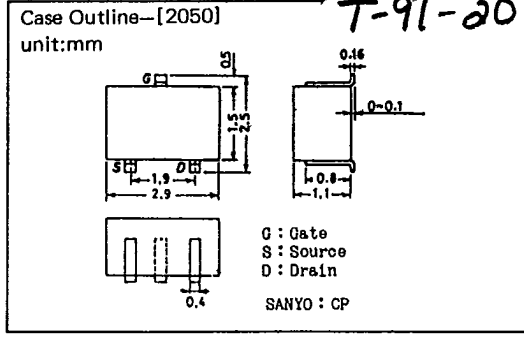
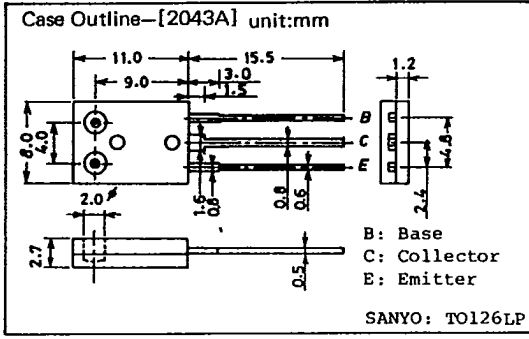
JEDEC TO-220

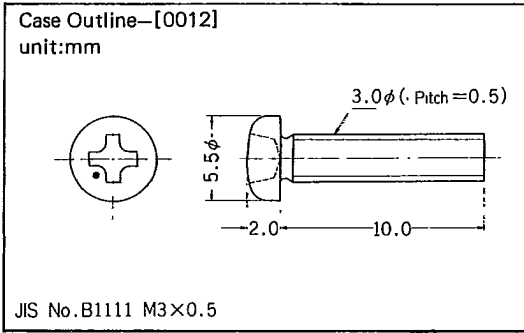
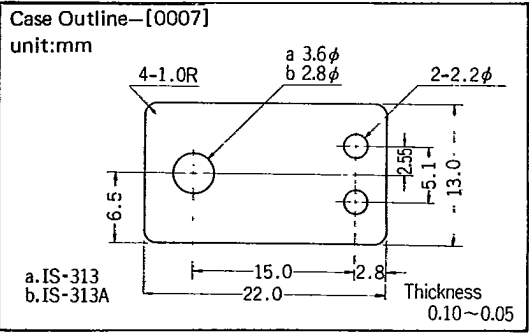
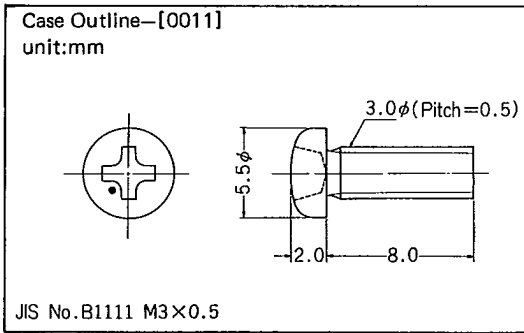
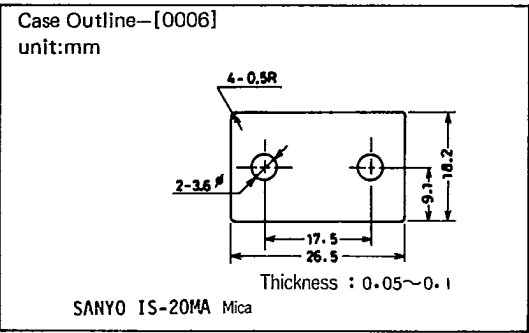
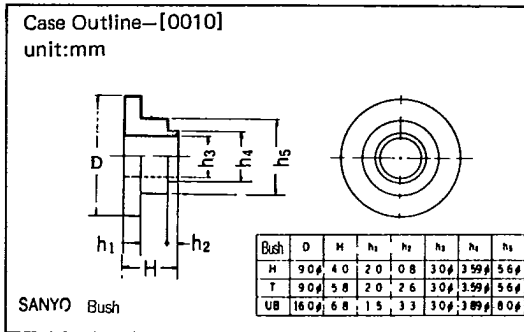
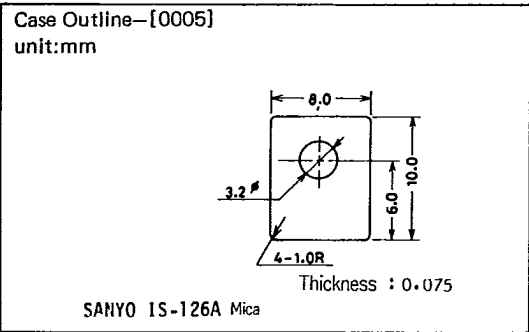
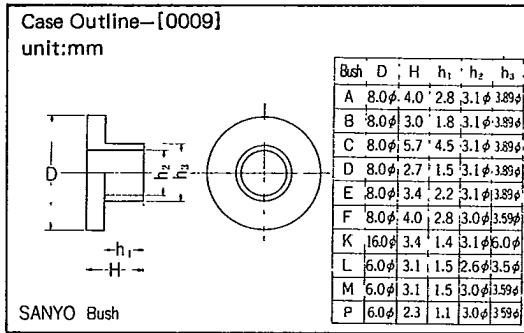
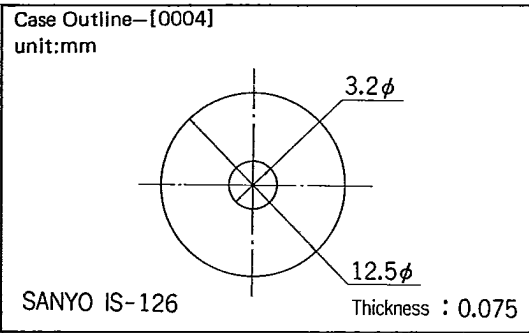
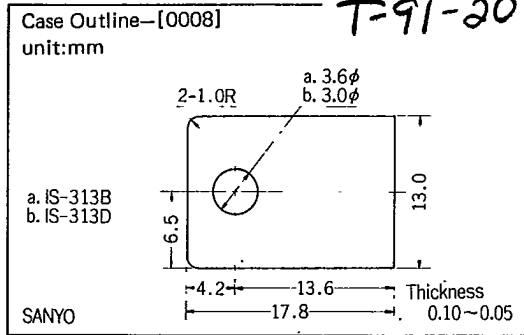
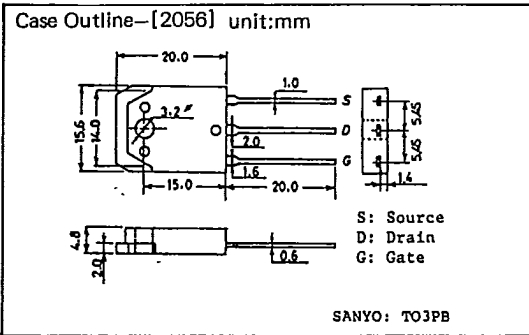
B: Base
C: Collector
E: Emitter

T-91-20

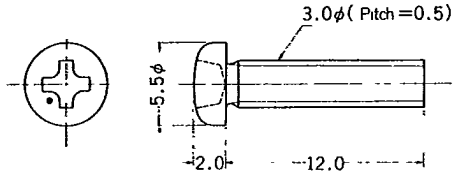


T-91-20



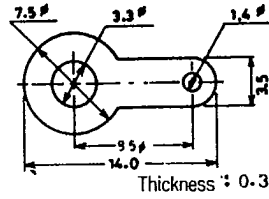


Case Outline-[0013]
unit:mm



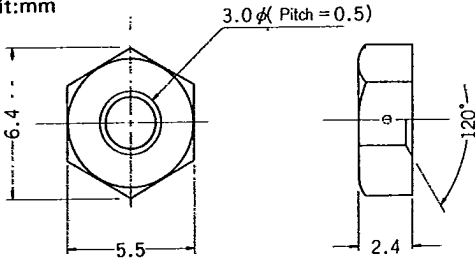
JIS No. B1111 M3×0.5

Case Outline-[0018]
unit:mm



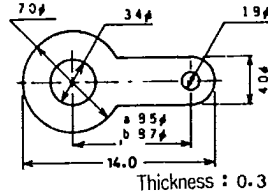
SANYO Lug 1.4

Case Outline-[0014]
unit:mm



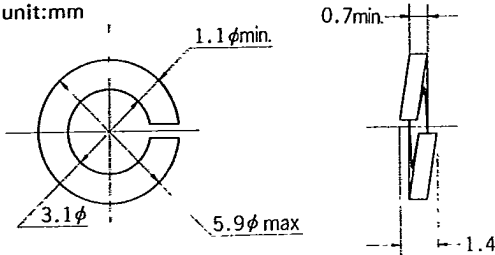
JIS No. B1181 M3×0.5

Case Outline-[0019]
unit:mm



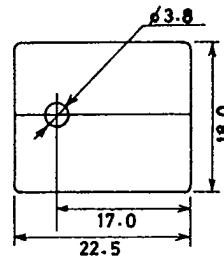
SANYO Lug 1.8φ

Case Outline-[0015]
unit:mm



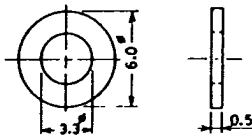
JIS No. B 1251 Spring washer (M3)

Case Outline-[0020]
unit:mm



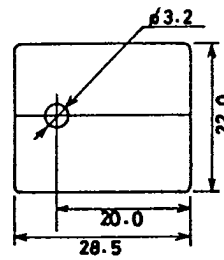
SANYO IS-3MP Mica

Case Outline-[0016]
unit:mm



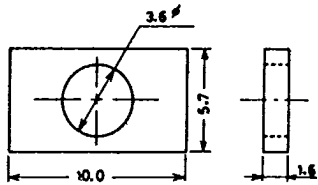
JIS No. B1252 Flat washer

Case Outline-[0021]
unit:mm



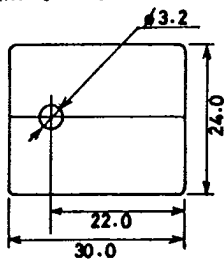
SANYO IS-MPC Mica

Case Outline-[0017]
unit:mm



JIS No. G3141 Rectangular washer

Case Outline-[0022]
unit:mm



SANYO IS-3PBL Mica