

**2SA1502,
2SC3863**



2018A

T-37-13
T-35-11

PNP/NPN Epitaxial Planar
Silicon Transistors

Switching Applications
(with Bias Resistances R1=2.2kΩ, R2=10kΩ)

©2108A

Applications

- Switching circuits, inverter circuits, interface circuits, driver circuits

Features

- On-chip bias resistance: R1=2.2kohms, R2=10kohms
- Small-sized package: CP

() : 2SA1502.

Absolute Maximum Ratings at Ta=25°C

			unit
Collector to Base Voltage	V_{CB0}	(-) 50	V
Collector to Emitter Voltage	V_{CEO}	(-) 50	V
Emitter to Base Voltage	V_{EBO}	(-) 6	V
Collector Current	I_C	(-) 100	mA
Peak Collector Current	i_{cp}	(-) 200	mA
Collector Dissipation	P_C	200	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	-55 to +150	°C

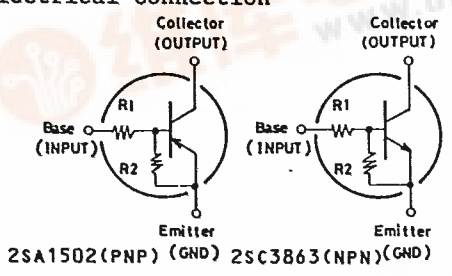
Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-) 40V, I_E = 0$			(-) 0.1	uA
Collector Cutoff Current	I_{CEO}	$V_{CE} = (-) 40V, I_B = 0$			(-) 0.5	uA
Emitter Cutoff Current	I_{ERO}	$V_{EB} = (-) 5V, I_C = 0$	(-) 315	(-) 410	(-) 590	uA
DC Current Gain	h_{FE}	$V_{CE} = (-) 5V, I_C = (-) 10mA$	50			
Gain-Bandwidth Product	f_T	$V_{CE} = (-) 10V, I_C = (-) 5mA$		250		MHz
				(200)		MHz
Output Capacitance	c_{ob}	$V_{CB} = (-) 10V, f = 1MHz$		3.5		pF
				(5.3)		pF
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-) 10mA, I_B = (-) 0.5mA$	(-) 0.1	(-) 0.3		V

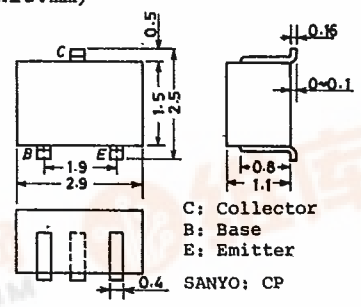
Marking: 2SA1502: HL, 2SC3863: QY

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Electrical Connection



Case Outline 2018A (unit:mm)

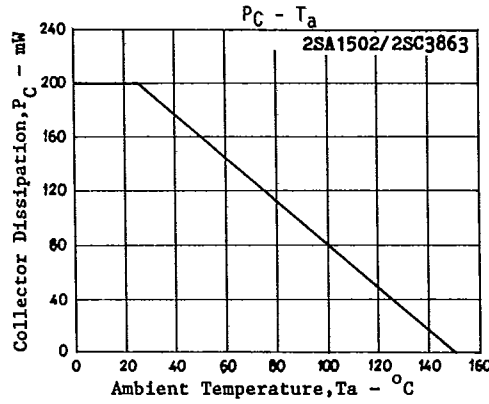
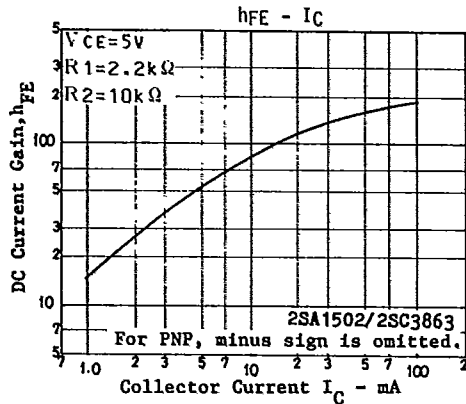
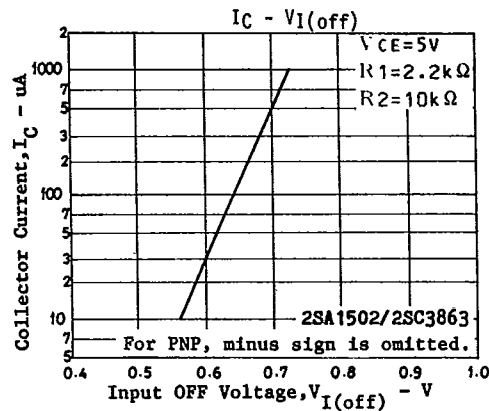
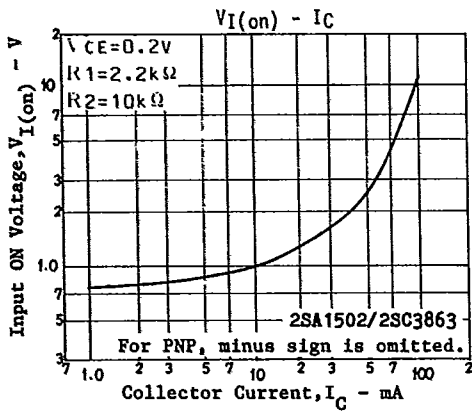


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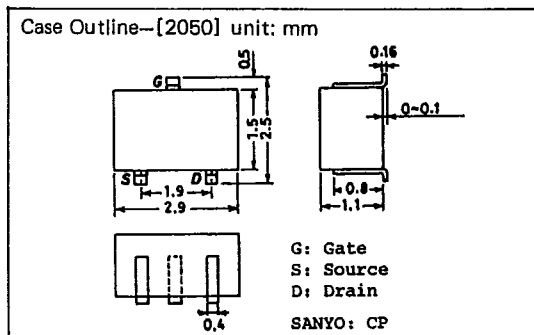
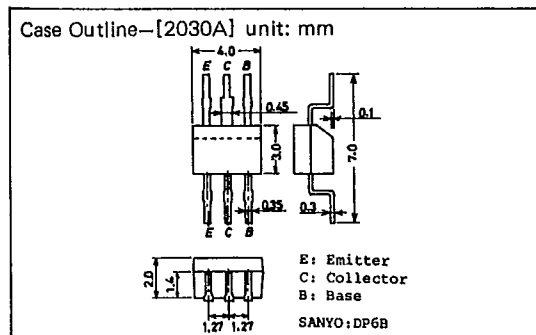
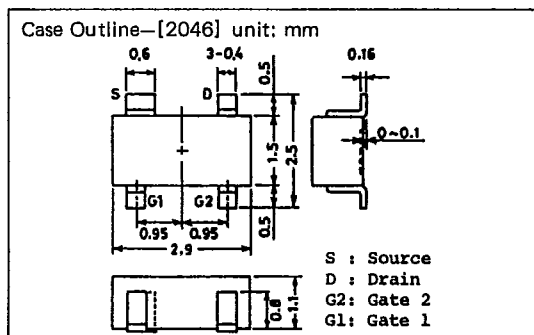
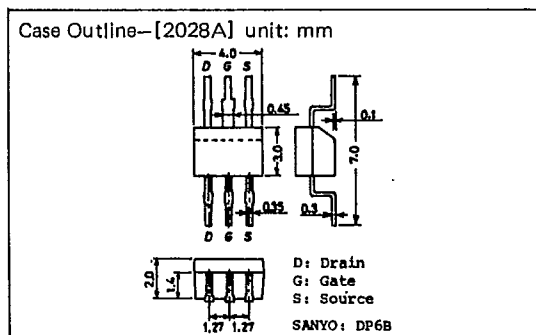
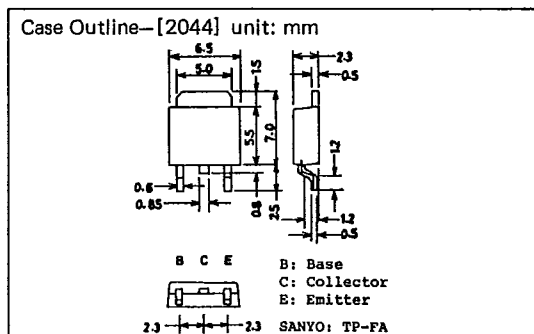
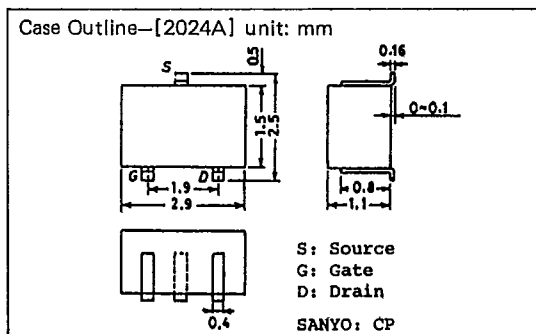
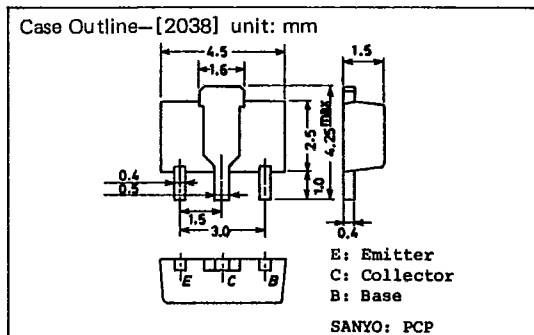
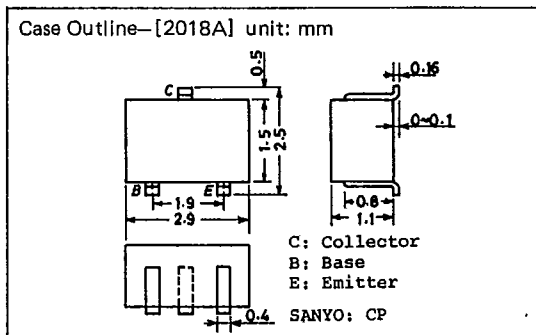
			min	typ	max	unit
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	(-)50			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)100\mu A, R_{BE} = \infty$	(-)50			V
Input OFF Voltage	$V_{I(off)}$	$V_{CE} = (-)5V, I_C = 100\mu A$	(-)0.5	(-)0.7	(-)0.9	V
Input ON Voltage	$V_{I(on)}$	$V_{CE} = (-)0.2V, I_C = (-)10mA$	(-)0.7	(-)1.0	(-)1.8	V
Input Resistance	R1		1.5	2.2	2.9	kohm
Resistance Ratio	R1/R2		0.198	0.22	0.242	



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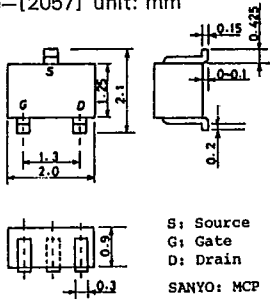
CASE OUTLINES OF SURFACE MOUNT TRANSISTORS

- All of Sanyo surface mount 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.



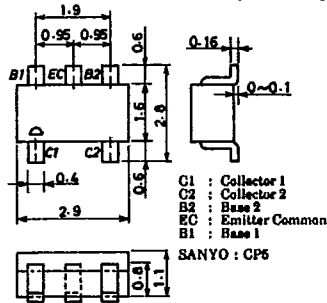
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Case Outline-[2057] unit: mm



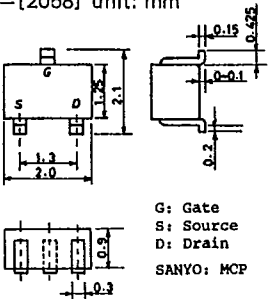
S: Source
G: Gate
D: Drain
SANYO: MCP

Case Outline-[2066] unit: mm



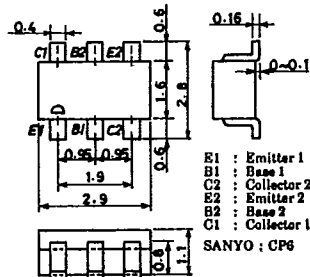
C1 : Collector 1
C2 : Collector 2
B2 : Base 2
EC : Emitter Common
B1 : Base 1
SANYO : CP6

Case Outline-[2058] unit: mm



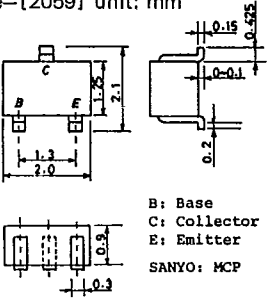
G: Gate
S: Source
D: Drain
SANYO: MCP

Case Outline-[2067] unit: mm



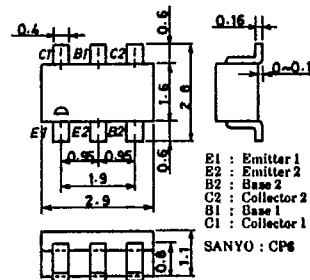
E1 : Emitter 1
B1 : Base 1
C2 : Collector 2
E2 : Emitter 2
B2 : Base 2
G1 : Collector 1
SANYO : CP6

Case Outline-[2059] unit: mm



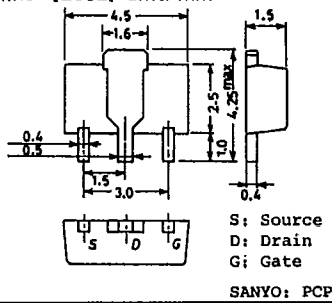
B: Base
C: Collector
E: Emitter
SANYO: MCP

Case Outline-[2068] unit: mm



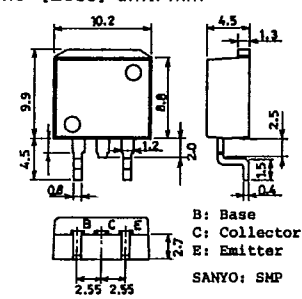
E1 : Emitter 1
E2 : Emitter 2
B2 : Base 2
C2 : Collector 2
B1 : Base 1
C1 : Collector 1
SANYO : CP6

Case Outline-[2062] unit: mm



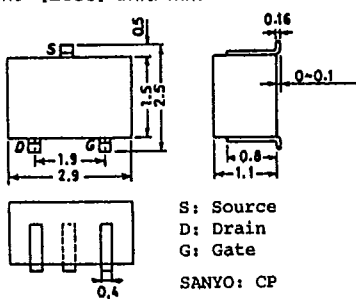
S: Source
D: Drain
G: Gate
SANYO: PCP

Case Outline-[2069] unit: mm



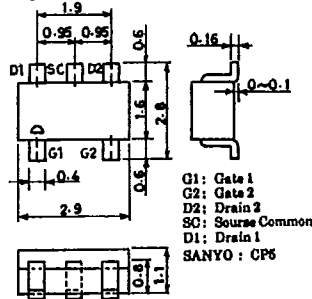
B: Base
C: Collector
E: Emitter
SANYO: SMP

Case Outline-[2065] unit: mm



S: Source
D: Drain
G: Gate
SANYO: CP

Case Outline-[2070] unit: mm



G1: Gate 1
G2: Gate 2
D2: Drain 2
SC: Source Common
D1: Drain 1
SANYO : CP6

T-9120

