

# 2SD1628

T-35-15



2038

NPN Epitaxial Planar Silicon Transistor

## High-Current Switching Applications

©1781A

### Applications

- Strobe DC-DC converters, relay drivers, hammer drivers, lamp drivers, motor drivers.

### Features

- Low saturation voltage.
- High  $h_{FE}$ .
- Large current capacity.
- Very small size making it easy to provide high-density, small-sized hybrid IC's.

### Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

		unit
Collector to Base Voltage	$V_{CB0}$	60 V
Collector to Emitter Voltage	$V_{CE0}$	20 V
Emitter to Base Voltage	$V_{EB0}$	6 V
Collector Current	$I_C$	5 A
Peak Collector Current	$i_{cp}$	8 A
Collector Dissipation	$P_C$	500 mW
	$P_C(\text{Note})$	1.5 W
Junction Temperature	$T_j$	150 $^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150 $^\circ\text{C}$

(Note) Mounted on ceramic board (250mm<sup>2</sup> x 0.8mm)

### Electrical Characteristics at $T_a=25^\circ\text{C}$

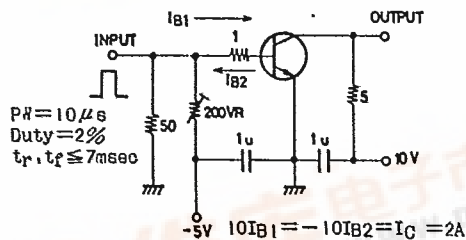
		min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$ $V_{CB}=50\text{V}, I_E=0$			100	nA
Emitter Cutoff Current	$I_{EBO}$ $V_{EB}=5\text{V}, I_C=0$			100	nA
DC Current Gain	$h_{FE}(1)$ $V_{CE}=2\text{V}, I_C=0.5\text{A}$	120*		560*	
	$h_{FE}(2)$ $V_{CE}=2\text{V}, I_C=3\text{A}$	95			
Gain-Bandwidth Product	$f_T$ $V_{CE}=10\text{V}, I_C=50\text{mA}$		120		MHz
Output Capacitance	$c_{ob}$ $V_{CB}=10\text{V}, f=1\text{MHz}$		45		pF
C-E Saturation Voltage	$V_{CE}(\text{sat})$ $I_C=3\text{A}, I_B=60\text{mA}$			500	mV
B-E Saturation Voltage	$V_{BE}(\text{sat})$ $I_C=3\text{A}, I_B=60\text{mA}$			1.5	V
Turn-ON Time	$t_{on}$ See specified Test Circuit.		30		ns
Storage Time	$t_{stg}$ "		300		ns
Fall Time	$t_f$ "		40		ns

\* The 2SD1628 is classified by 0.5A  $h_{FE}$  as follows:

120	E	200	160	F	320	280	G	560
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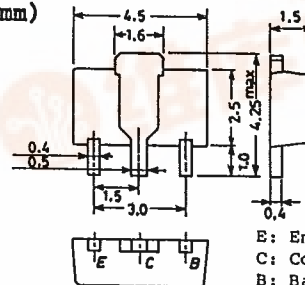
Marking :DK

### Switching Time Test Circuit



### Case Outline 2038

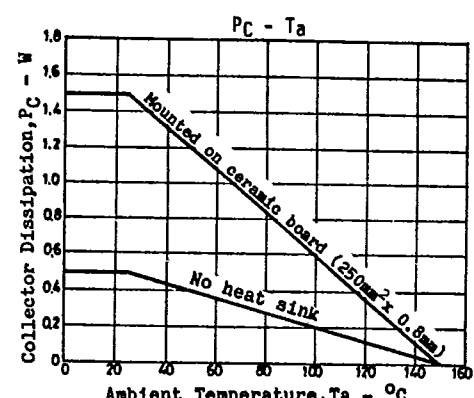
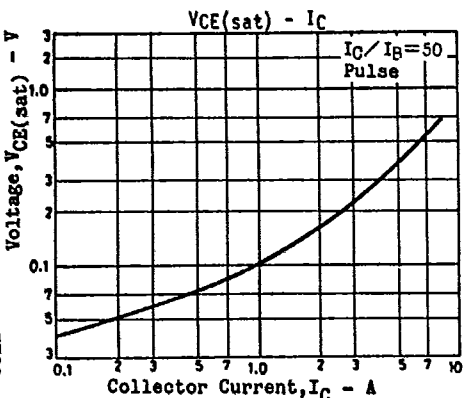
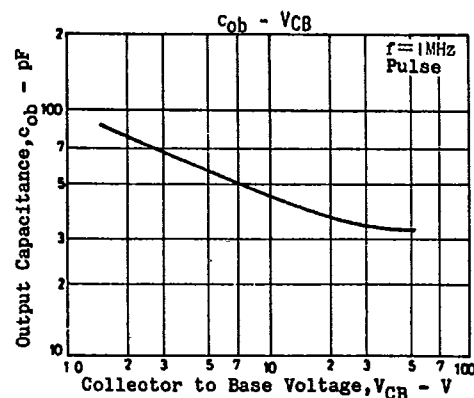
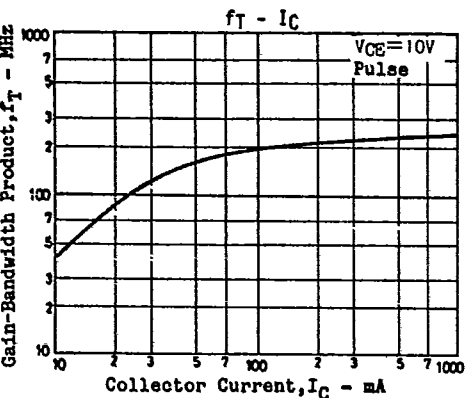
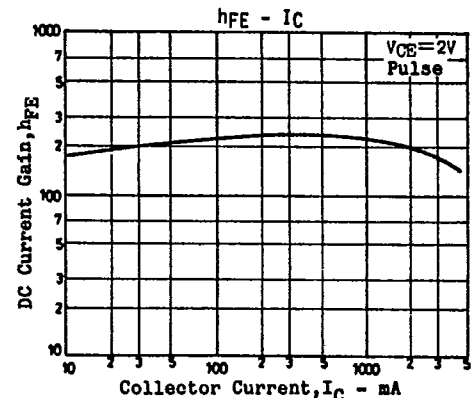
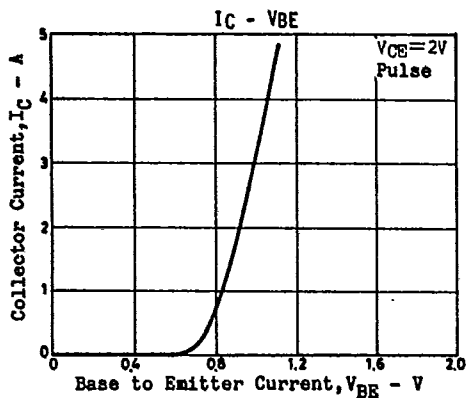
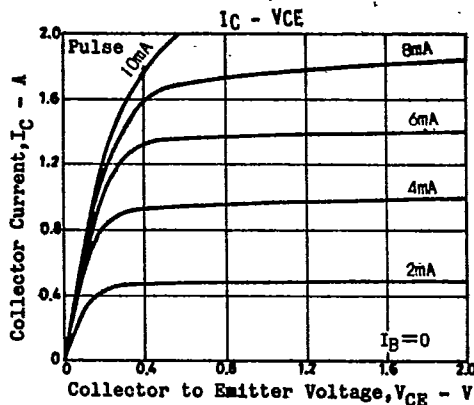
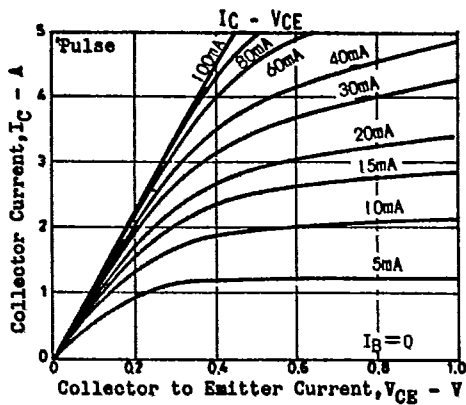
(unit:mm)

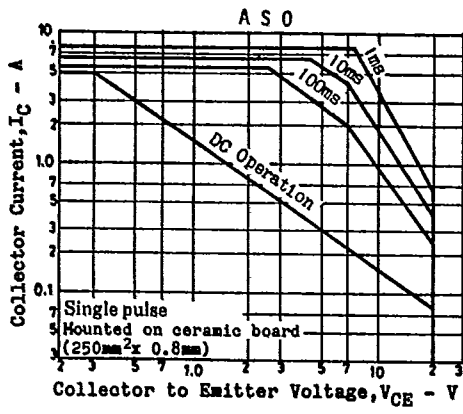


E: Emitter  
C: Collector  
B: Base

SANYO: PCP



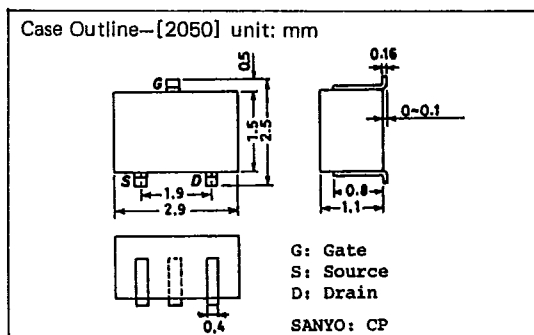
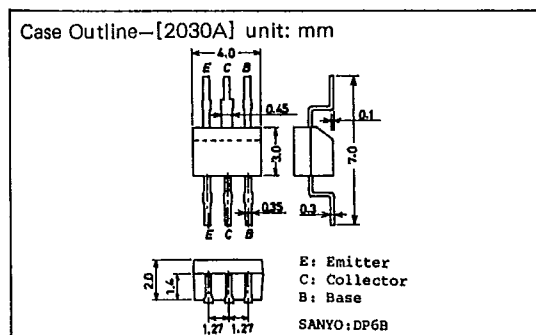
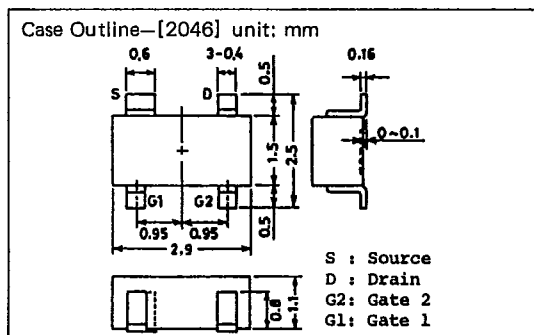
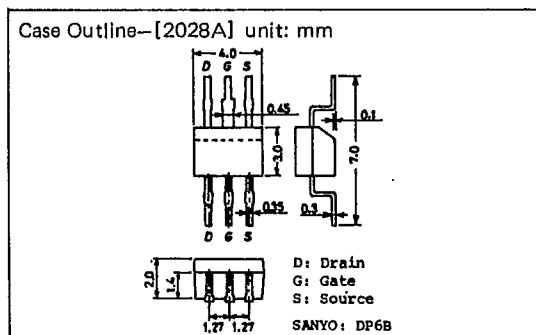
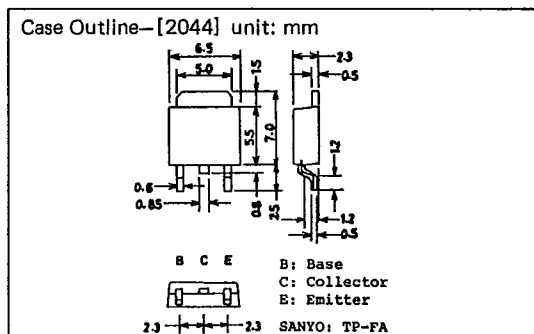
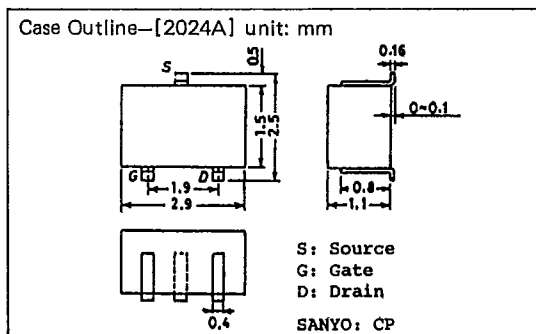
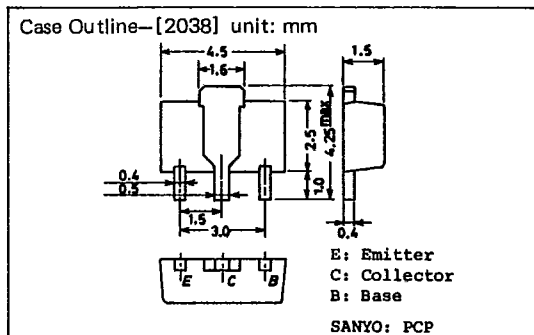
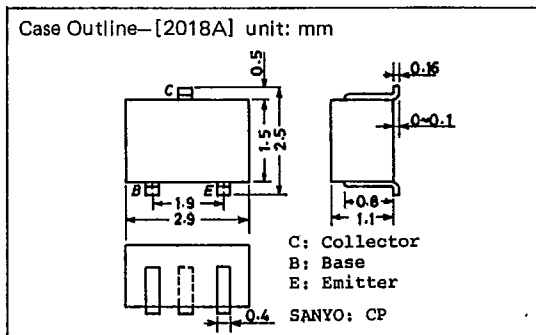




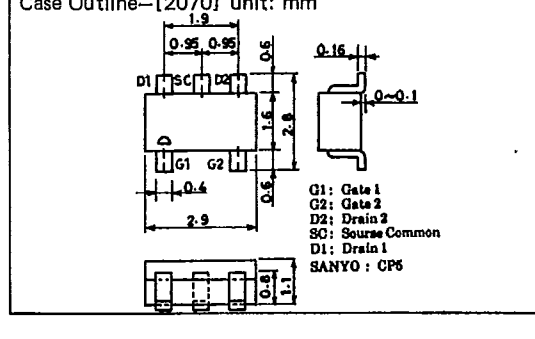
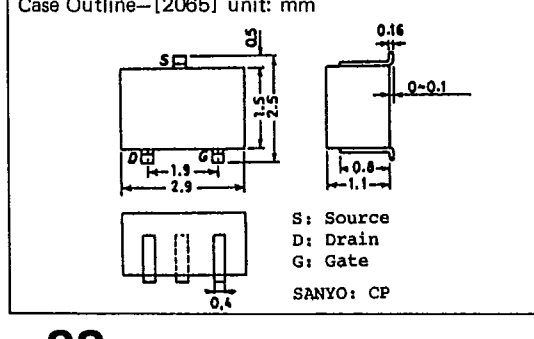
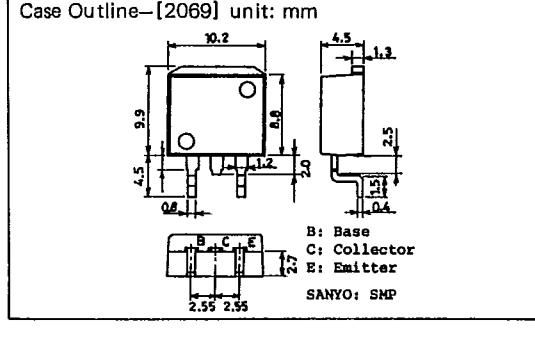
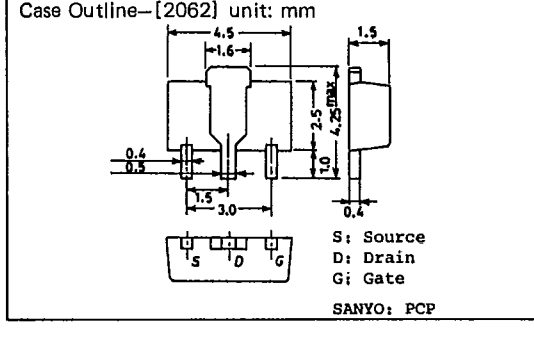
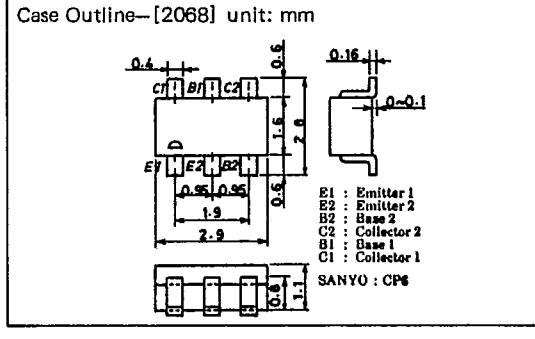
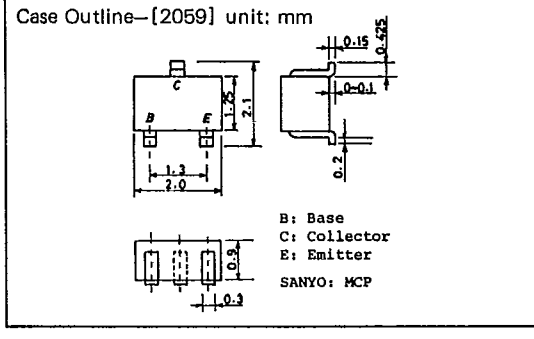
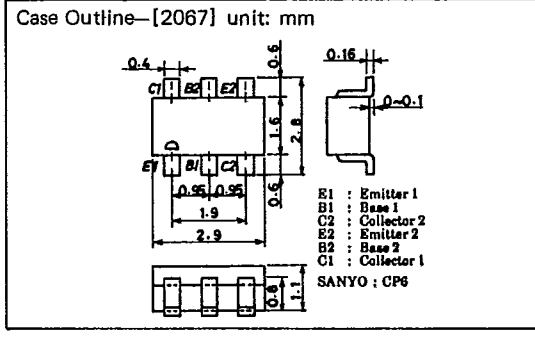
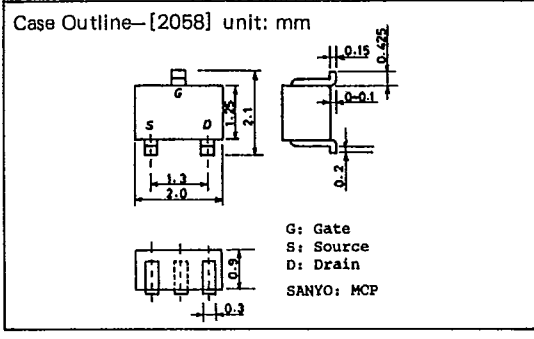
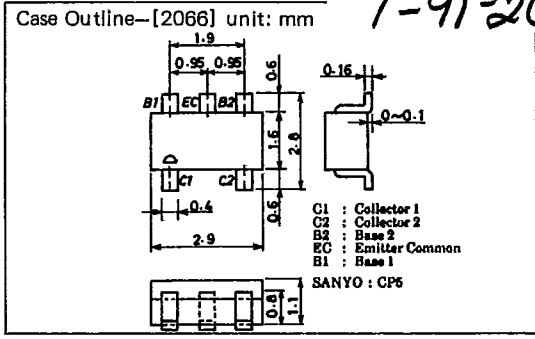
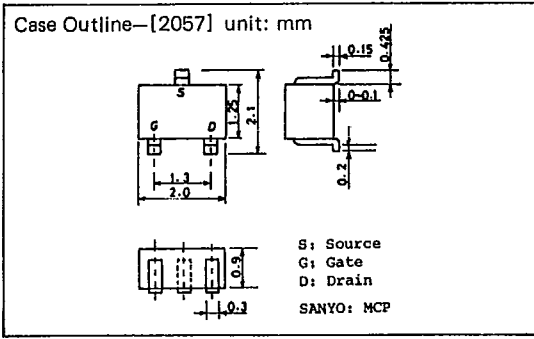
T-91-20

# 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.



T-91-20



T-9120

