

T-29-27

2029A

NPN Epitaxial Planar Silicon Composite Transistor

# Differential Amp Applications

©974B

## Applications

- . Differential amp, current mirror.

## Features

- . Excellent in thermal equilibrium and suited for use in first-stage differential amp.
- . Low noise.
- . Matched pair capability.

## Absolute Maximum Ratings at Ta=25°C

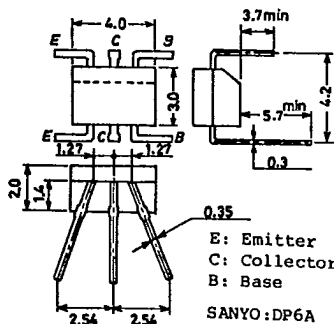
Parameter	Symbol	Value	unit
Collector to Base Voltage	$V_{CB0}$	55	V
Collector to Emitter Voltage	$V_{CEO}$	50	V
Emitter to Base Current	$V_{EBO}$	5	V
Collector Current	$I_C$	150	mA
Peak Collector Current	$i_{cp}$	300	mA
Collector Dissipation	$P_C$	200	mW
Total Dissipation	$P_T$	400	mW
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{stg}$	-55 to +150	°C

## Electrical Characteristics at Ta=25°C

Parameter	Symbol	Test Conditions	min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=35V, I_E=0$			0.1	uA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4V, I_C=0$			0.1	uA
DC Current Gain	$h_{FE}$	$V_{CE}=6V, I_C=1mA$	100*		960*	
DC Current Gain Ratio	$h_{FE(small/large)}$	$V_{CE}=6V, I_C=1mA$	0.85	0.98		
Base to Emitter Voltage Drop	$V_{BE(large-small)}$	$V_{CE}=6V, I_C=1mA$		1.0	10	mV
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=50mA, I_B=5mA$			0.5	V
Gain-Bandwidth Product	$f_T$	$V_{CE}=6V, I_C=1mA$		100		MHz
Output Capacitance	$c_{ob}$	$V_{CB}=10V, f=1MHz$		2.5		pF
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10uA, I_E=0$	55			V

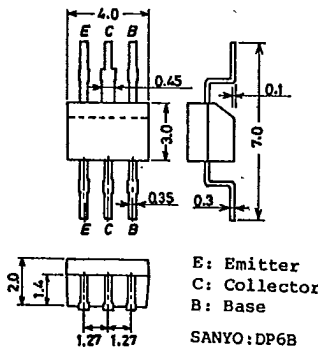
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Case Outline 2029A (unit:mm)



The 2SC3065 is provided with a surface mounted package.

Case Outline 2030A (unit:mm)



\*The 2SC3065 is classified by  $h_{FE(small)}$  as follows:

100	E	200
160	F	320
280	G	560
480	H	960

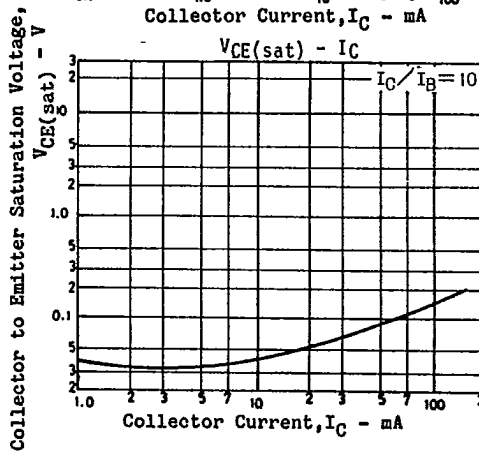
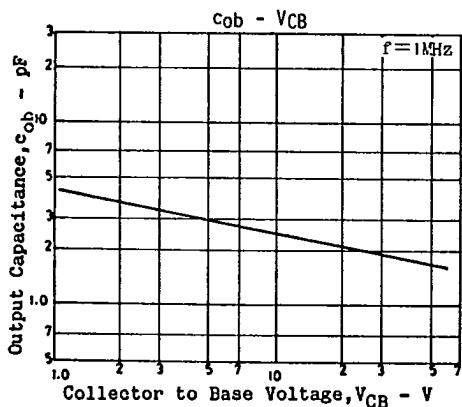
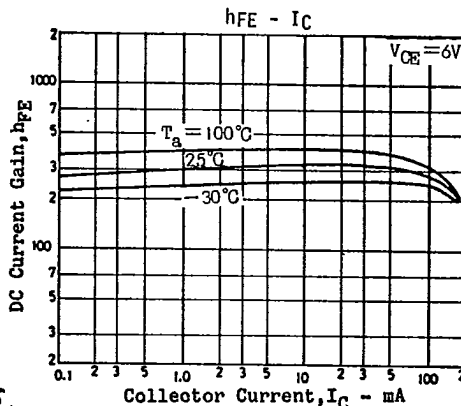
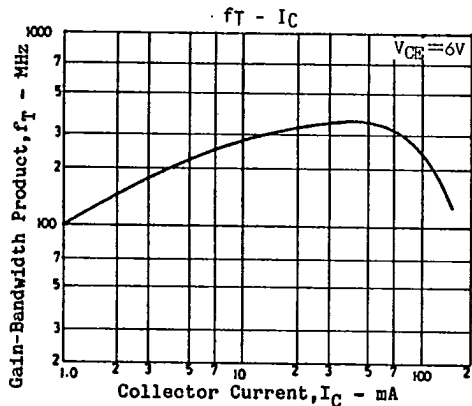
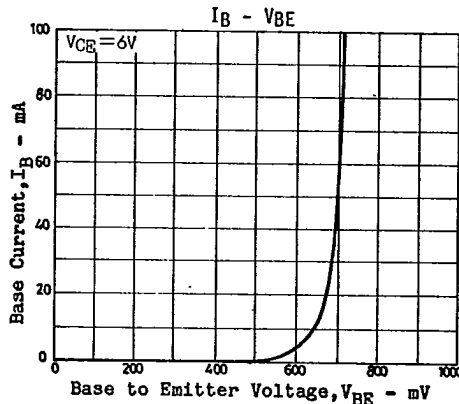
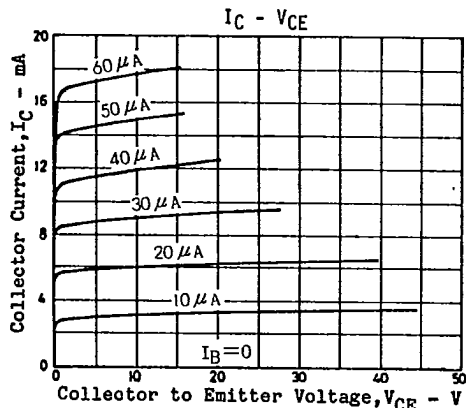
4167KI/2095KI, TS No.974-1/3

2SC3065

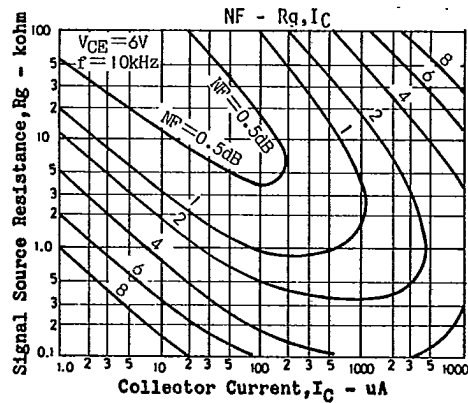
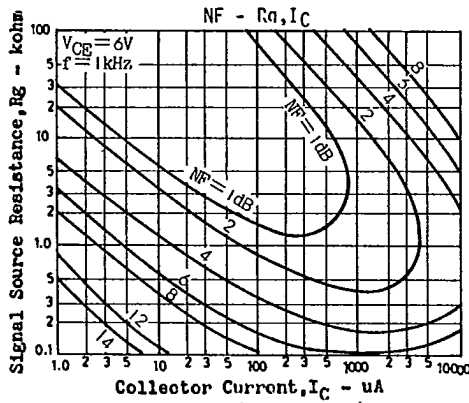
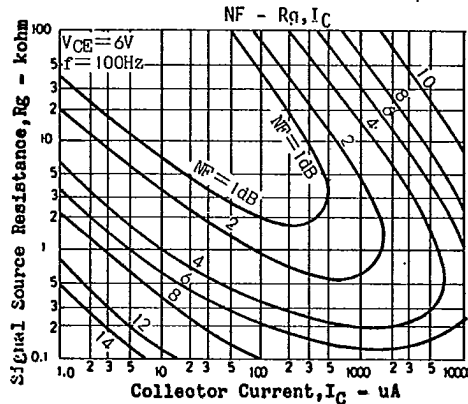
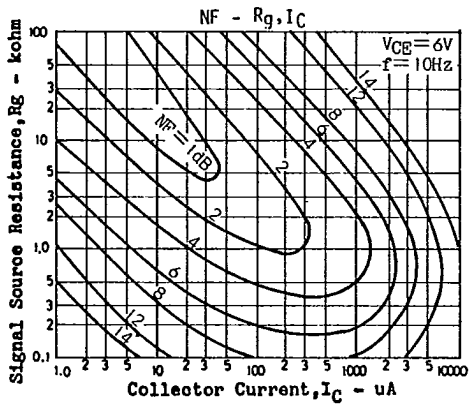
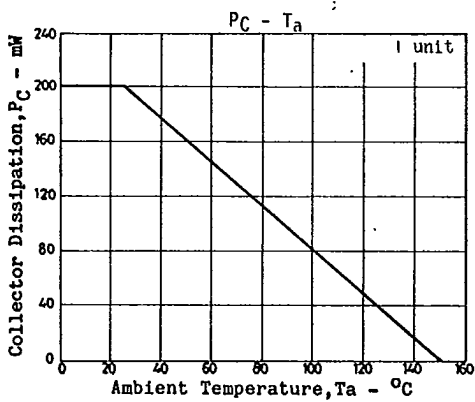
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			min	typ	max	unit
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	55			V
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	50			V
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	5			V
Noise Level	$V_{NO(ave)}$	$V_{CC}=30V, I_C=1mA, R_g=56k\Omega, V_G=77dB/1kHz$			35	mV
Noise Peak Level	$V_{NO(peak)}$	$V_{CC}=30V, I_C=1mA, R_g=56k\Omega, V_G=77dB/1kHz$			200	mV



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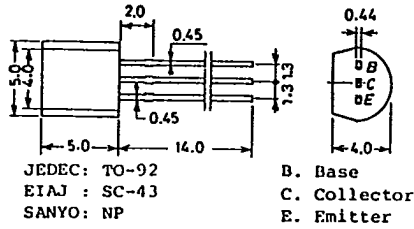


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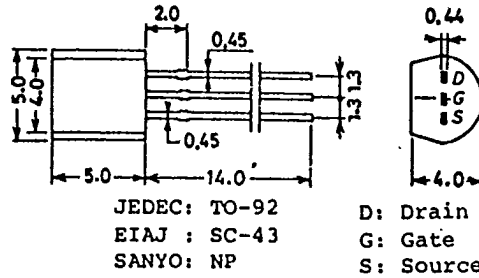
# CASE OUTLINES OF LEAD FORMED SMALL SIGNAL TRANSISTORS

- All of Sanyo lead formed small signal 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.

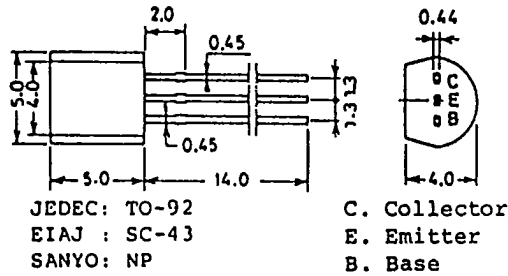
Case Outline—[2003A] unit: mm



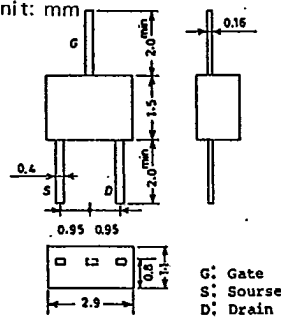
Case Outline—[2019A] unit: mm



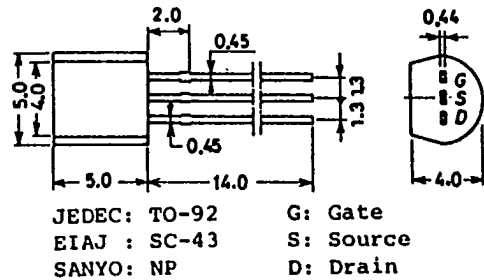
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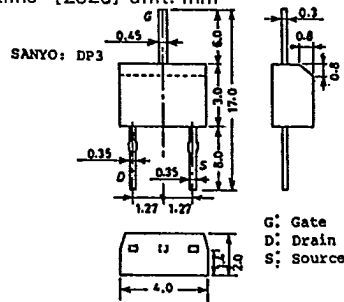
Case Outline—[2025] unit: mm



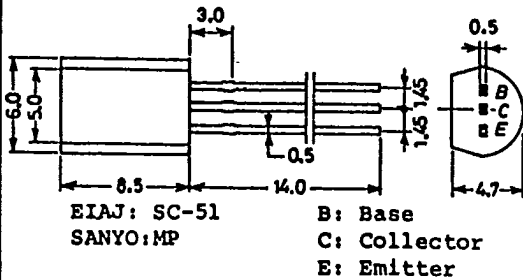
Case Outline—[2005A] unit: mm



Case Outline—[2026] unit: mm



Case Outline—[2006A] unit: mm



Case Outline—[2027A] unit: mm

