



SANYO Semiconductors

## DATA SHEET

# 2SA1016, 1016K 2SC2362, 2362K

PNP / NPN Epitaxial Planar Silicon Transistors  
— **High-Voltage Low-Noise Amp Applications**

Specifications ( ) : 2SA1016, 1016K

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	2SA1016, 2SC2362	2SA1016K, 2SC2362K	Unit
Collector-to-Base Voltage	V <sub>CB0</sub>		(-)120	(-)150	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>		(-)100	(-)120	V
Emitter-to-Base Voltage	V <sub>EBO</sub>			(-)5	V
Collector Current	I <sub>C</sub>			(-)50	mA
Collector Current (Pulse)	I <sub>CP</sub>			(-)100	mA
Collector Dissipation	P <sub>C</sub>			400	mW
Junction Temperature	T <sub>J</sub>			125	°C
Storage Temperature	T <sub>stg</sub>			-55 to +125	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =(-)80V, I <sub>E</sub> =0A			(-)1.0	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =(-)4V, I <sub>C</sub> =0A			(-)1.0	μA
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		(110)130		MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =(-)10V, f=1MHz		(2.2)1.8		pF
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =(-)10mA, I <sub>B</sub> =(-)1mA			(-)0.5	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =(-)10μA, I <sub>E</sub> =0A [2SA1016, 2SC2362]	(-)120			V
		I <sub>C</sub> =(-)10μA, I <sub>E</sub> =0A [2SA1016K, 2SC2362K]	(-)150			V
Collector-to-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =(-)1mA, R <sub>BE</sub> =∞ [2SA1016, 2SC2362]	(-)100			V
		I <sub>C</sub> =(-)1mA, R <sub>BE</sub> =∞ [2SA1016K, 2SC2362K]	(-)120			V
Emitter-to-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =(-)10μA, I <sub>C</sub> =0A	(-)5			V

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\* : The 2SA1016,1016K/2SC2362, 2362K are classified by 1mA h<sub>FE</sub> as follows :

Rank	F	G	H
h <sub>FE</sub>	160 to 320	280 to 560	480 to 960

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SANYO Semiconductor Co., Ltd.

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## 2SA1016, 1016K / 2SC2362, 2362K

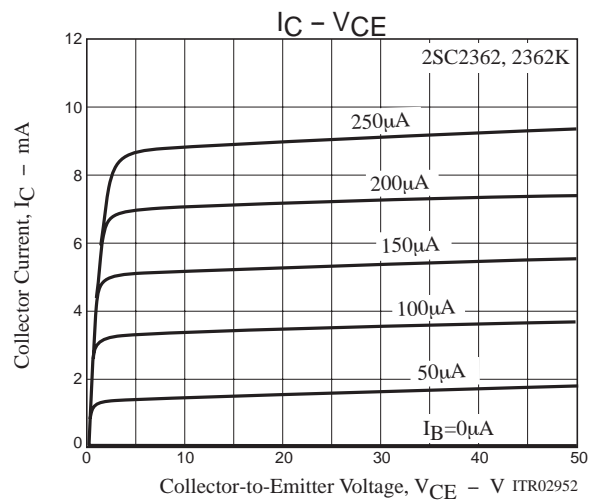
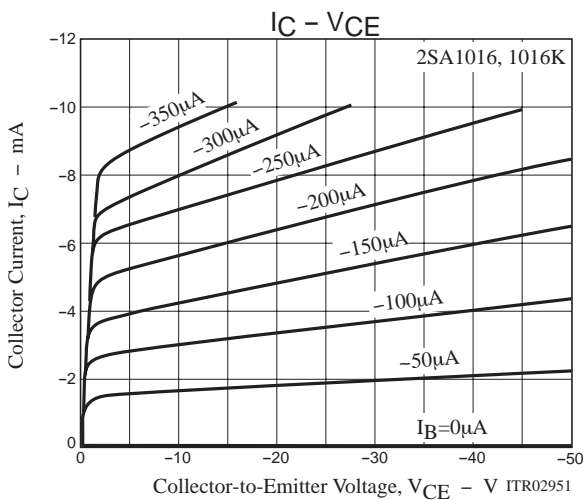
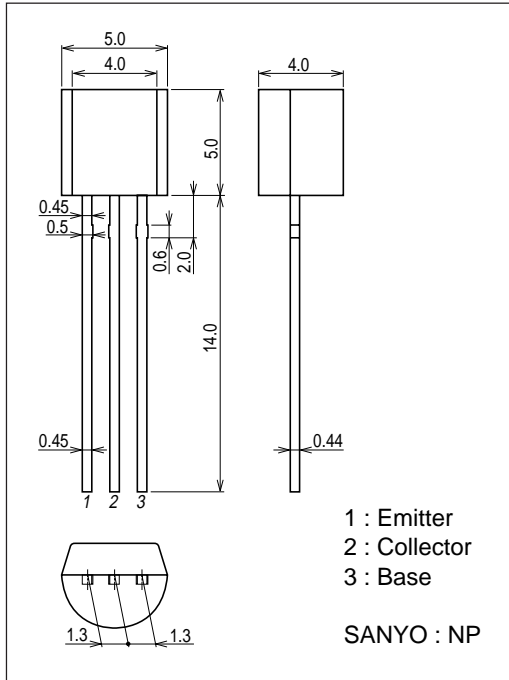
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Noise Level	VNO(ave)	V <sub>CC</sub> =30V, I <sub>C</sub> =1mA, R <sub>g</sub> =56kΩ, V <sub>G</sub> =77dB/1kHz			35	mV
Noise Peak Level	VNO(peak)	V <sub>CC</sub> =30V, I <sub>C</sub> =1mA, R <sub>g</sub> =56kΩ, V <sub>G</sub> =77dB/1kHz			200	mV

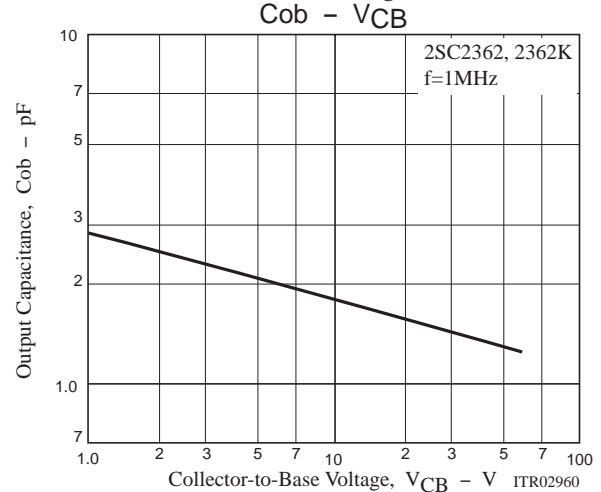
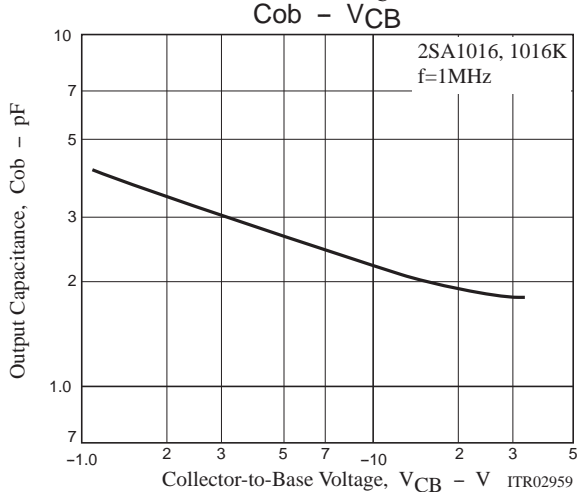
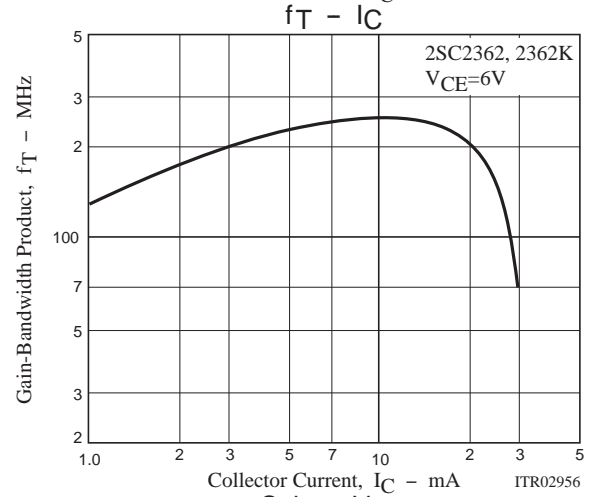
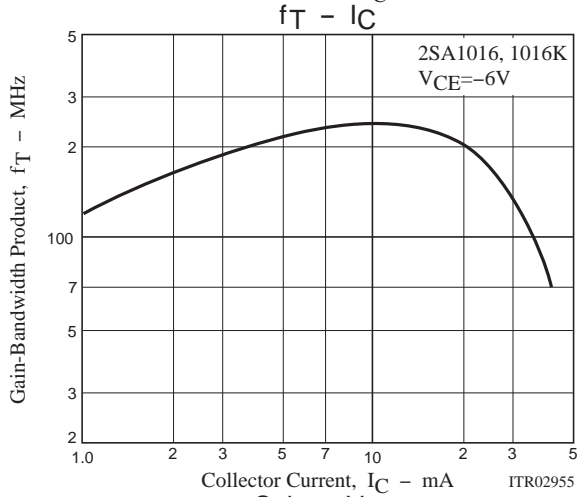
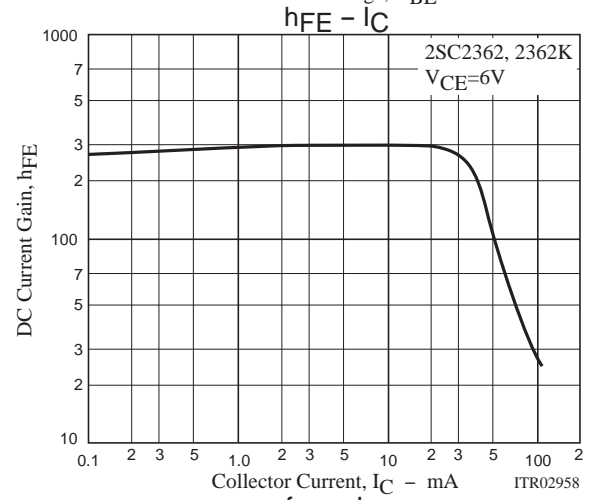
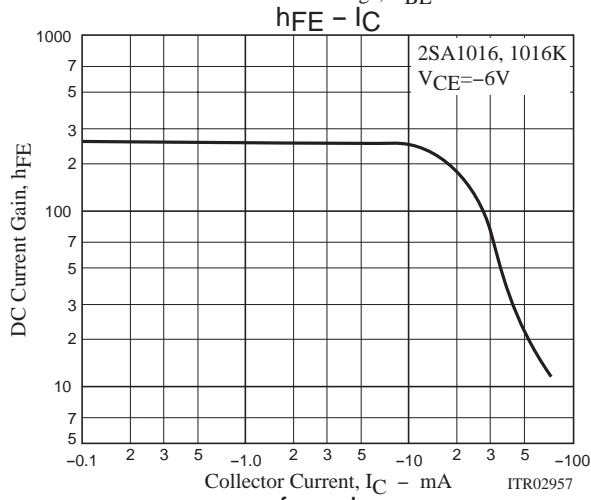
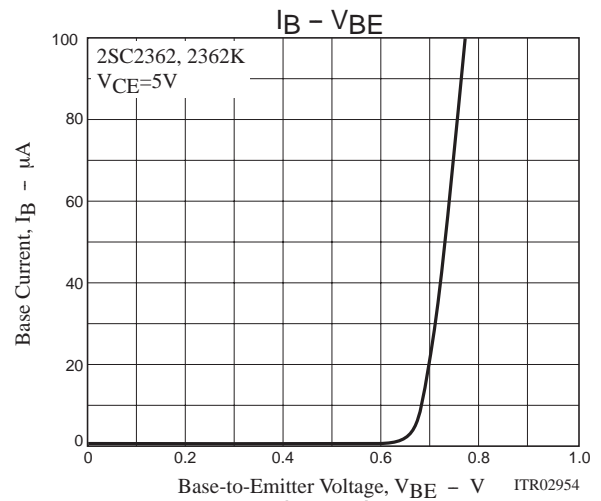
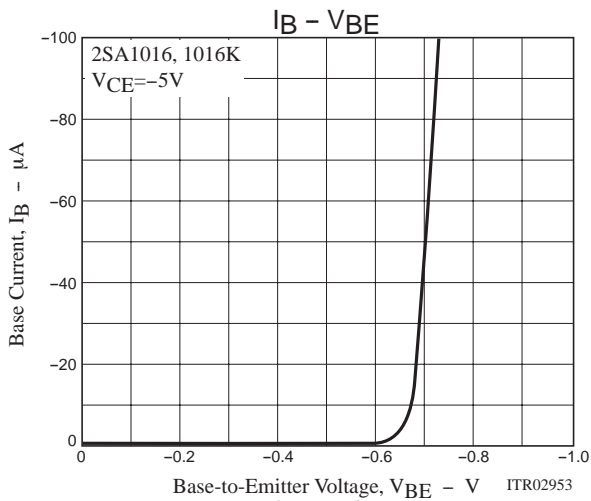
### Package Dimensions

unit : mm (typ)

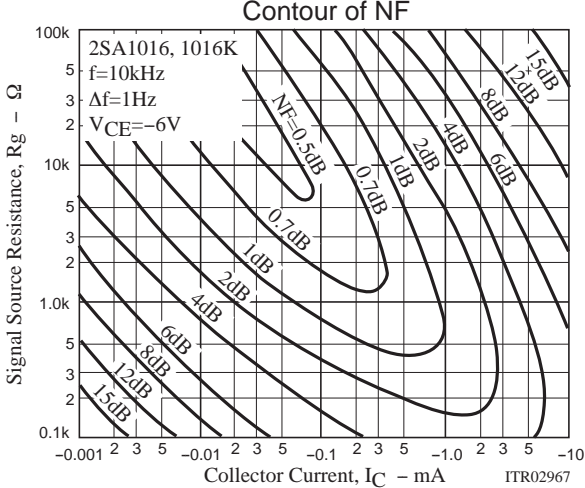
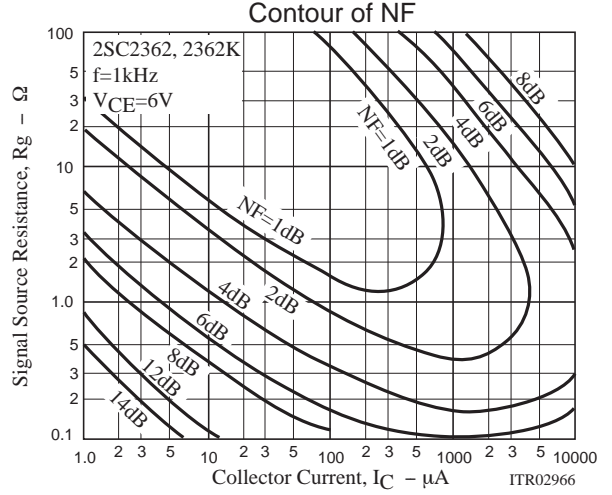
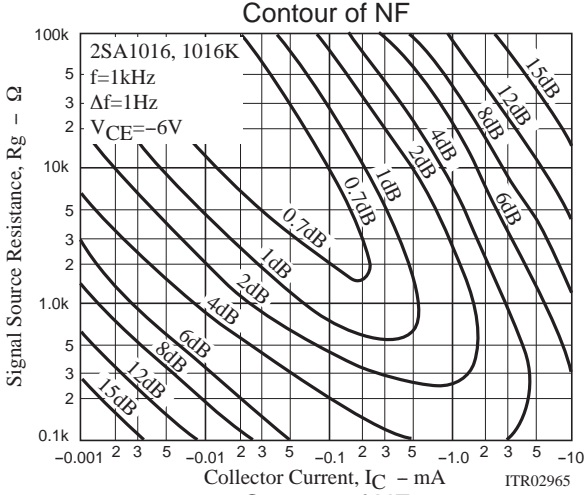
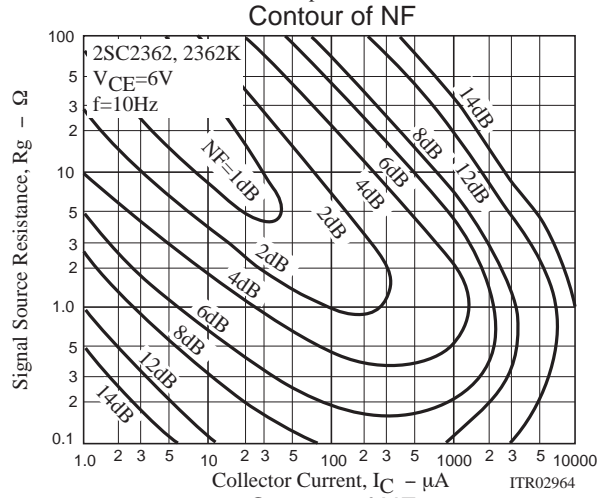
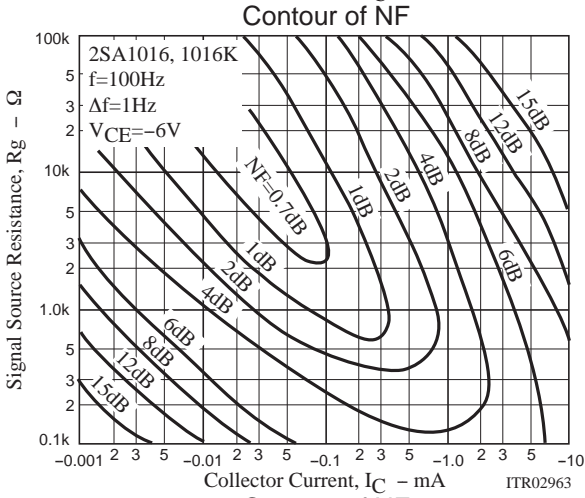
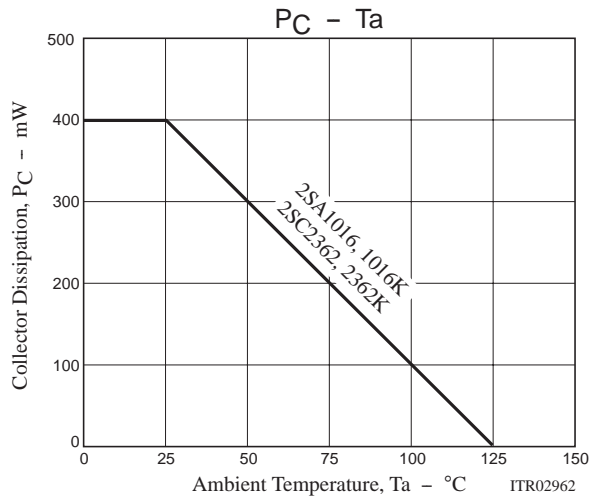
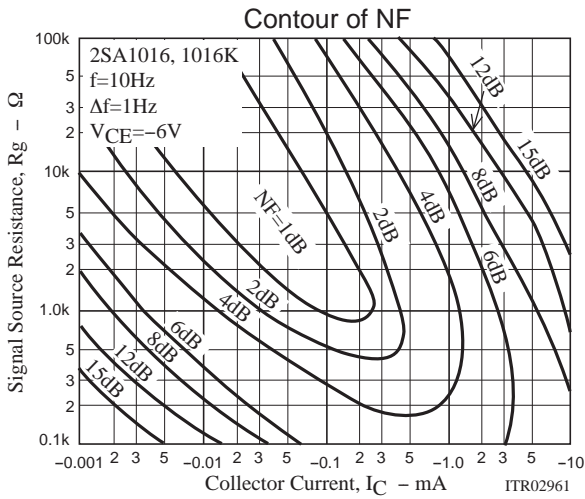
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## 2SA1016, 1016K / 2SC2362, 2362K



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