



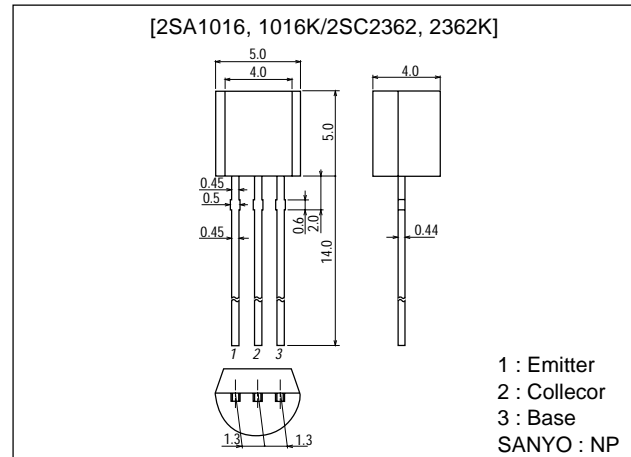
# 2SA1016, 1016K/2SC2362, 2362K

## High-Voltage Low-Noise Amp Applications

### Package Dimensions

unit:mm

2003B



() : 2SA1016, 1016K

### Specifications

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

Parameter	Symbol	Conditions	2SA1016, 2SC2362	2SA1016K, 2SC2362K	Unit
Collector-to-Base Voltage	$V_{CBO}$		(-)120	(-)150	V
Collector-to-Emitter Voltage	$V_{CEO}$		(-)100	(-)120	V
Emitter-to-Base Voltage	$V_{EBO}$			(-)5	V
Collector Current	$I_C$			(-)50	mA
Collector Current (Pulse)	$I_{CP}$			(-)100	mA
Collector Dissipation	$P_C$			400	mW
Junction Temperature	$T_j$			125	$^\circ\text{C}$
Storage Temperature	$T_{stg}$			-55 to +125	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=(-)80\text{V}, I_E=0$			(-)1.0	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)4\text{V}, I_C=0$			(-)1.0	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=(-)6\text{V}, I_C=(-)1\text{mA}$	160*		960*	
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)6\text{V}, I_C=(-)1\text{mA}$		(110) 130		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=(-)10\text{V}, f=1\text{MHz}$		(2,2) 1.8		pF

\* : The 2SA1016, K/2SC2362, K are classified by 1mA  $h_{FE}$  as follows :

Continued on next page.

Rank	F	G	H
$h_{FE}$	160 to 320	280 to 560	480 to 960

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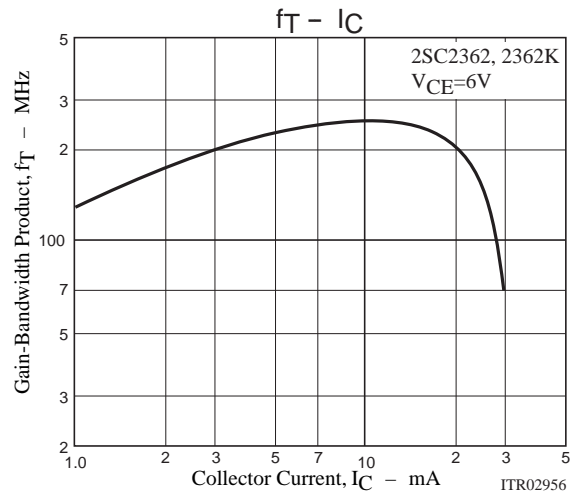
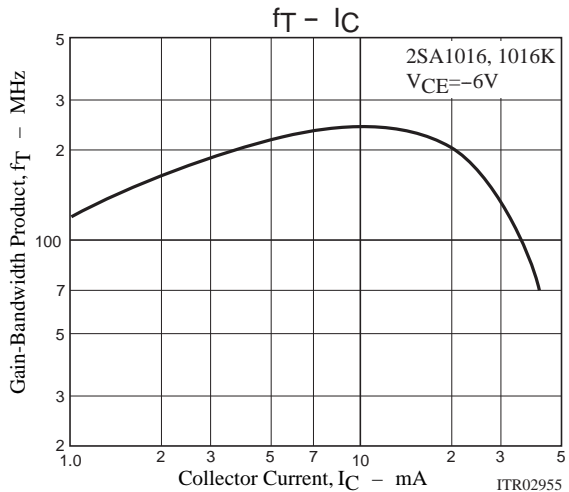
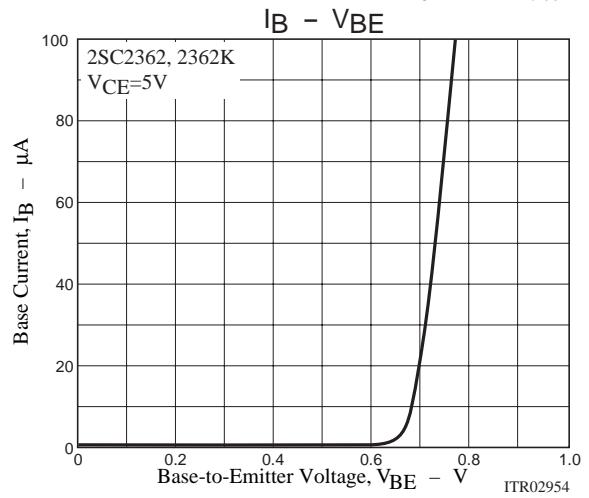
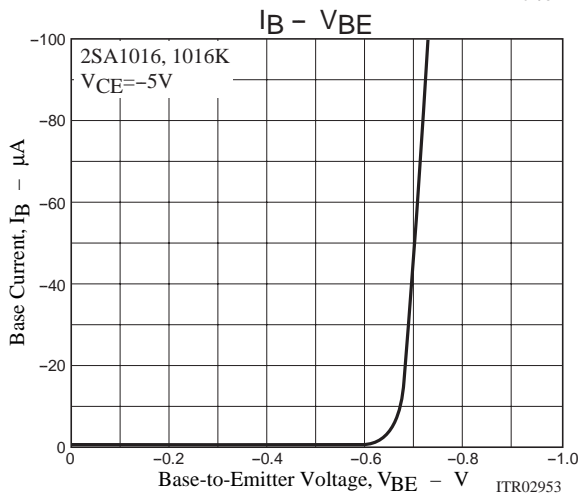
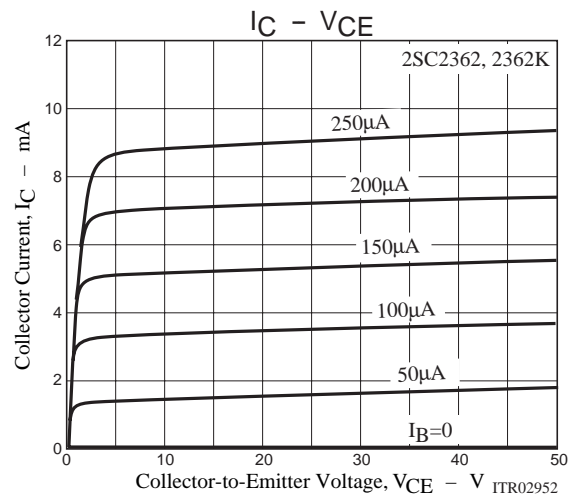
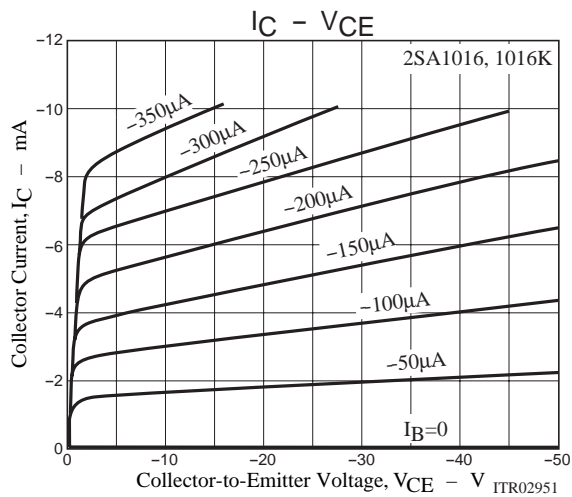
**SANYO Electric Co., Ltd. Semiconductor Company**

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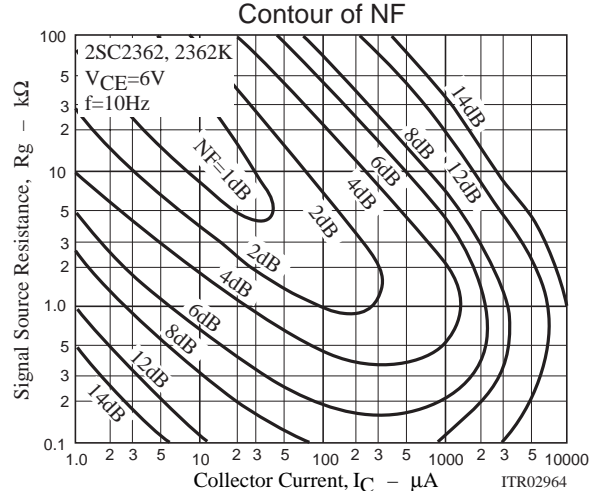
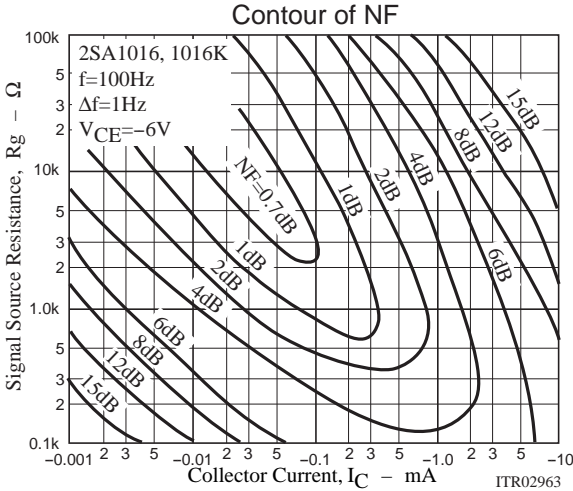
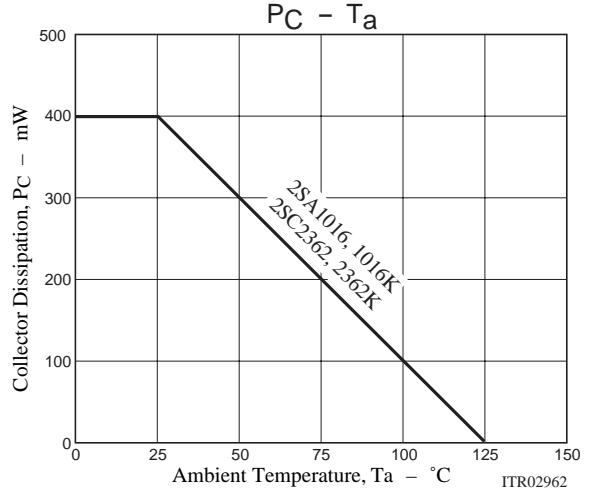
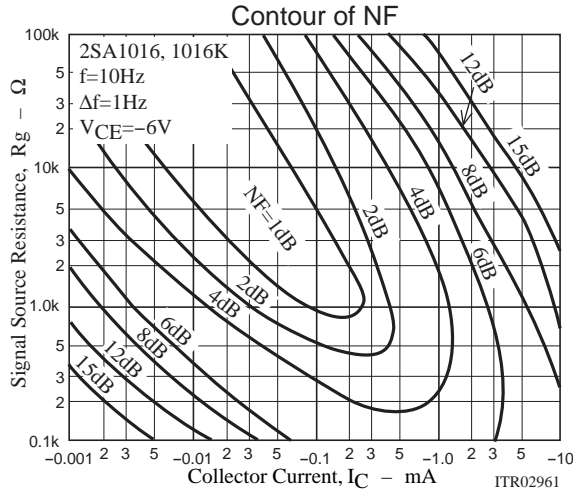
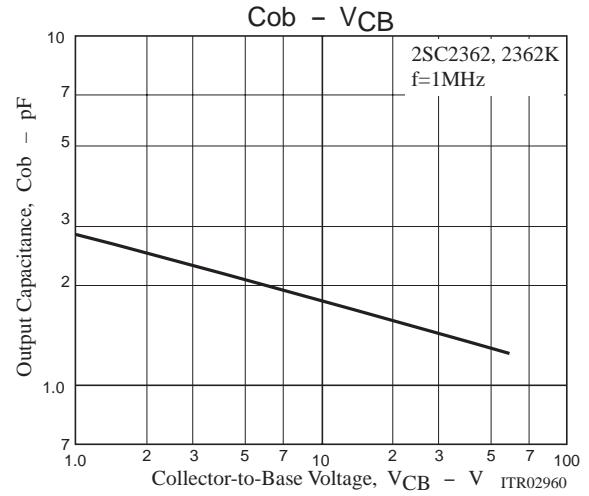
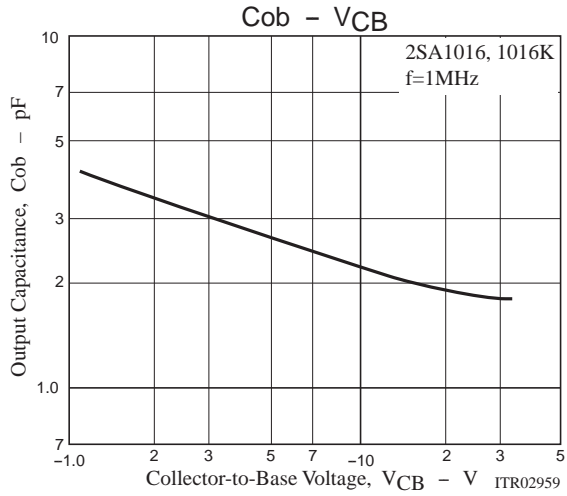
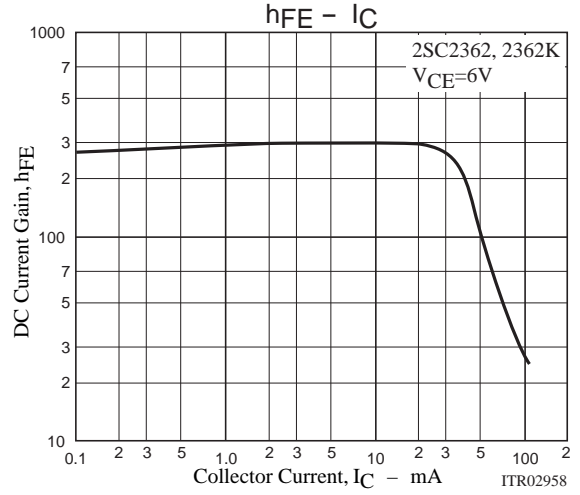
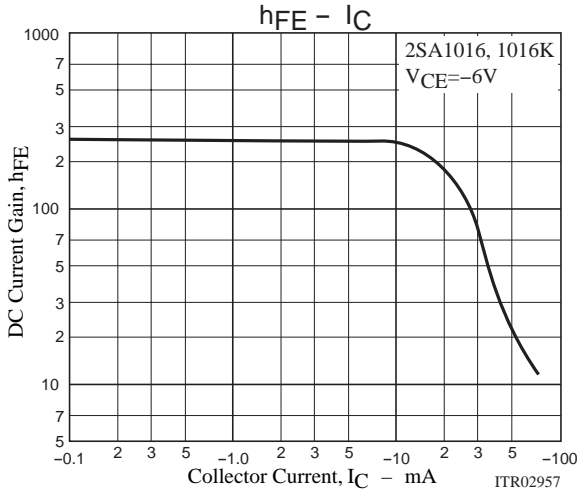
## 2SA1016, 1016K/2SC2362, 2362K

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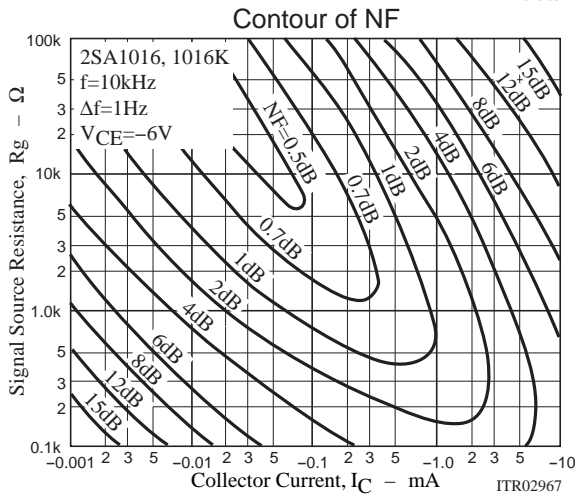
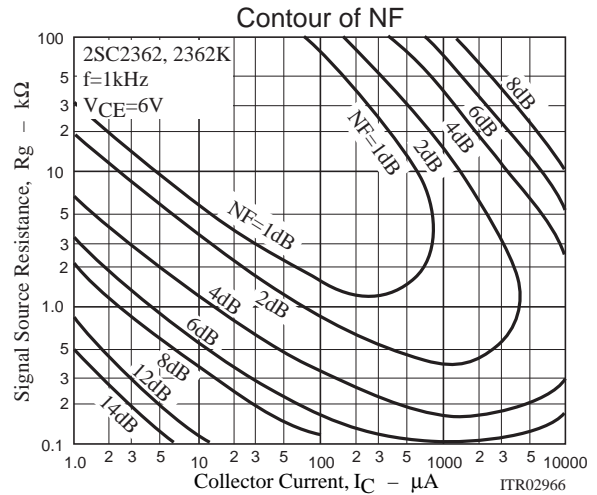
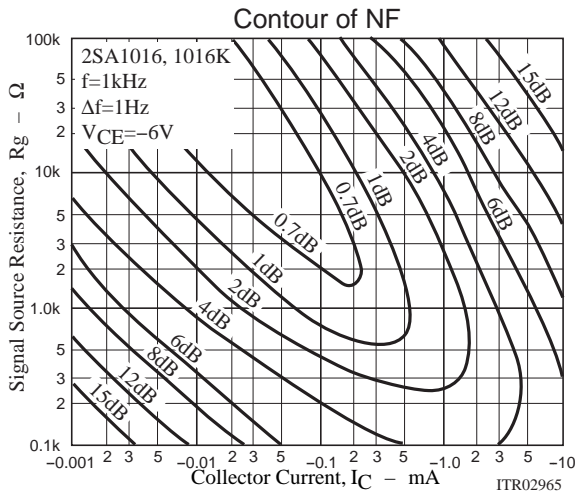
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)10\text{mA}$ , $I_B=(-)1\text{mA}$			(-)0.5	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu\text{A}$ , $I_E=0$ [A1016, C2362]	(-)120			V
		$I_C=(-)10\mu\text{A}$ , $I_E=0$ [A1016K, C2362K]	(-)150			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1\text{mA}$ , $R_{BE}=\infty$ [A1016, C2362]	(-)100			V
		$I_C=(-)1\text{mA}$ , $R_{BE}=\infty$ [A1016K, C2362K]	(-)120			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu\text{A}$ , $I_C=0$	(-)5			V
Noise Level	$V_{NO(ave)}$	$V_{CC}=30\text{V}$ , $I_C=1\text{mA}$ , $R_g=56\text{k}\Omega$ , $V_G=77\text{dB}/1\text{kHz}$			35	mV
Noise Peak Level	$V_{NO(peak)}$	$V_{CC}=30\text{V}$ , $I_C=1\text{mA}$ , $R_g=56\text{k}\Omega$ , $V_G=77\text{dB}/1\text{kHz}$			200	mV



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



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



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