

NPN Epitaxial Planar Silicon Transistor

SANYO**2SC3069****High h_{FE} , Low-Frequency
General-Purpose Amplifier Applications****Applications**

- Low-frequency, general-purpose amplifier., various drivers, muting circuit.

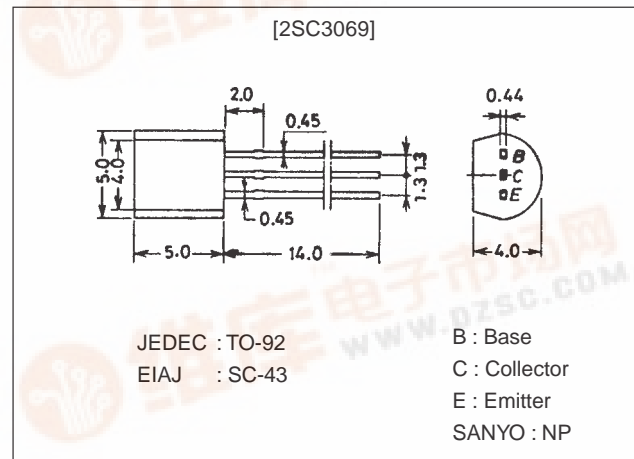
Features

- High DC current gain (h_{FE} =800 to 3200).
- Low collector-to-emitter saturation voltage ($V_{CE(sat)}$ =0.5V max).
- High V_{EBO} (V_{EBO} ≥15V).

Package Dimensions

unit:mm

2003A

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		60	V
Collector-to-Emitter Voltage	V_{CEO}		50	V
Emitter-to-Base Voltage	V_{EBO}		15	V
Collector Current	I_C		200	mA
Collector Current (Pulse)	I_{CP}		300	mA
Base Current	I_B		40	mA
Collector Dissipation	P_C		600	mW
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

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

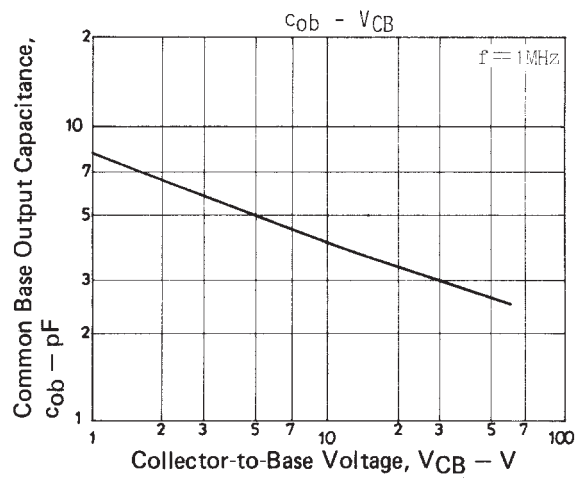
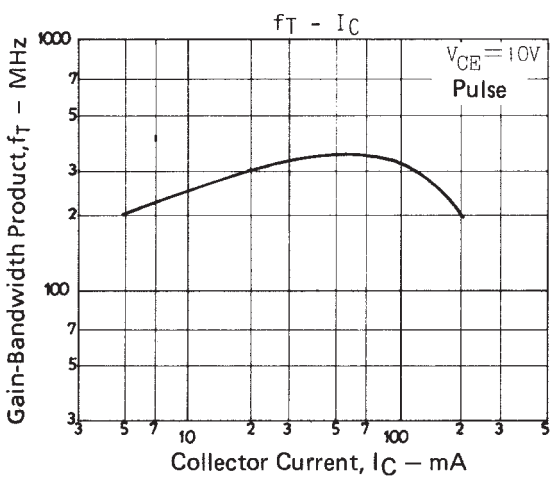
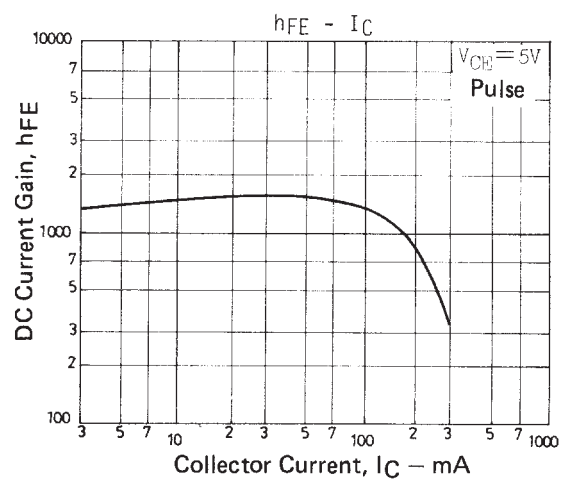
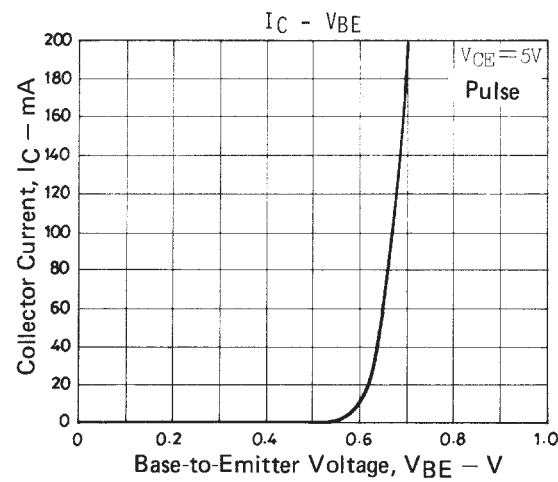
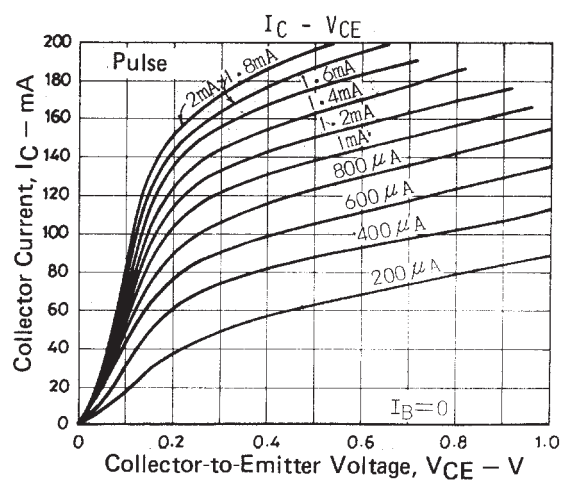
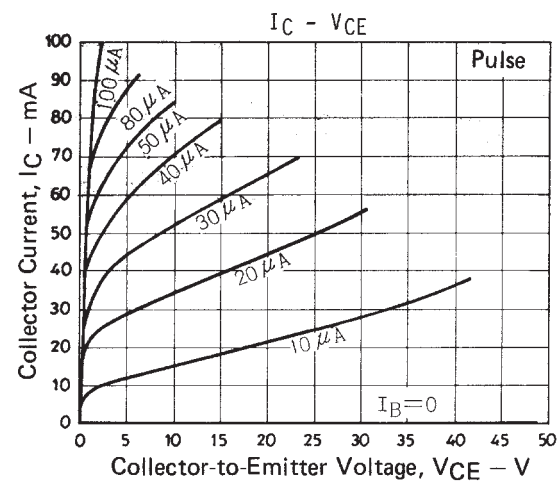
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=40\text{V}, I_E=0$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=10\text{V}, I_C=0$			0.1	μA
DC Current Gain	h_{FE1}	$V_{CE}=5\text{V}, I_C=10\text{mA}$	800	1500	3200	
	h_{FE2}	$V_{CE}=5\text{V}, I_C=100\text{mA}$	600			
Gain-Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}$		250		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$		4.0		pF

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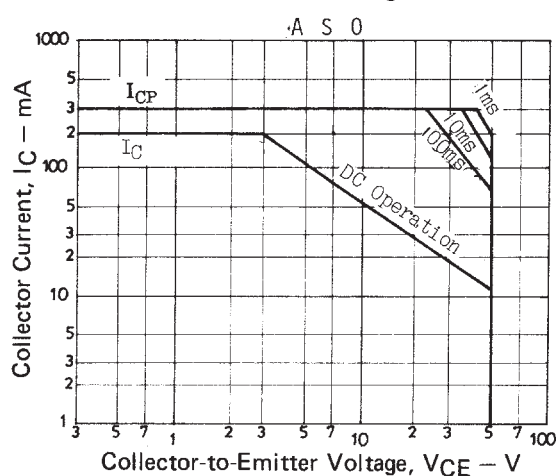
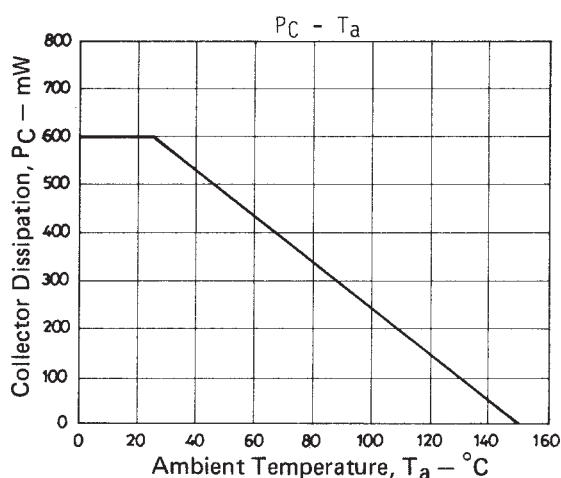
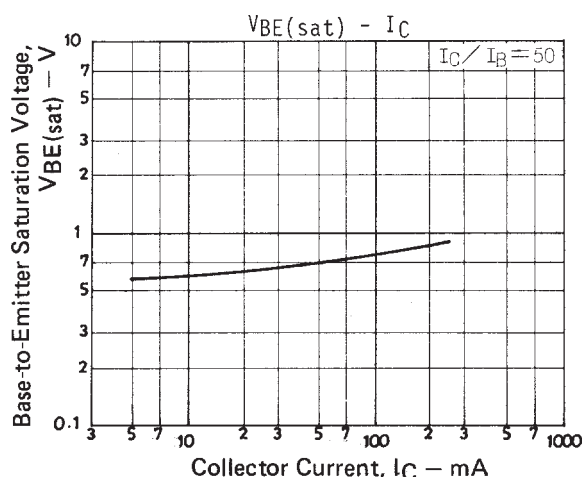
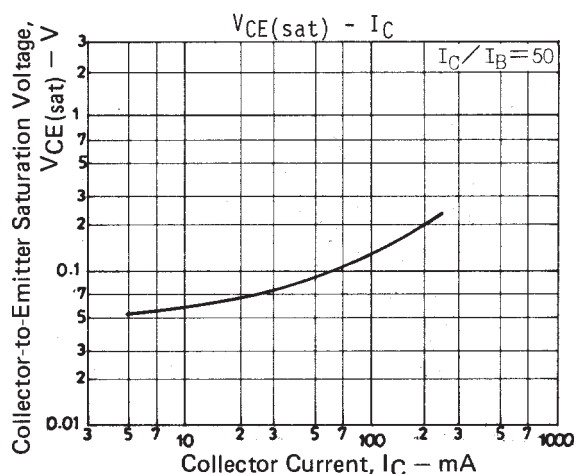
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100\text{mA}$, $I_B=2\text{mA}$		0.12	0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100\text{mA}$, $I_B=2\text{mA}$		0.85	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}$, $I_E=0$	60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}$, $R_{BE}=\infty$	50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}$, $I_C=0$	15			V



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