

NPN Epitaxial Planar Silicon Transistor

SANYO**2SC4705****Low-Frequency General-Purpose Amplifier,
Applications (High h_{FE})****Applications**

- Low-frequency general-purpose amplifier, drivers, muting circuits.

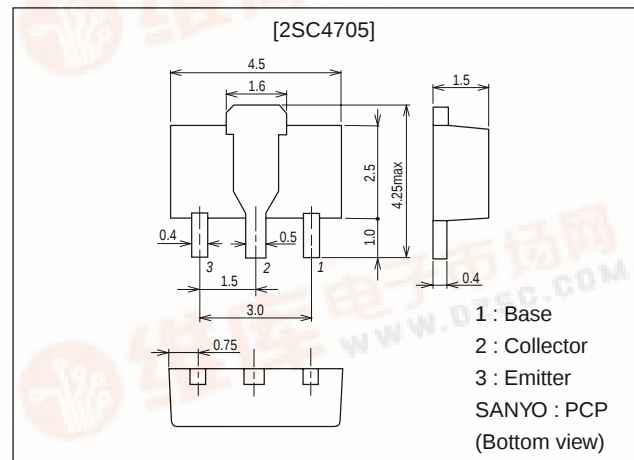
Features

- High DC current gain (h_{FE} =800 to 3200).
- Low collector-to-emitter saturation voltage :
 $V_{CE(sat)} \leq 0.5V$ max.
- High V_{EBO} : $V_{EBO} \geq 15V$.
- Small size making it easy to provide high-density, hybrid ICs.

Package Dimensions

unit:mm

2038A

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

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	Mounted on ceramic board (250mm ² ×0.8mm)	1.3	W
Junction Temperature	T_j		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

Electrical Characteristics at $T_a = 25^\circ C$

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

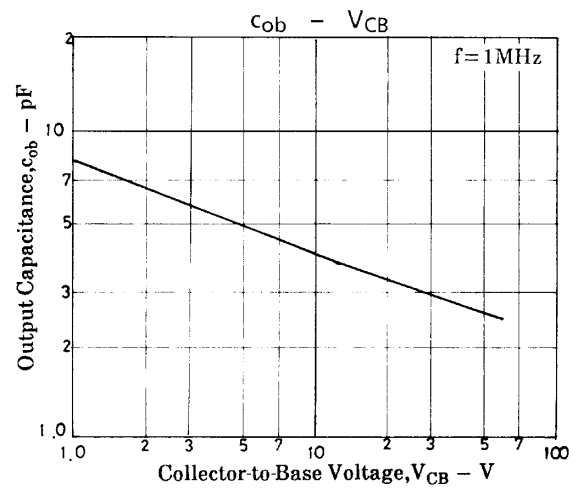
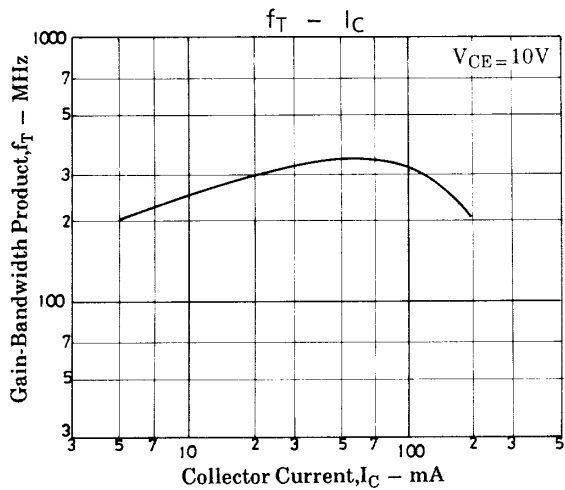
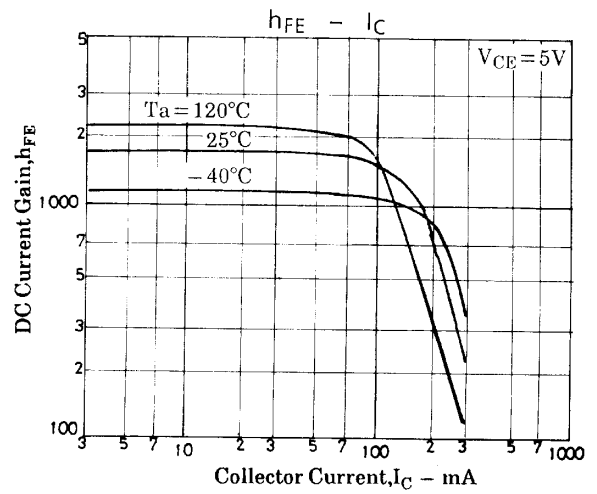
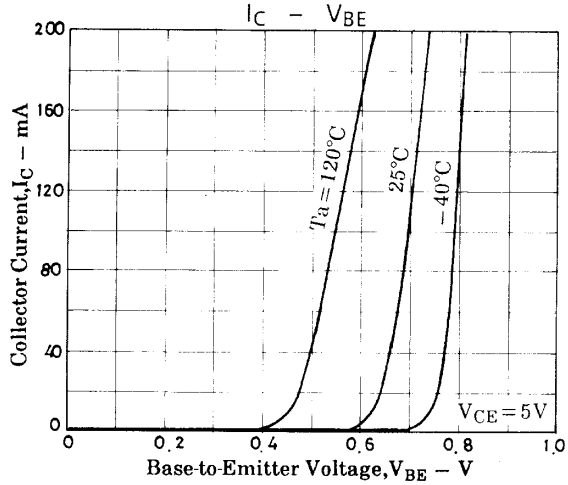
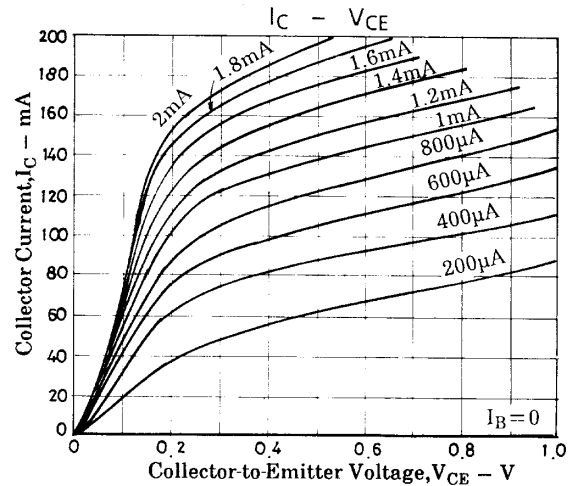
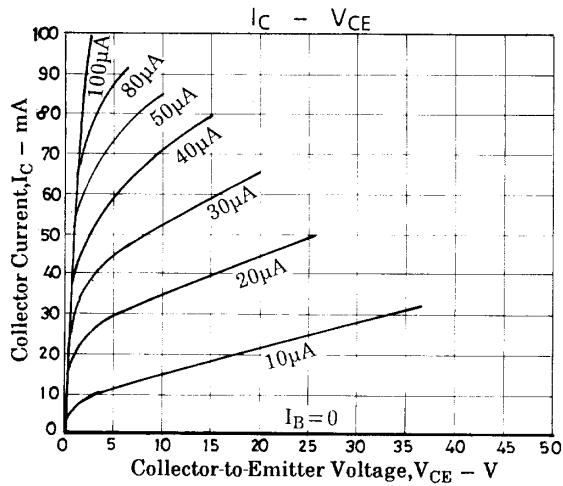
Marking :CP

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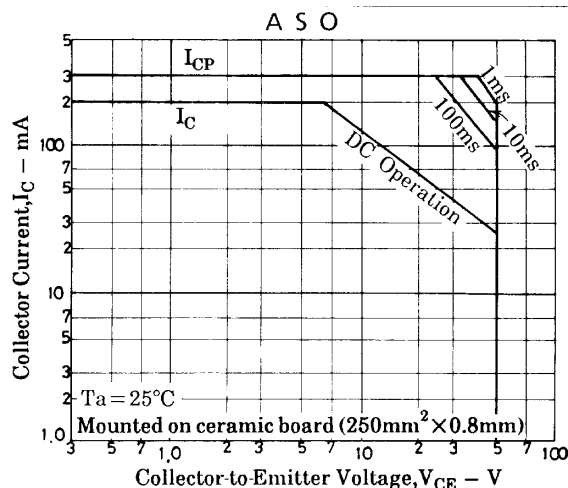
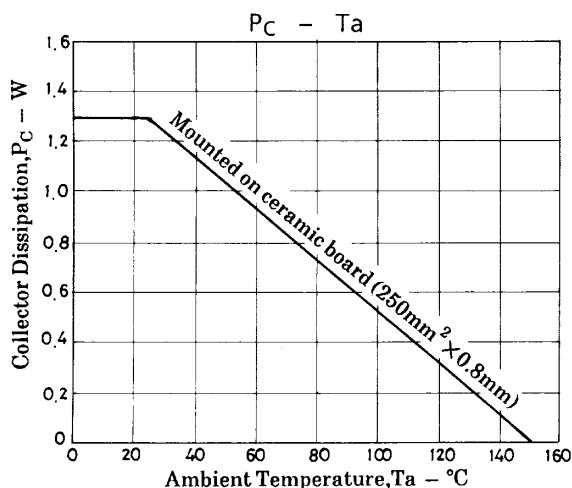
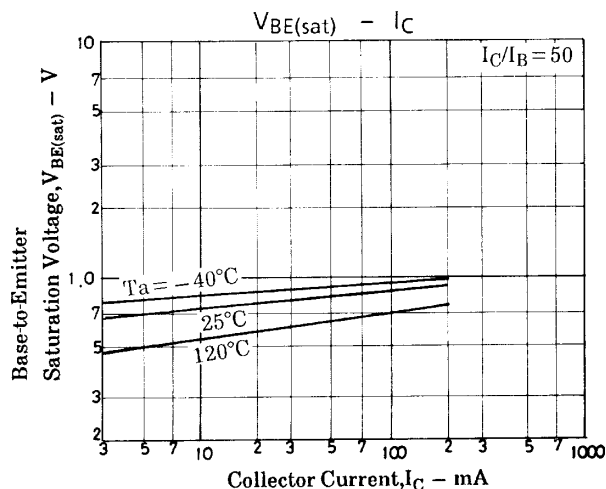
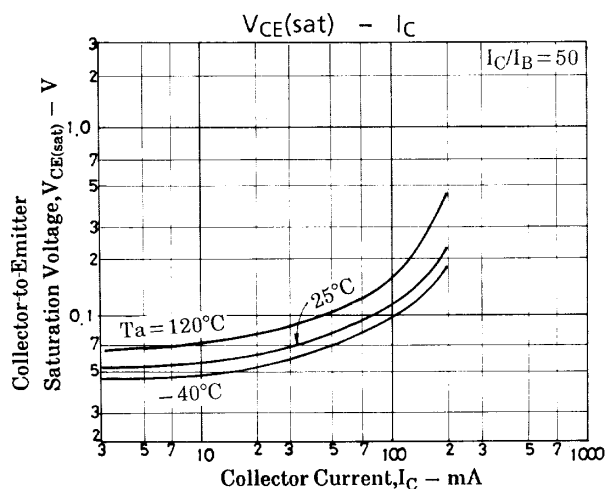
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100\text{mA}$, $I_B=2\text{mA}$		0.12	0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100\text{mA}$, $I_B=2\text{mA}$		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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