

NPN Epitaxial Planar Silicon Transistor

**SANYO****2SC3650****High  $h_{FE}$ , Low-Frequency  
General-Purpose Amplifier Applications****Applications**

- LF amplifiers, various drivers, muting circuit.

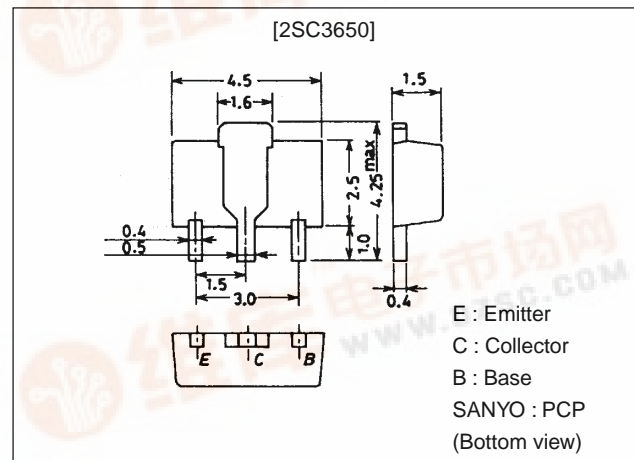
**Features**

- High DC current gain ( $h_{FE}=800$  to  $3200$ ).
- Low collector-to-emitter saturation voltage ( $V_{CE(sat)} \leq 0.5V$ ).
- Large current capacity ( $I_C=1.2V$ ).
- Very small size making it easy to provide high-density, small-sized hybrid IC's.

**Package Dimensions**

unit:mm

2038

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		30	V
Collector-to-Emitter Voltage	$V_{CEO}$		25	V
Emitter-to-Base Voltage	$V_{EBO}$		15	V
Collector Current	$I_C$		1.2	A
Collector Current (Pulse)	$I_{CP}$		2	A
Collector Dissipation	$P_C$		500	mW
	$P_{C^*}$		1.5	W
Junction Temperature	$T_j$		150	$^\circ C$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ C$

\* Mounted on ceramic board (250mm<sup>2</sup>×0.8mm)**Electrical Characteristics at  $T_a = 25^\circ C$** 

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=20V, I_E=0$			0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=10V, I_C=0$			0.1	$\mu A$
DC Current Gain	$h_{FE1}$	$V_{CE}=5V, I_C=500mA$	800	1500	3200	
	$h_{FE2}$	$V_{CE}=5V, I_C=10mA$	600			
Gain-Bandwidth Product	$f_T$	$V_{CE}=10V, I_C=50mA$		220		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10V, f=1MHz$		17		pF

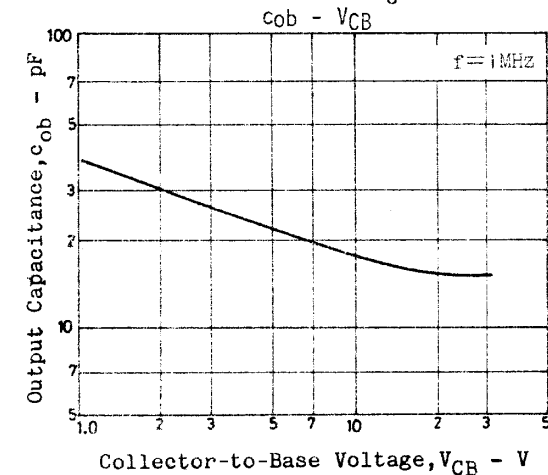
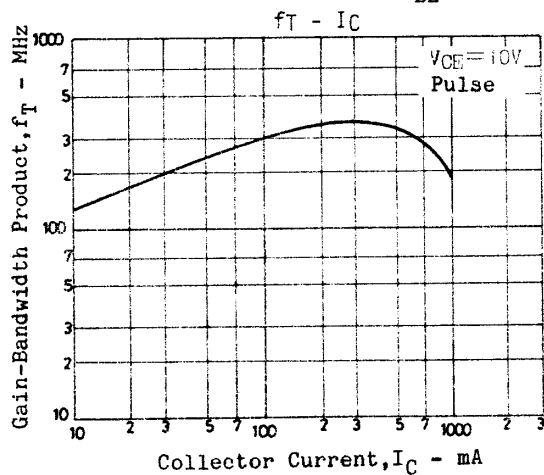
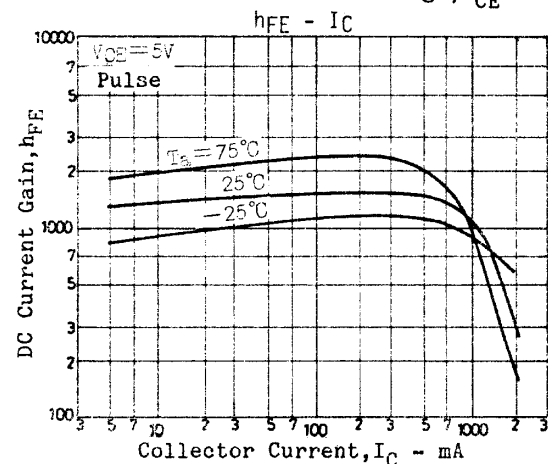
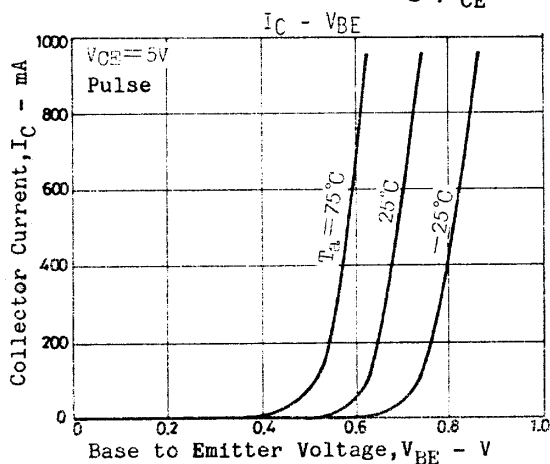
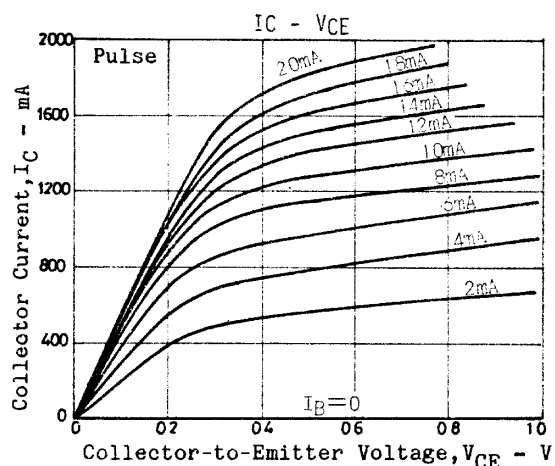
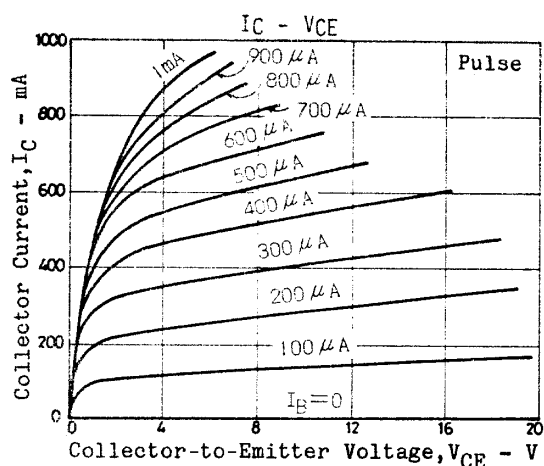
Marking : CF

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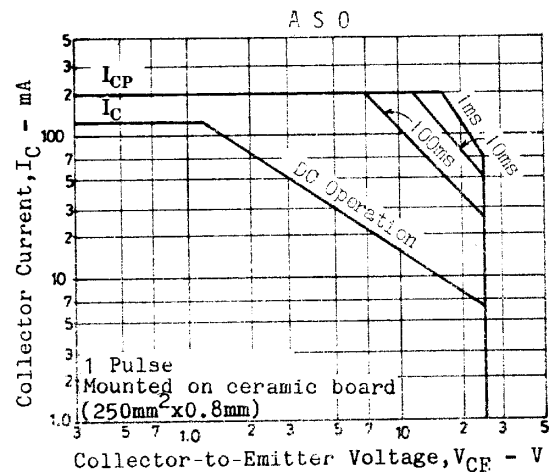
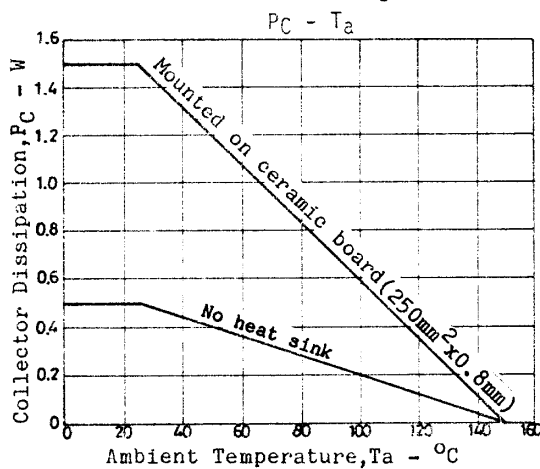
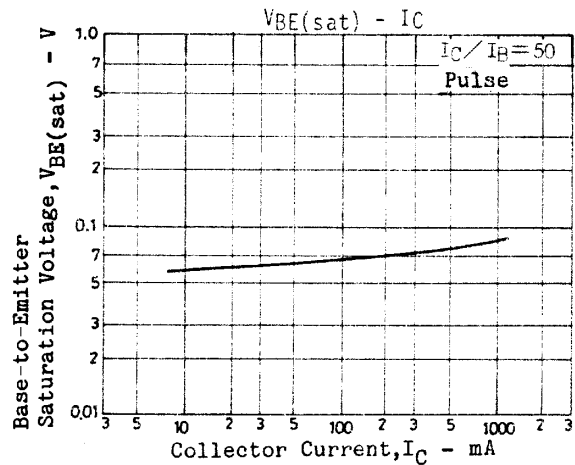
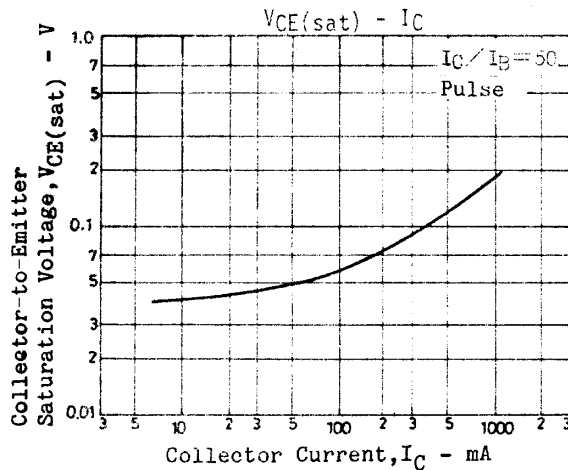
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## 2SC3650

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500\text{mA}$ , $I_B=10\text{mA}$		0.12	0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=500\text{mA}$ , $I_E=10\text{mA}$		0.85	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}$ , $I_E=0$	30			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}$ , $R_{BE}=\infty$	25			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}$ , $I_C=0$	15			V



## 2SC3650



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