



SANYO Semiconductors

DATA SHEET

2SC3650

NPN Epitaxial Planar Silicon Transistor
**High hFE, 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 ($I_C=1.2A$).
- Ultrasmall size making it easy to provide high-density, small-sized hybrid IC's.

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
		Mounted on a ceramic board (250mm ² ×0.8mm)	1.5	W
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Marking : CF

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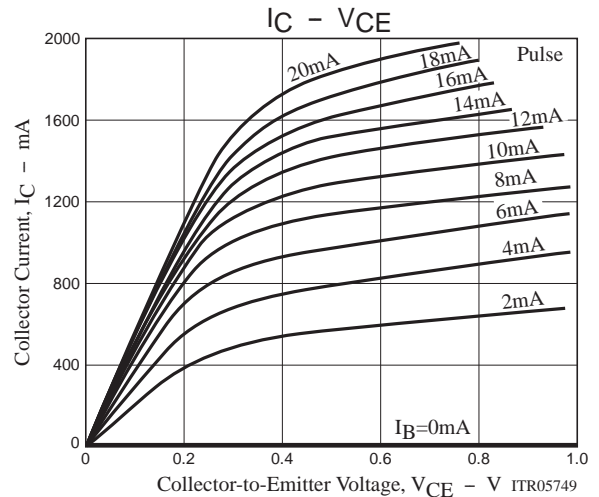
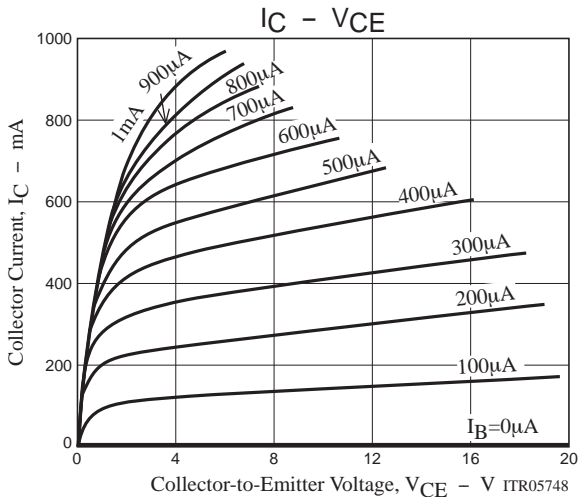
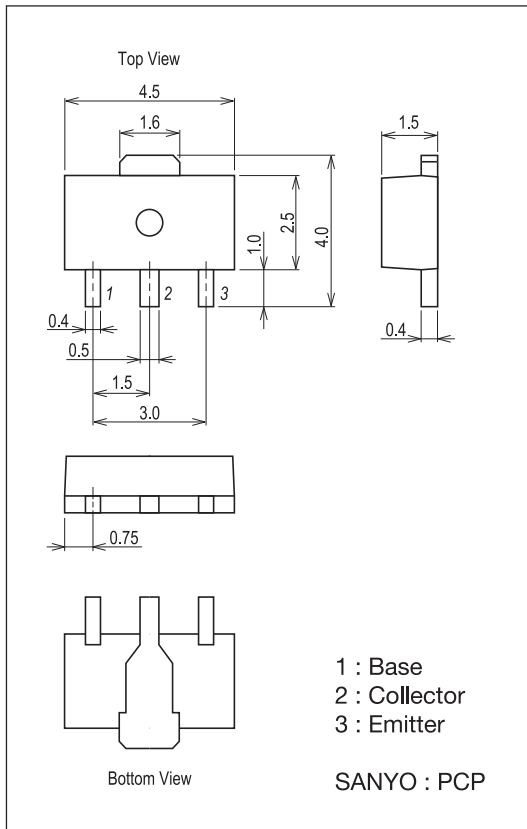
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=20V, I_E=0A$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=10V, I_C=0A$			0.1	μA
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
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=10mA$		0.12	0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=500mA, I_B=10mA$		0.85	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0A$	30			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0A$	25			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0A$	15			V

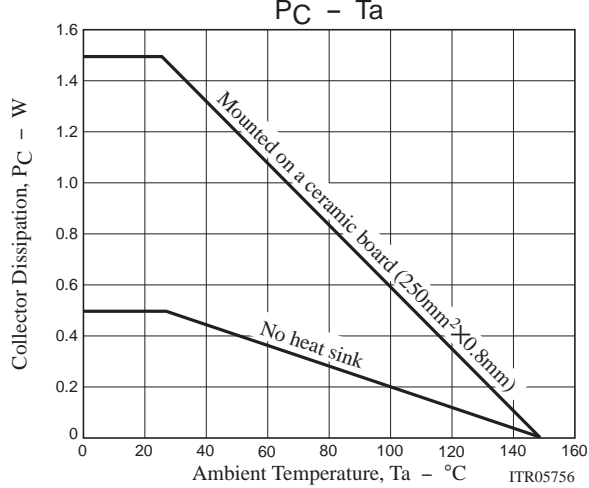
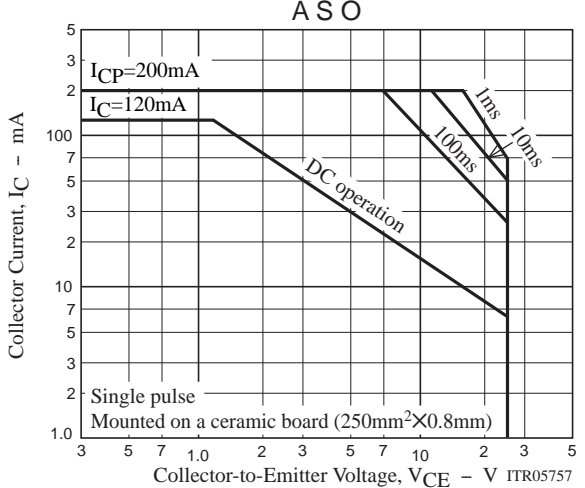
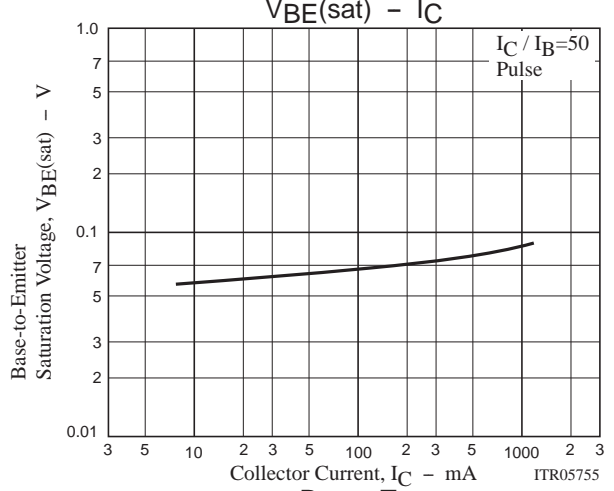
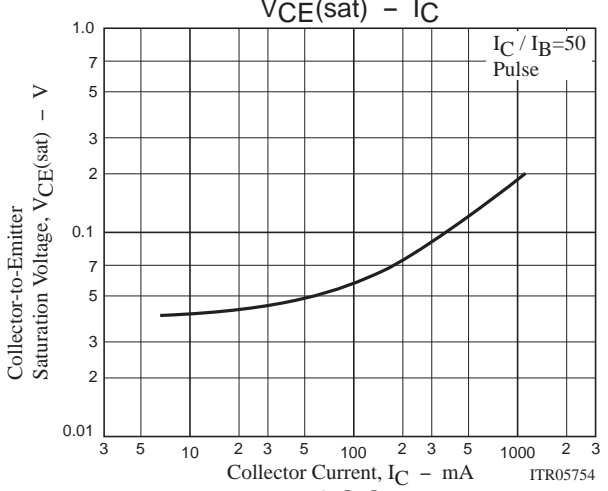
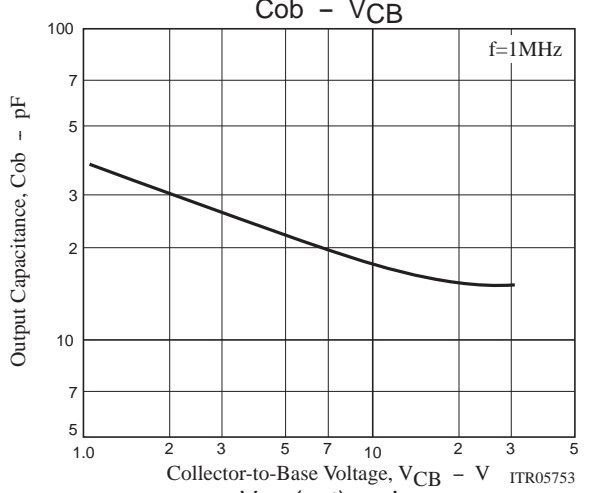
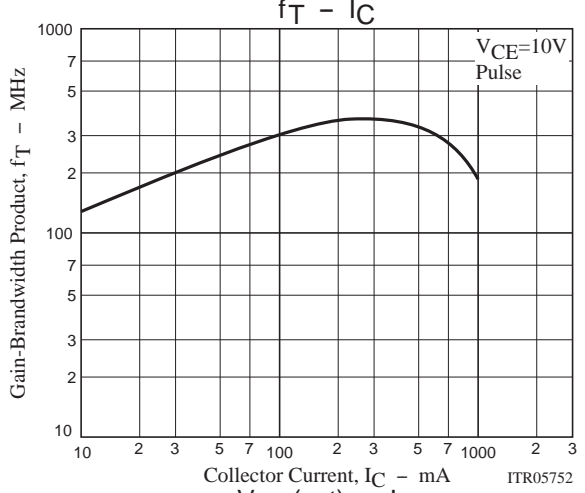
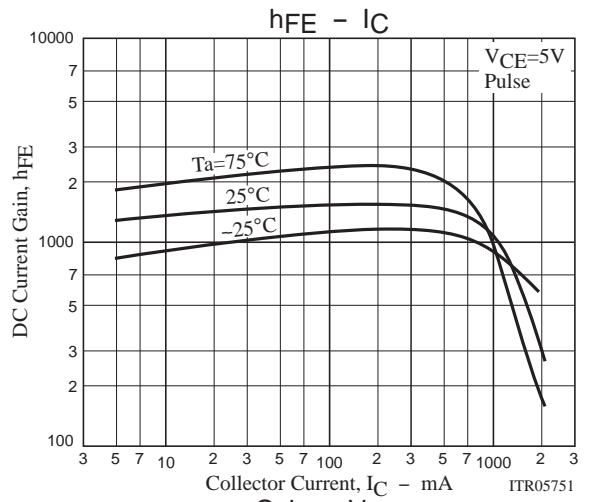
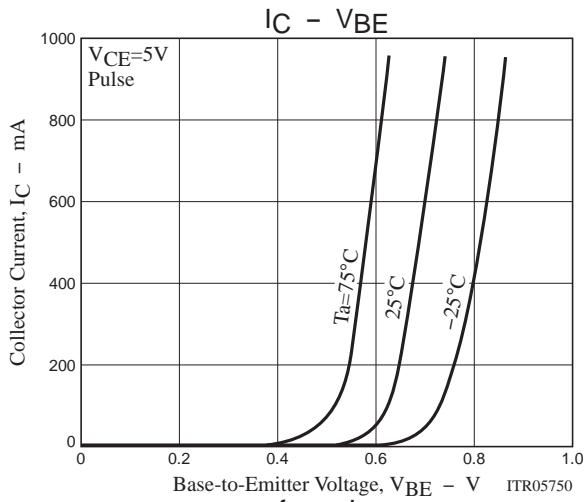
Package Dimensions

unit : mm (typ)

7007B-004



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