



NPN Epitaxial Planar Silicon Transistor

2SC3651

High h_{FE} , Low-Frequency General-Purpose Amplifier Applications

Applications

- LF amplifiers, various drivers, muting circuit.

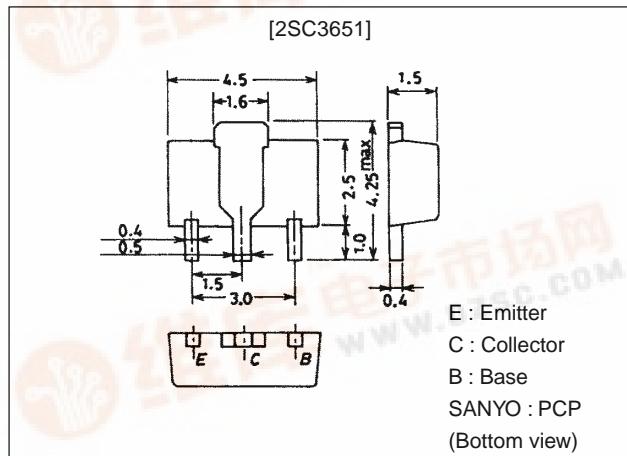
Features

- High DC current gain (h_{FE} =500 to 2000).
- High breakdown voltage ($V_{CEO} \geq 100V$).
- Low collector-to-emitter saturation voltage ($V_{CE(sat)} \leq 0.5V$).
- High V_{EBO} ($V_{EBO} \geq 15V$).
- 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}			120	V
Collector-to-Emitter Voltage	V_{CEO}			100	V
Emitter-to-Base Voltage	V_{EBO}			15	V
Collector Current	I_C			200	mA
Collector Current (Pulse)	I_{CP}			300	mA
Collector Dissipation	P_C			500	mW
	P_C^*			1.3	W
Junction Temperature	T_j			150	°C
Storage Temperature	T_{stg}			-55 to +150	°C

* Mounted on ceramic board (250mm²×0.8mm)

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

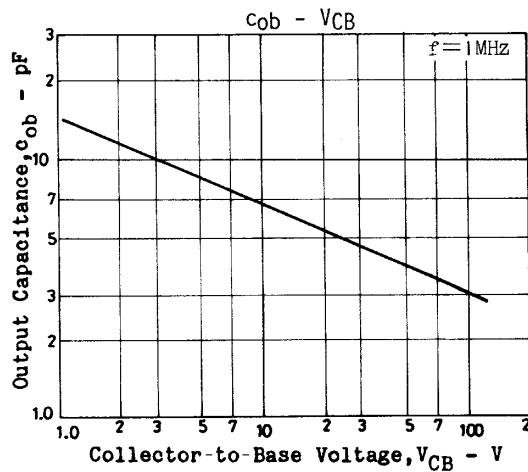
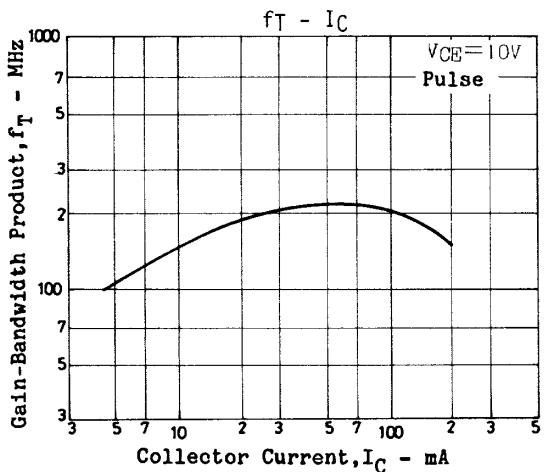
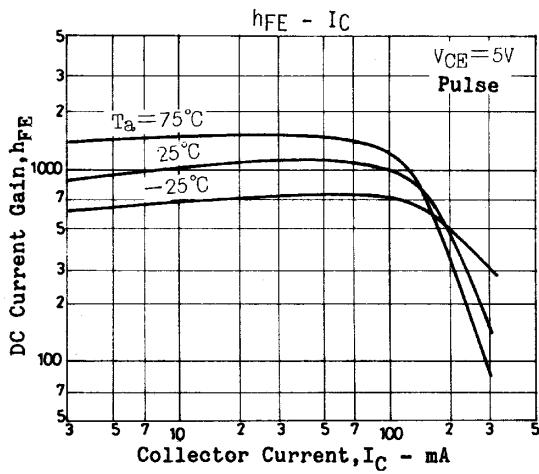
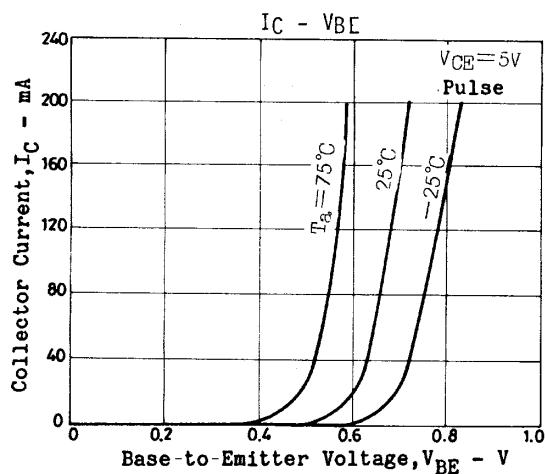
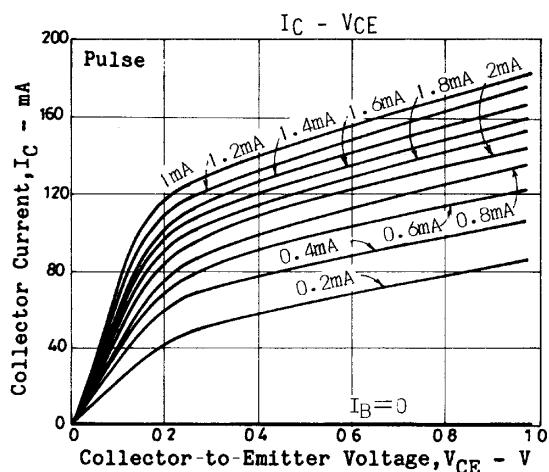
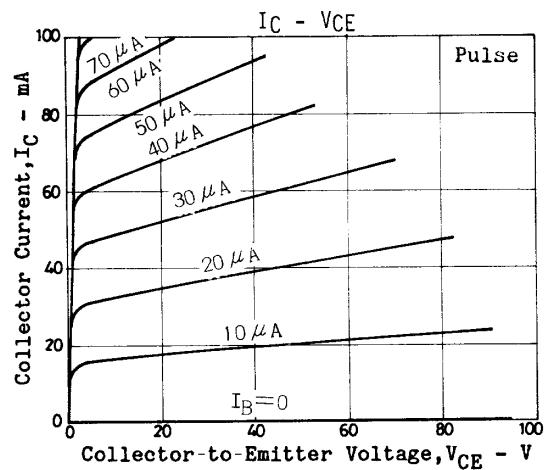
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=80V, I_E=0$			0.1	µA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=10V, I_C=0$			0.1	µA
DC Current Gain	h_{FE1}	$V_{CE}=5V, I_C=10mA$	500	1000	2000	
	h_{FE2}	$V_{CE}=5V, I_C=100mA$	400			
Gain-Bandwidth Product	f_T	$V_{CE}=10V, I_C=10mA$		150		MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz$		6.5		pF

Marking : CG

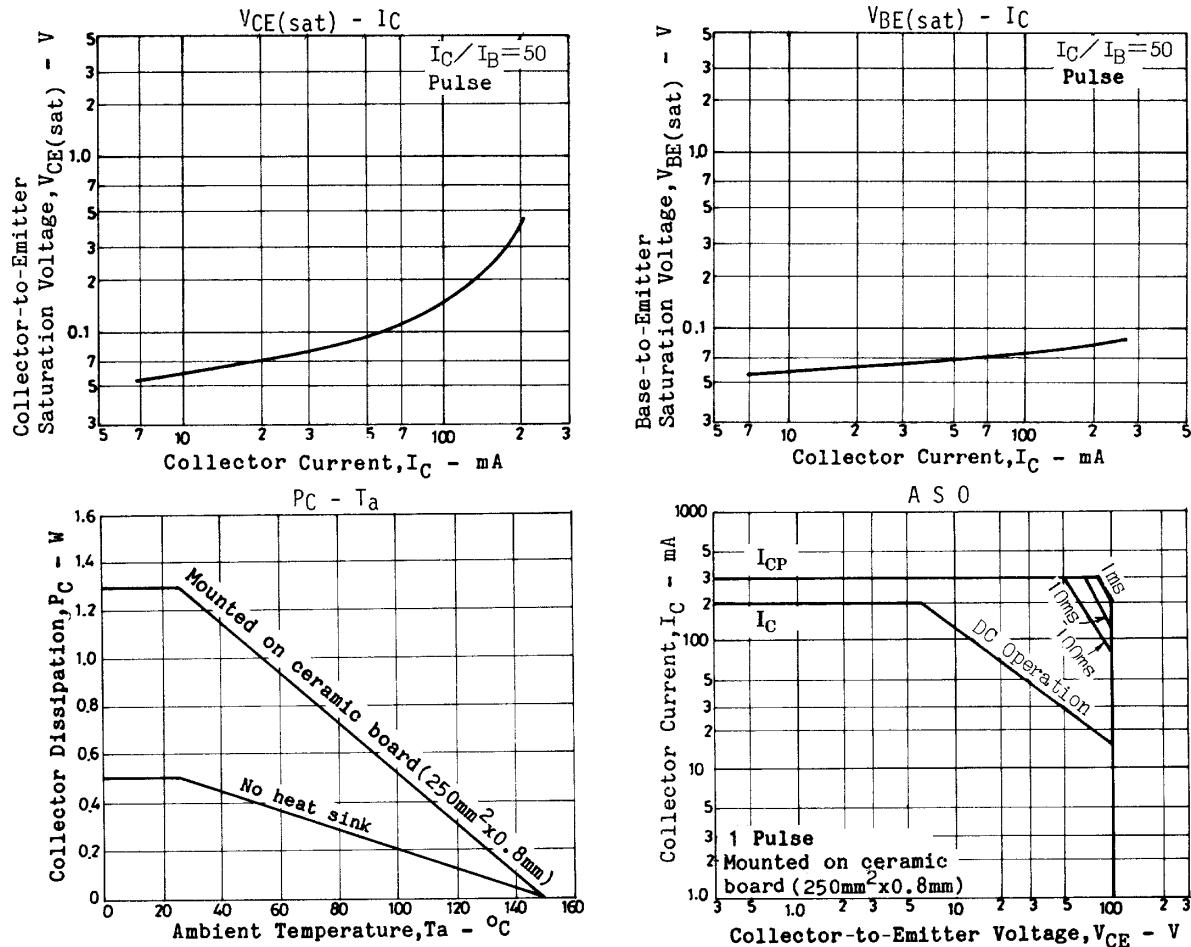
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=2\text{mA}$		0.15	0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100\text{mA}, I_B=2\text{mA}$		0.85	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	120			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	100			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	15			V



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