



ON Semiconductor®

**ON Semiconductor**  
**DATA SHEET****2SC3651** — 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 ( $h_{FE}=500$  to  $2000$ ).
- High breakdown voltage ( $V_{CEO}\geq 100V$ ).
- Low collector-to-emitter saturation voltage ( $V_{CE(sat)}\leq 0.5V$ ).
- High  $V_{EBO}$  ( $V_{EBO}\geq 15V$ ).
- 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	$V_{CBO}$		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
		Mounted on a ceramic board (250mm <sup>2</sup> ×0.8mm)	1.3	W
Junction Temperature	$T_j$		150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C

Marking : CG

# 2SC3651

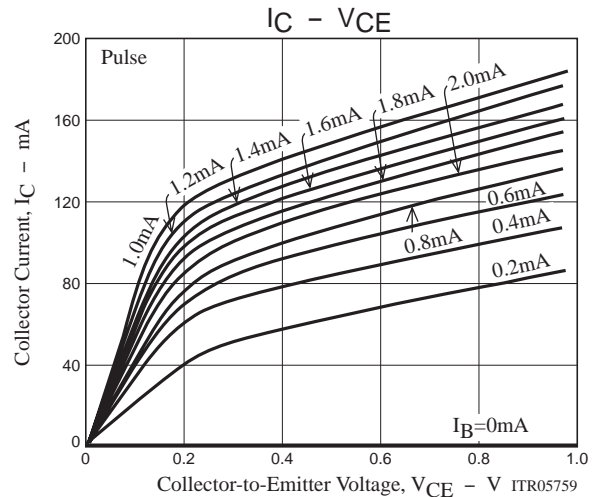
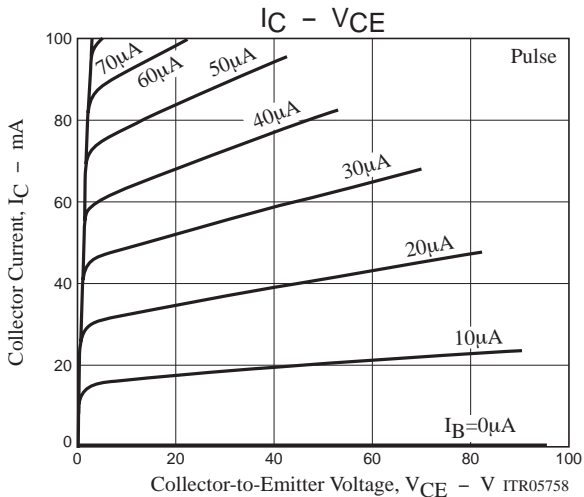
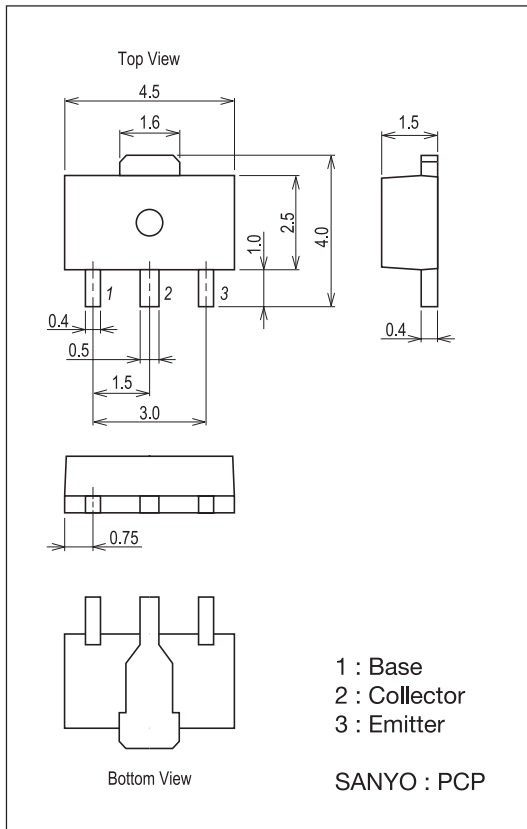
## Electrical Characteristics at Ta=25°C

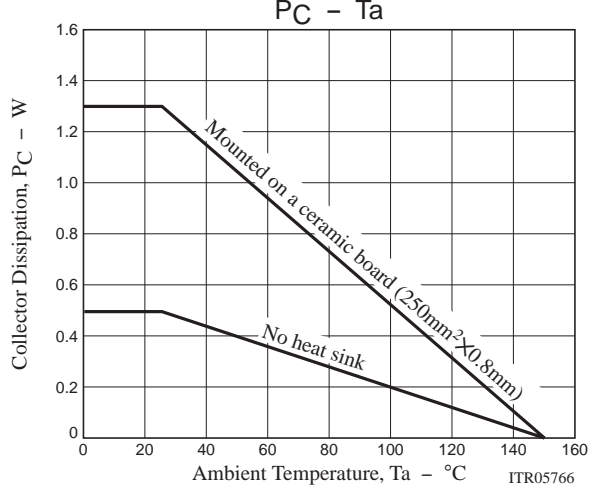
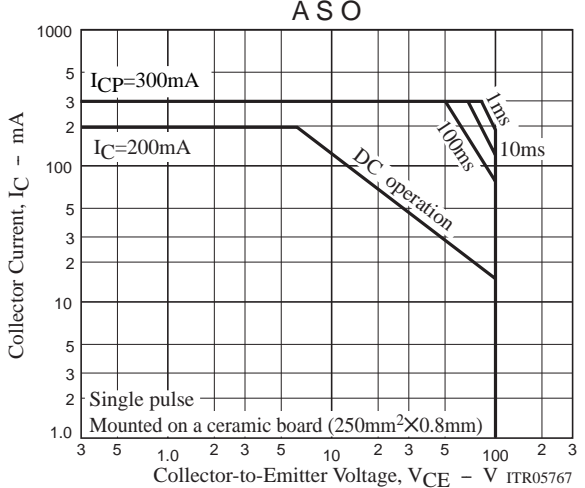
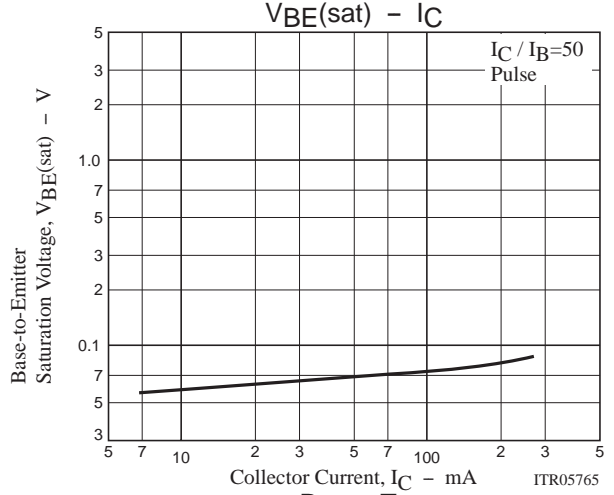
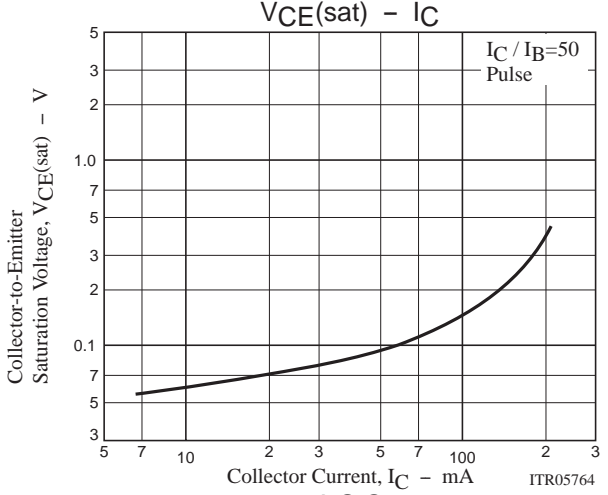
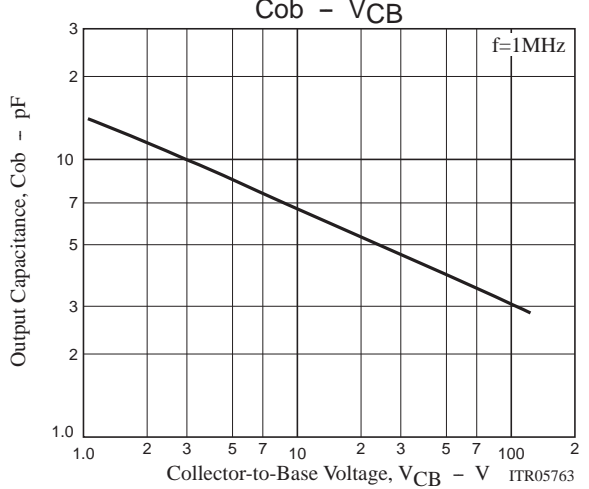
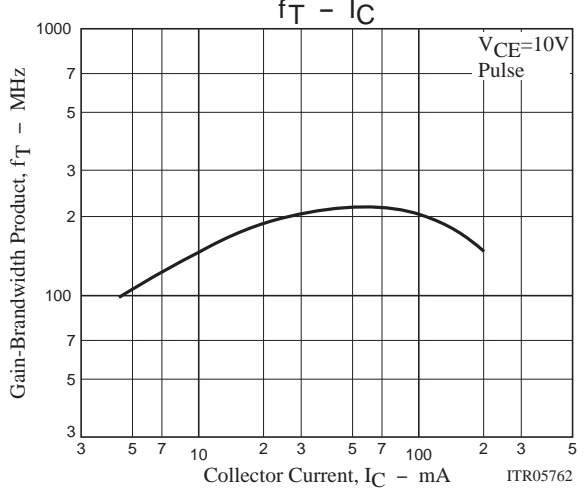
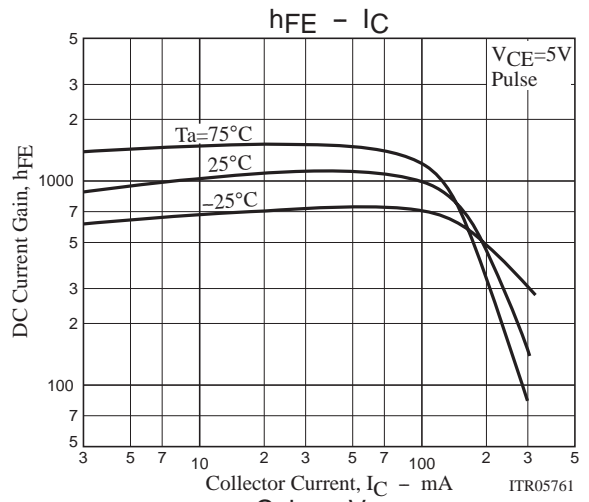
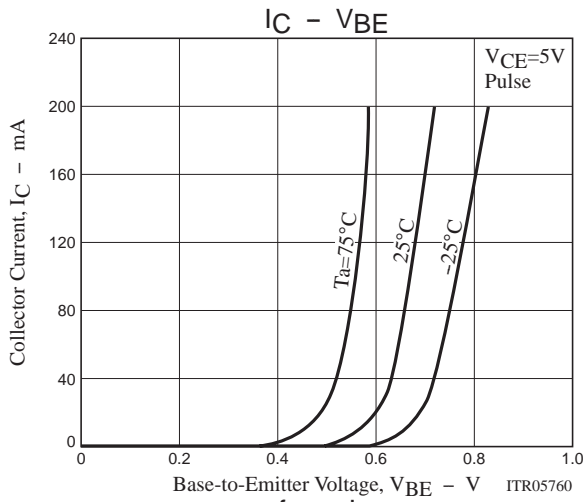
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=80V, I_E=0A$			0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=10V, I_C=0A$			0.1	$\mu A$
DC Current Gain	$h_{FE1}$	$V_{CE}=5V, I_C=10mA$	500	1000	2000	
	$h_{FE2}$	$V_{CE}=5V, I_C=100mA$	400			
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
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=2mA$		0.15	0.5	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=2mA$		0.85	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0A$	120			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0A$	100			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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