2SC5852

Silicon NPN Epitaxial Planar

HITACHI

ADE-208-1481 (Z)

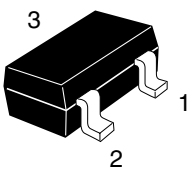
Rev.0
Feb. 2002

Features

- VHF amplifier, local oscillator

Outline

CMPAK



1. Emitter
2. Base
3. Collector

Hitachi semiconductor

Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	30	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	V_{EBO}	4	V
Collector current	I_C	20	mA
Collector power dissipation	P_C*	150	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

*Value on the glass epoxy board (10 mm x 10 mm x 0.7 mm)

Electrical Characteristics

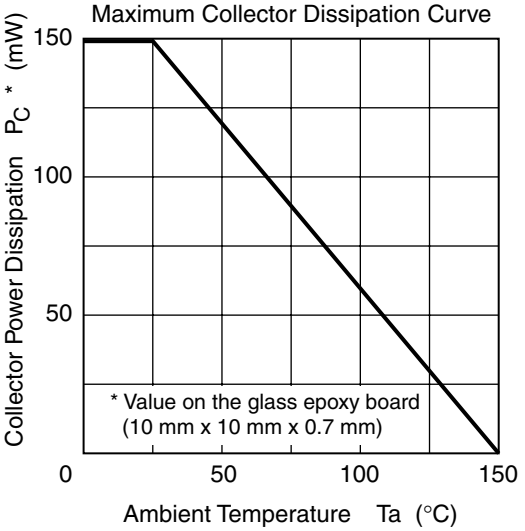
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	30	—	—	V	I_C = 10 μA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	20	—	—	V	I_C = 1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	4	—	—	V	I_E = 10 μA, I_C = 0
Collector cutoff current	I_{CEO}	—	—	0.5	μA	V_{CE} = 10 V, R_{BE} = ∞
Emitter cutoff current	I_{EBO}	—	—	0.5	μA	V_{EB} = 2 V, I_C =0
DC current transfer ratio	h_{FE}*[1]	60	—	200	—	V_{CE} = 6 V, I_C = 1 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.17	—	V	I_C = 20 mA, I_B = 4 mA
Base to emitter voltage	V_{BE}	—	0.72	—	V	V_{CE} = 6 V, I_C = 1 mA
Gain bandwidth product	f_T	—	940	—	MHz	V_{CE} = 6V, I_C = 5 mA
Collector output capacitance	C_{ob}	—	0.9	—	pF	V_{CB} = 10 V, I_E = 0, f = 1 MHz

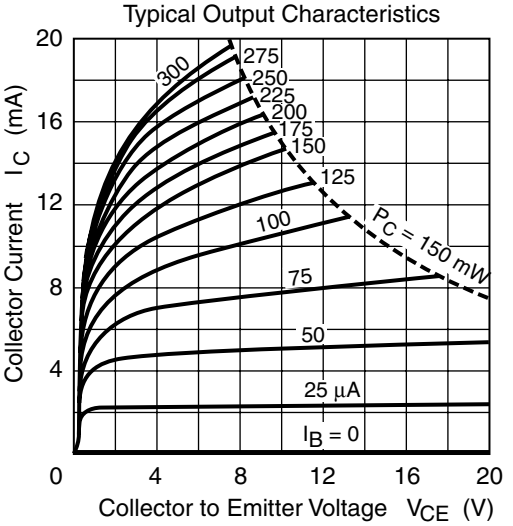
Notes: 1. The 2SC5852 is grouped by h_{FE} as follows.

Grade	B	C
Mark	QB	QC
h_{FE}	60 to 120	100 to 200

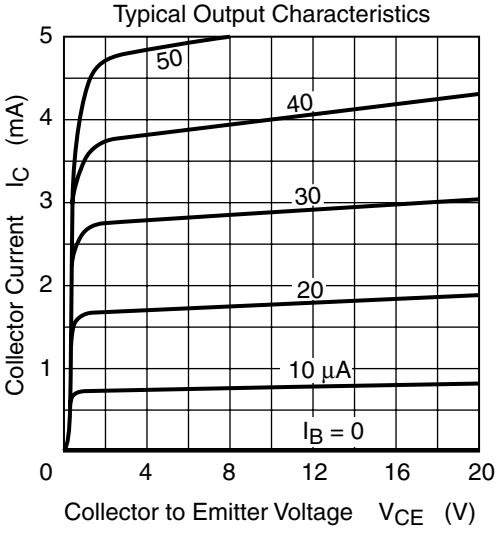
Maximum Collector Dissipation Curve



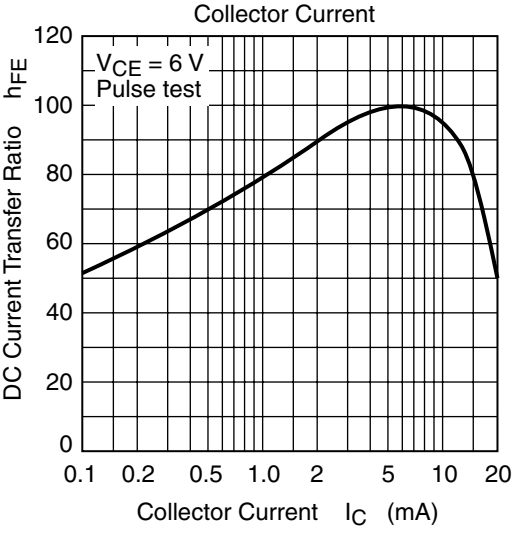
Typical Output Characteristics



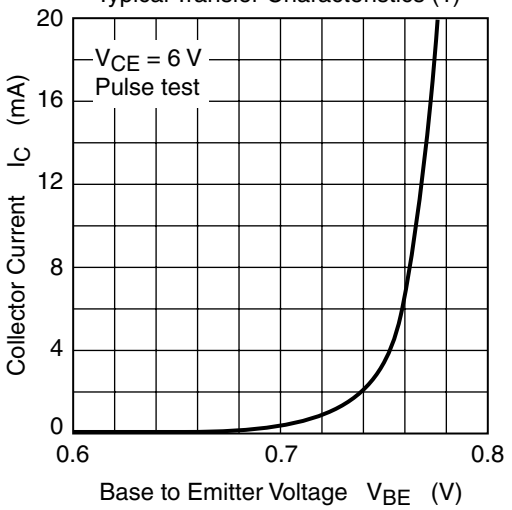
Typical Output Characteristics



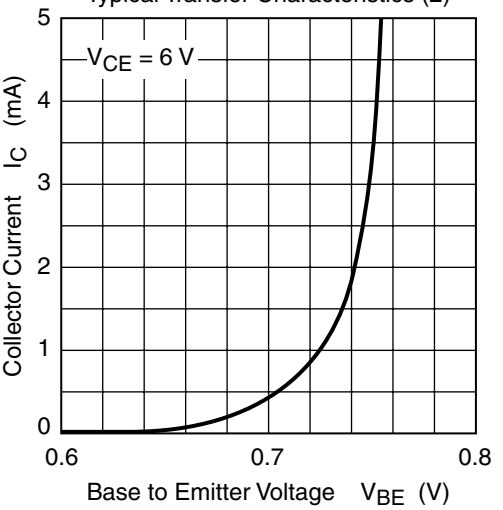
DC Current Transfer Ratio vs.
Collector Current



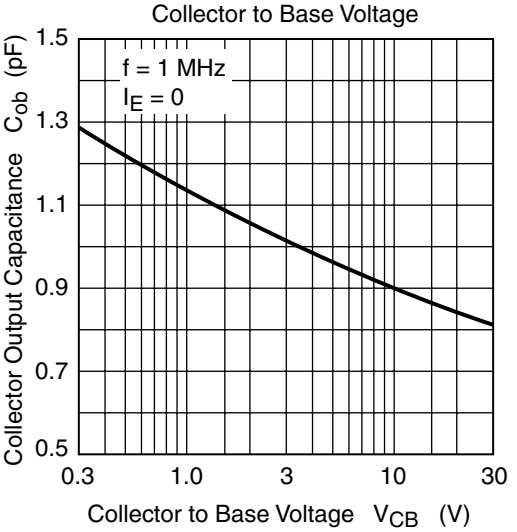
Typical Transfer Characteristics (1)



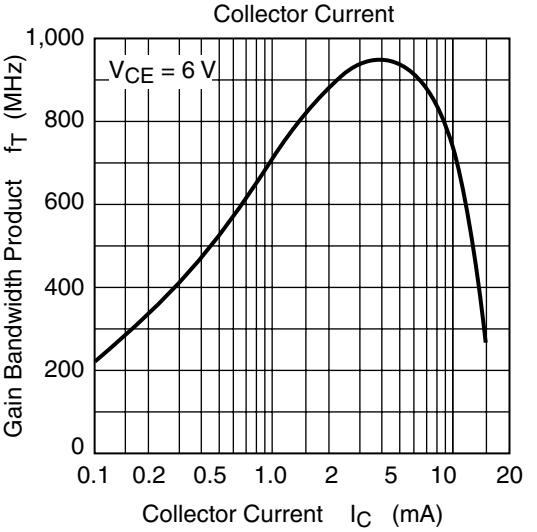
Typical Transfer Characteristics (2)



Collector Output Capacitance vs. Collector to Base Voltage

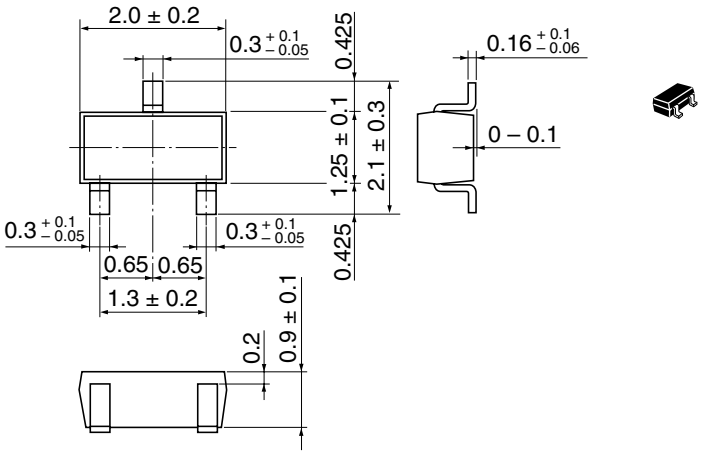


Gain Bandwidth Product vs. Collector Current



Package Dimensions

As of July, 2001
Unit: mm



Hitachi Code	CMPAK
JEDEC	—
JEITA	Conforms
Mass (reference value)	0.006 g

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