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2SC5851

Silicon NPN Epitaxial



ADE-208-1480 (Z)

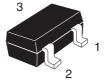
Rev.0 Feb. 2002

Features

• High frequency amplifier

Outline

CMPAK



- 1. Emitter
- 2. Base
- 3. Collector

Absolute Maximum Ratings

 $(Ta = 25^{\circ}C)$

Item	Symbol	Ratings	Unit	Unit	
Collector to base voltage	V _{CBO}	30	V		
Collector to emitter voltage	V _{CEO}	30	V		
Emitter to base voltage	V _{EBO}	5	V		
Collector current	I _c	100	mA		
Collector power dissipation	P _c *	150	mW		
Junction temperature	Tj	150	°C		
Storage temperature	Tstg	−55 to +125	°C		

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

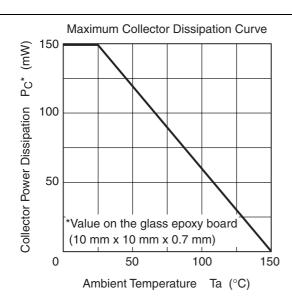
Electrical Characteristics

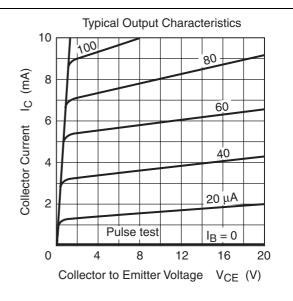
 $(Ta = 25^{\circ}C)$

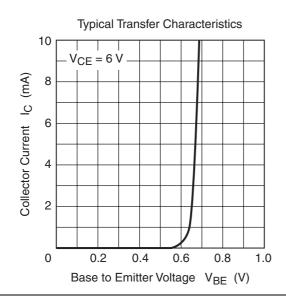
Item	Symbol	Min	Тур	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	30	_	_	V	$I_{c} = 10 \mu A, I_{E} = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	30	_	_	V	$I_{\rm C} = 1$ mA, $R_{\rm BE} = \infty$
Emitter to base breakdown voltage	V _{(BR)EBO}	5	_	_	V	$I_{\rm E} = 10 \; \mu \text{A}, \; I_{\rm C} = 0$
Collector cutoff current	I _{CBO}	_	_	0.5	μΑ	$V_{CB} = 20 \text{ V}, I_{E} = 0$
Emitter cutoff current	I _{EBO}	_	_	0.5	μΑ	$V_{EB} = 2 \text{ V}, I_{C} = 0$
DC current transfer ratio	h _{FE} *1	35	_	200	_	V _{CE} = 12 V, I _C = 2 mA
Collector to emitter saturation voltage	V _{CE(sat)}	_	_	1.1	V	$I_{\rm c}$ = 10 mA, $I_{\rm B}$ = 1 mA
Base to emitter voltage	V _{BE}	_	_	0.75	٧	$V_{CE} = 12 \text{ V}, I_{C} = 2 \text{ mA}$
Gain bandwidth product	f _T	_	230	_	MHz	$V_{CE} = 12 \text{ V}, I_{C} = 2 \text{ mA}$
Collector output capacitance	C _{ob}	_	1.6		pF	$V_{CB} = 10 \text{ V}, I_{E} = 0, f = 1 \text{ MHz}$
Noise figure	NF	_	5.5	_	dB	$V_{CE} = 6 \text{ V}, I_{C} = 1 \text{ mA},$ f = 100 MHz, Rg = 100 Ω

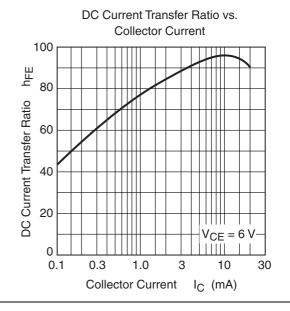
Notes: 1. The 2SC5851 is grouped by $h_{\rm FE}$ as follows.

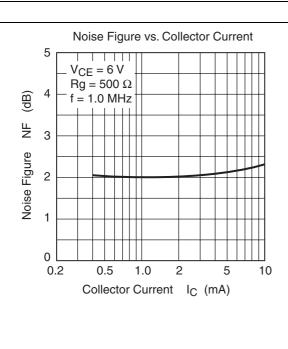
Grade	Α	В	С
Mark	FA	FB	FC
h _{FE}	35 to 75	60 to 120	100 to 200

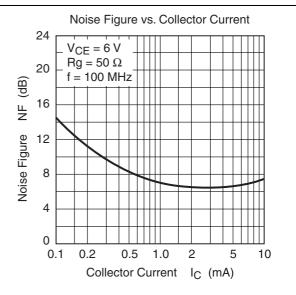


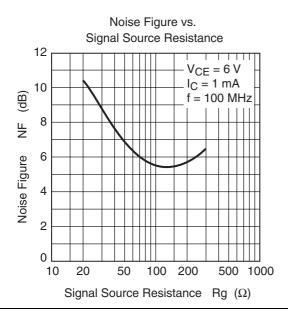


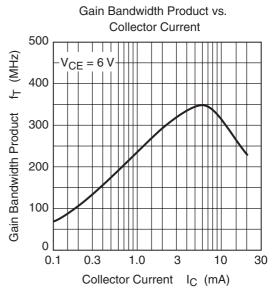


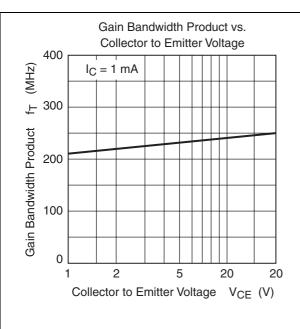


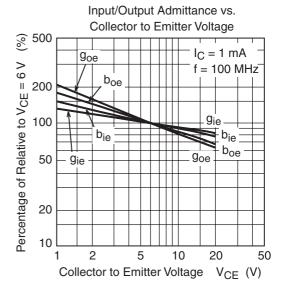


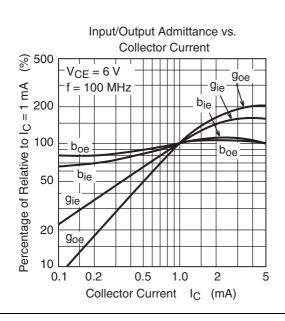


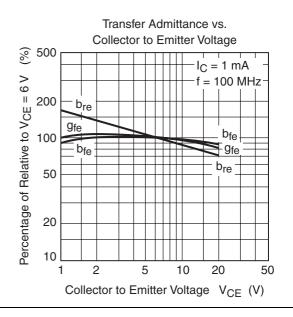




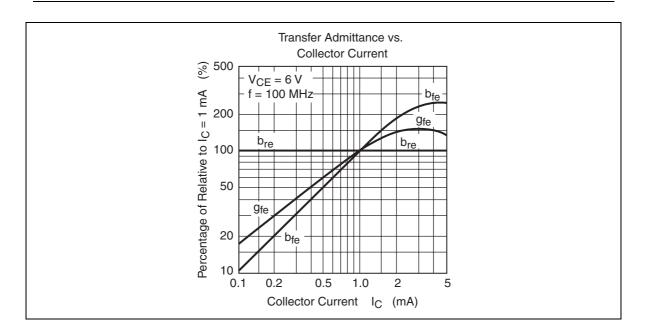




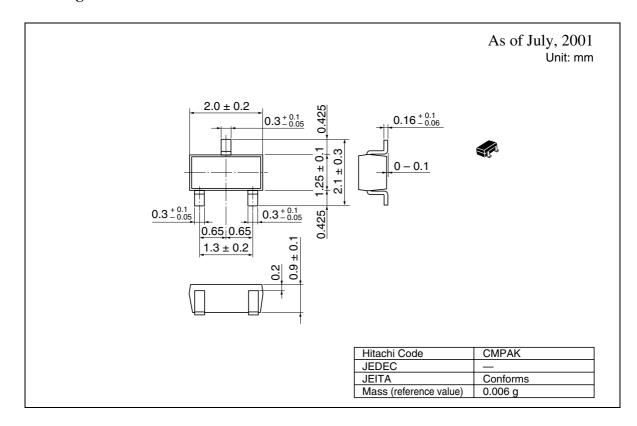




2SC5851



Package Dimensions



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