
2SC3867

Silicon NPN Epitaxial

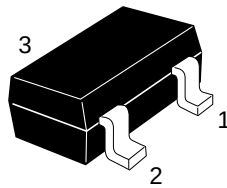
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Application

- UHF frequency converter
- Wide band amplifier

Outline

MPAK



1. Base
2. Emitter
3. Collector

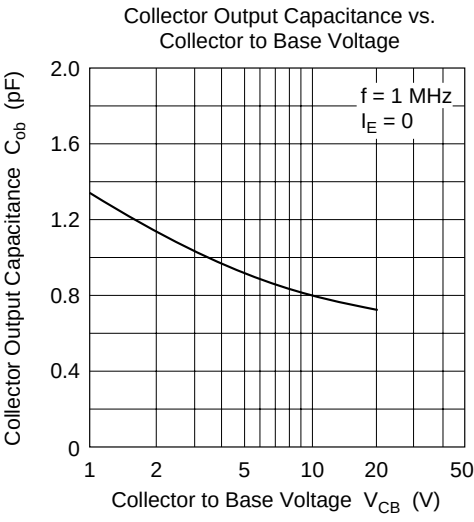
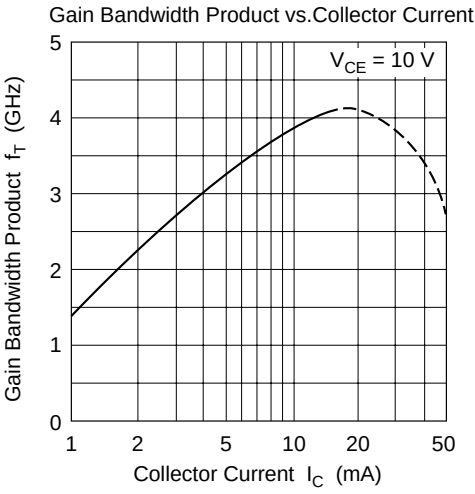
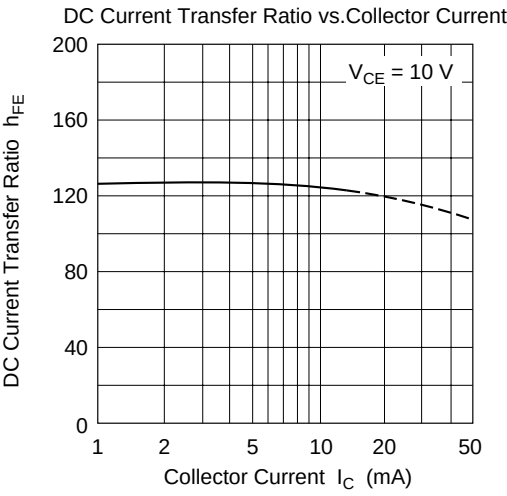
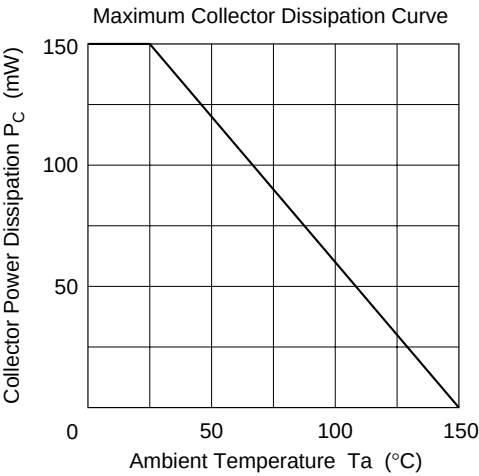
Absolute Maximum Ratings (Ta = 25°C)

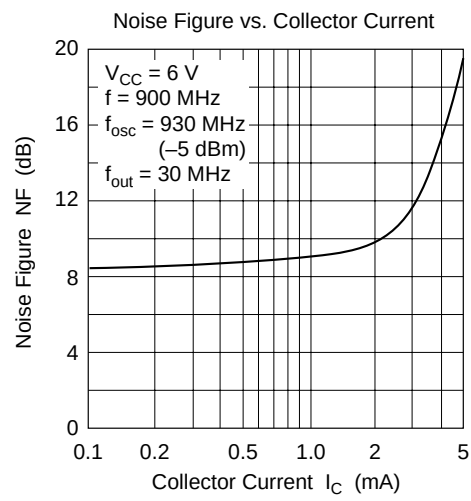
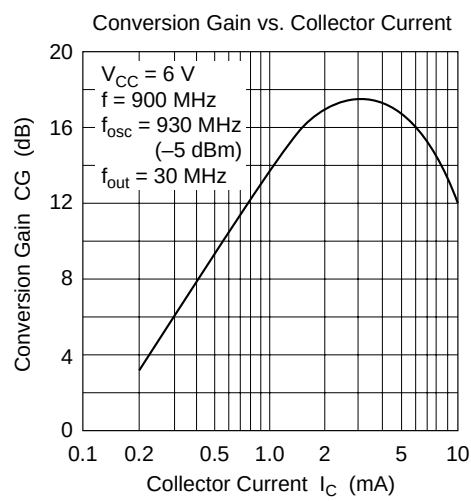
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	20	V
Collector to emitter voltage	V_{CEO}	11	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_C	50	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	150	°C
Storage temperature	Tstg	−55 to +150	°C

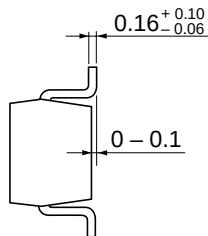
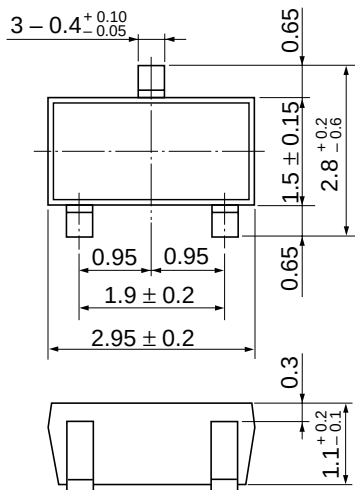
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	20	—	—	V	$I_C = 10\text{ }\mu\text{A}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	11	—	—	V	$I_C = 1\text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	3	—	—	V	$I_E = 10\text{ }\mu\text{A}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	0.5	μA	$V_{CB} = 15\text{ V}$, $I_E = 0$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.7	V	$I_C = 10\text{ mA}$, $I_B = 5\text{ mA}$
DC current transfer ratio	h_{FE}	45	—	200		$V_{CE} = 10\text{ V}$, $I_C = 5\text{ mA}$
Gain bandwidth product	f_T	2.5	3.8	—	GHz	$V_{CE} = 10\text{ V}$, $I_C = 10\text{ mA}$
Collector output capacitance	Cob	—	0.8	1.5	pF	$V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$
Conversion gain	CG	10	14	—	dB	$V_{CC} = 10\text{ V}$, $I_C = 1\text{ mA}$, $f = 900\text{ MHz}$,
Noise figure	NF	—	10	14	dB	$f_{osc} = 930\text{ MHz}$, (−5dBm), $f_{out} = 30\text{ MHz}$

Note: Marking is “DI–”







Hitachi Code	MPAK
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.011 g

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