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# 2SC3652

Silicon NPN Epitaxial

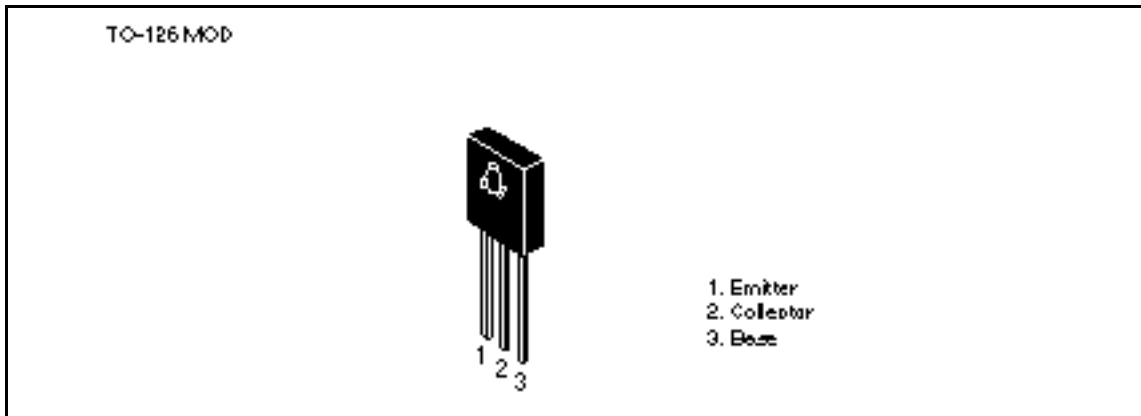
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## Application

High frequency amplifier

## Outline



## 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	$V_{EBO}$	3.5	V
Collector current	$I_C$	0.3	A
Collector peak current	$I_{C(peak)}$	0.5	A
Collector power dissipation	$P_C$	0.8	W
	$P_C^{*1}$	5	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

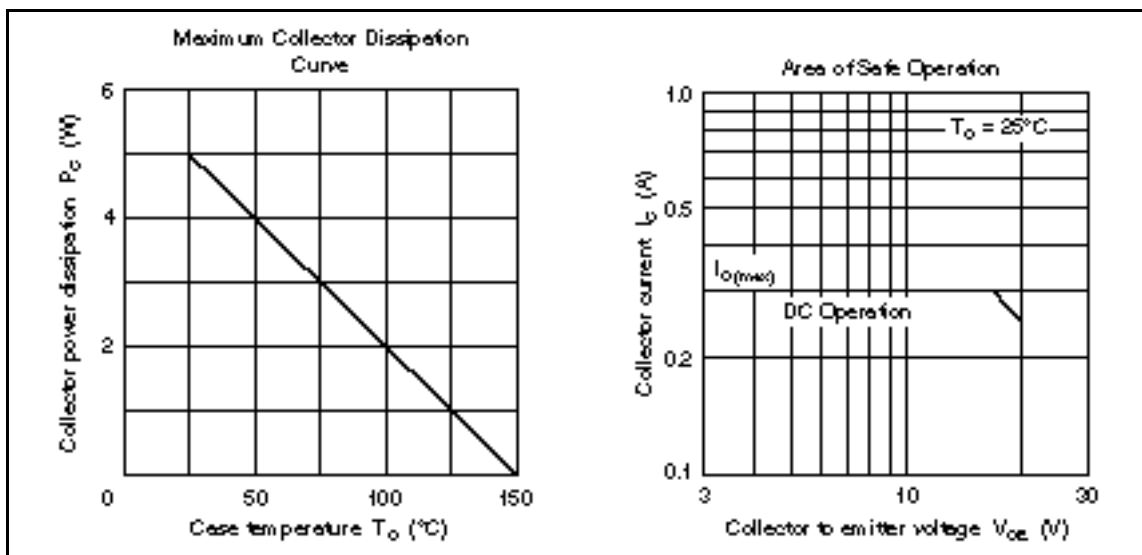
Note: 1. Value at  $T_C = 25^\circ\text{C}$

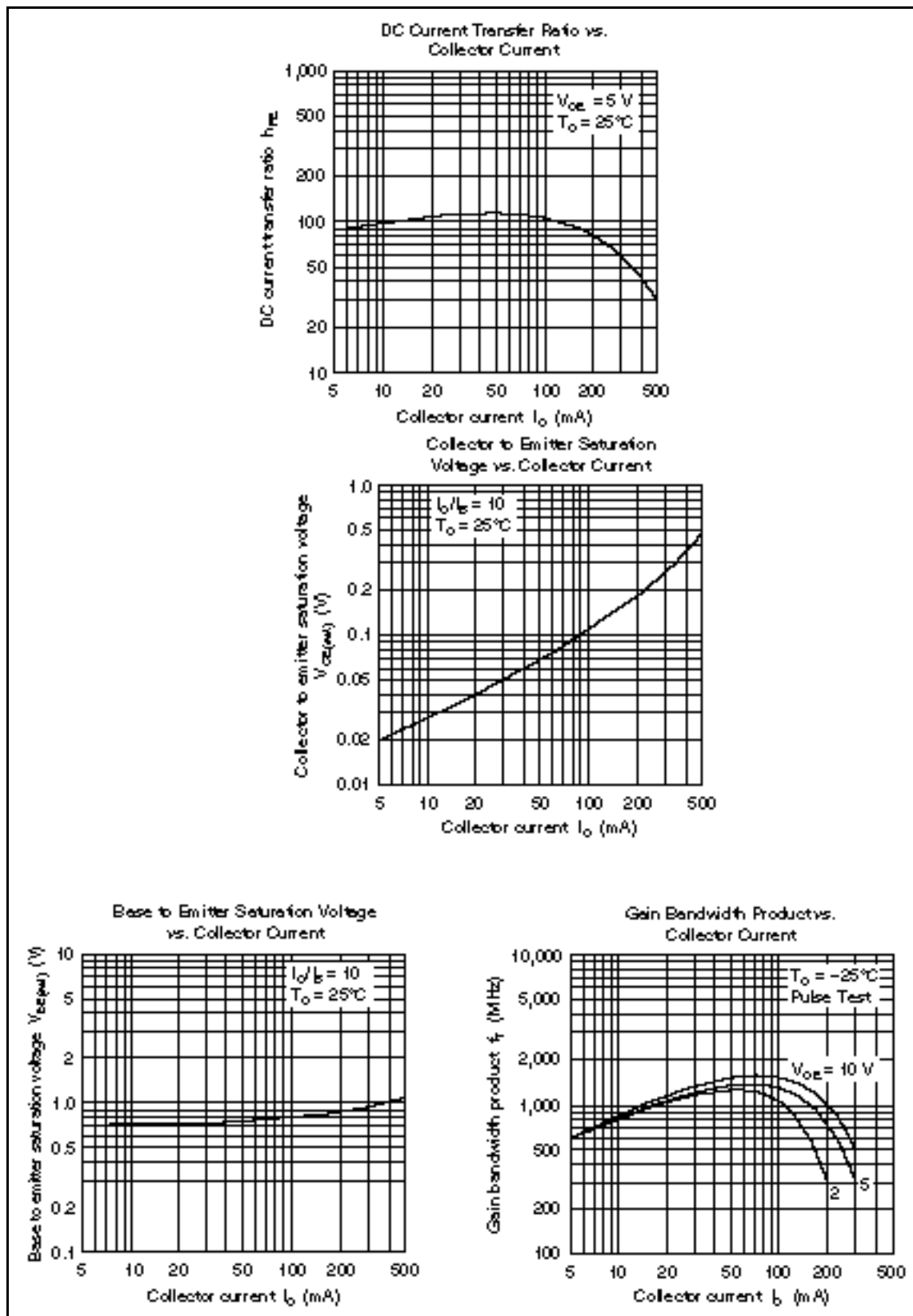
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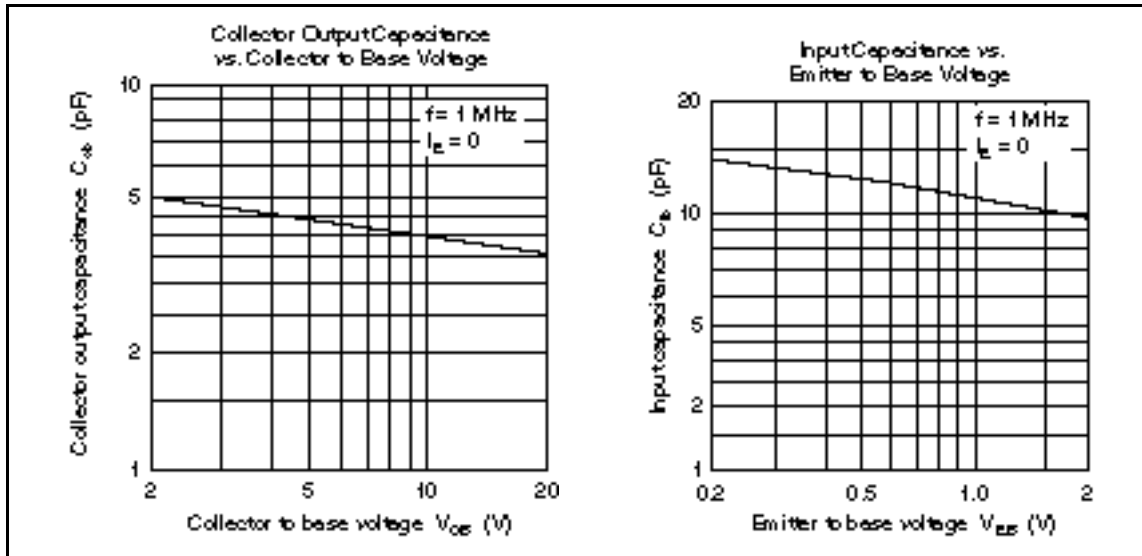
### Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	20	—	—	V	$I_C = 10 \text{ mA}$ , $R_{BE} =$
Collector cutoff current	$I_{CBO}$	—	—	1	mA	$V_{CB} = 25 \text{ V}$ , $I_E = 0$
Emitter cutoff current	$I_{EBO}$	—	—	1	mA	$V_{EB} = 3 \text{ V}$ , $I_C = 0$
DC current transfer ratio	$h_{FE}$	40	—	200		$V_{CE} = 5 \text{ V}$ , $I_C = 50 \text{ mA}^{*1}$
Base to emitter voltage	$V_{BE}$	—	—	1.2	V	$V_{CE} = 5 \text{ V}$ , $I_C = 300 \text{ mA}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	2.0	V	$I_C = 300 \text{ mA}$ , $I_B = 60 \text{ mA}^{*1}$
Gain bandwidth product	$f_T$	—	1.2	—	GHz	$V_{CE} = 5 \text{ V}$ , $I_C = 100 \text{ mA}^{*1}$
Collector output capacitance	$C_{ob}$	—	5	—	pF	$V_{CB} = 10 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$
Input capacitance	$C_{ib}$	—	10	—	pF	$V_{EB} = 2 \text{ V}$ , $I_C = 0$ , $f = 1 \text{ MHz}$

Note: 1. Pulse test







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