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# 2SC3513

Silicon NPN Epitaxial

# HITACHI

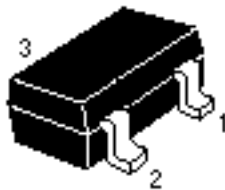
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## Application

UHF / VHF wide band amplifier

## Outline

MPAK



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

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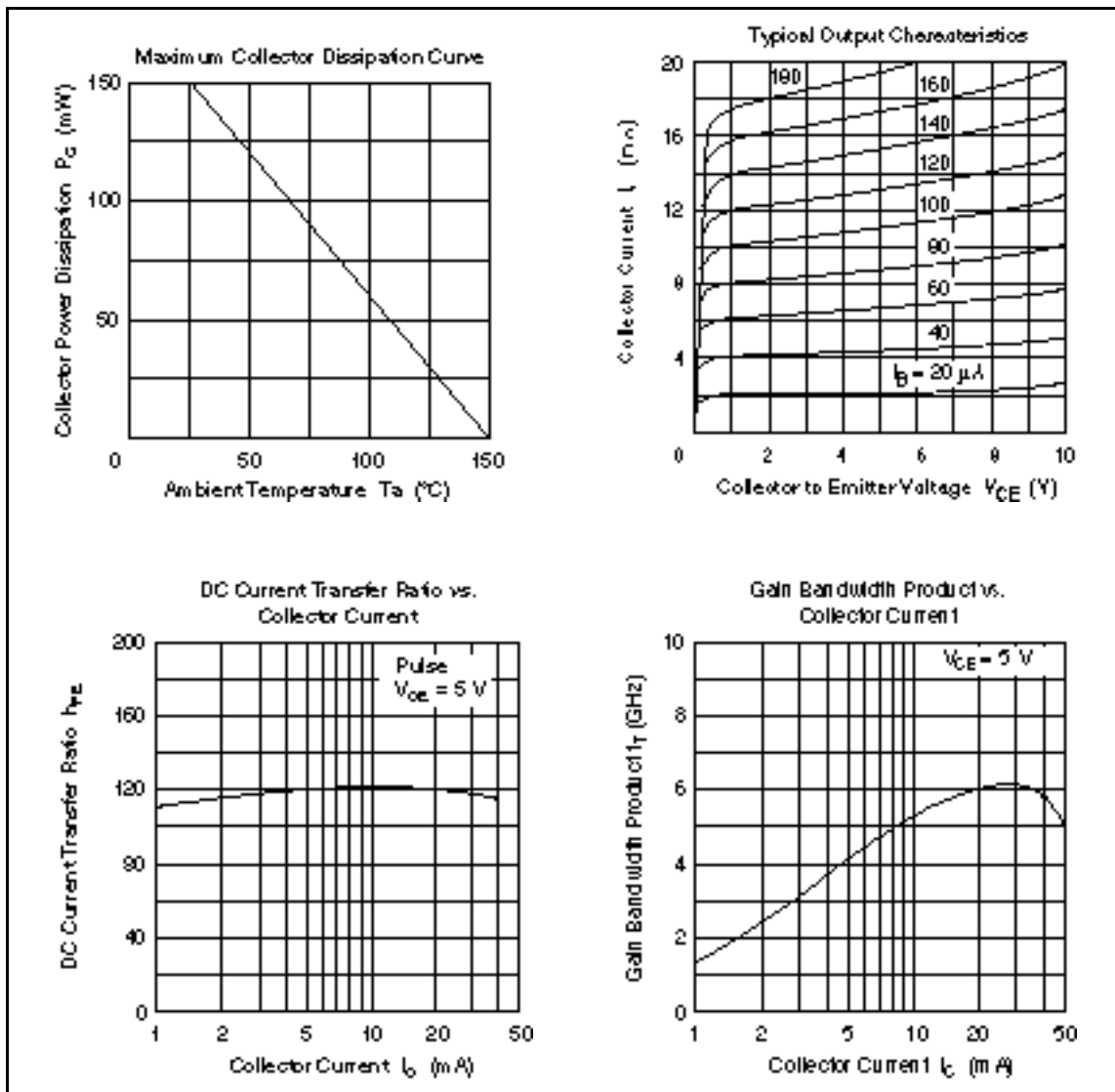
### Absolute Maximum Ratings (Ta = 25°C)

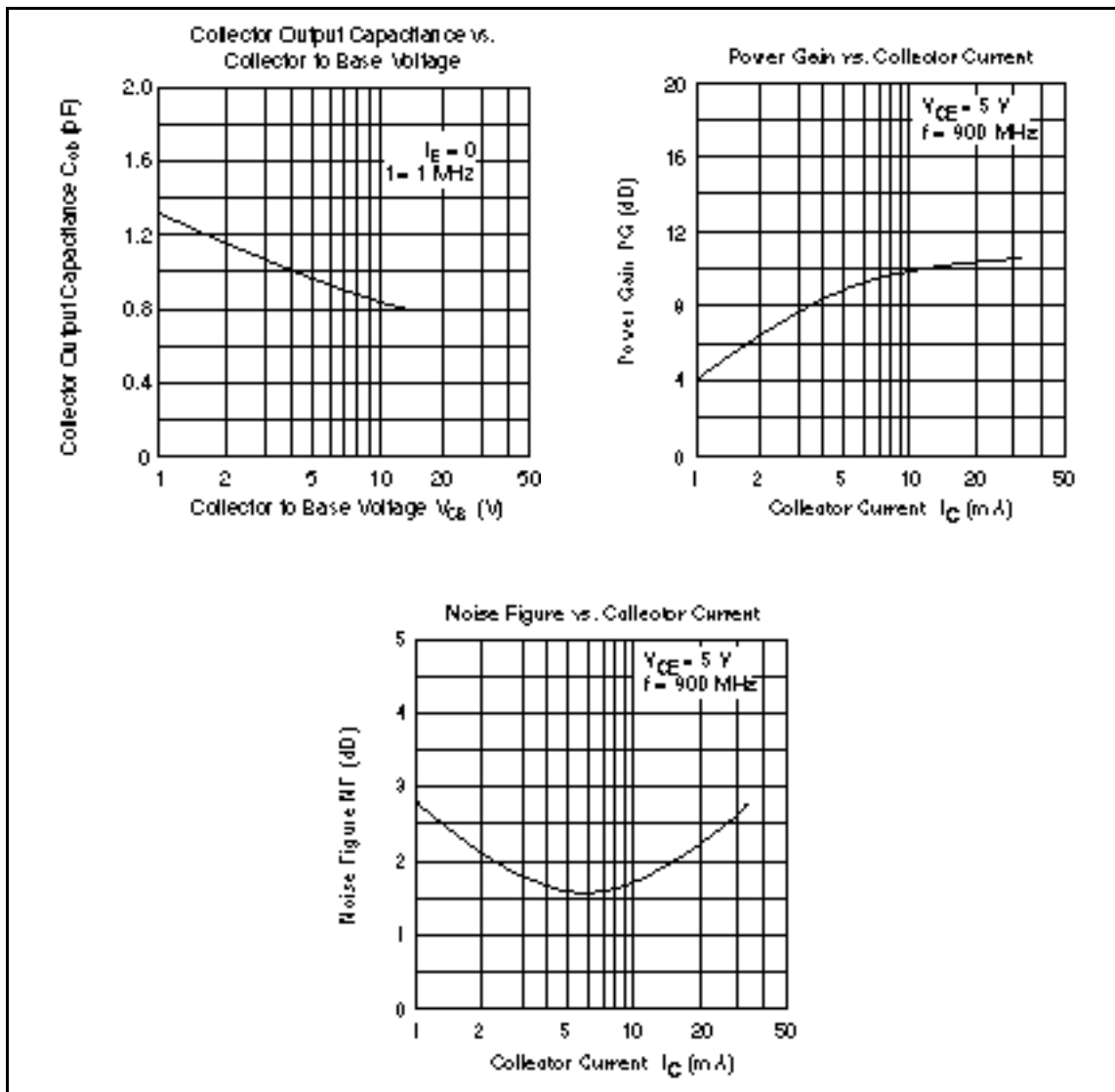
Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	15	V
Collector to emitter voltage	$V_{CEO}$	11	V
Emitter to base voltage	$V_{EBO}$	2	V
Collector current	$I_C$	50	mA
Collector power dissipation	$P_C$	150	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

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

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	15	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector cutoff current	$I_{CEO}$	—	—	1	$\mu A$	$V_{CE} = 10 V, R_{BE} =$
Emitter cutoff current	$I_{EBO}$	—	—	1	$\mu A$	$V_{EB} = 1 V, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	1	$\mu A$	$V_{CB} = 12 V, I_E = 0$
DC current transfer ratio	$h_{FE}$	50	120	250		$V_{CE} = 5 V, I_C = 20 mA$
Collector output capacitance	$C_{ob}$	—	1.0	1.5	pF	$V_{CB} = 5 V, I_E = 0, f = 1 MHz$
Gain bandwidth product	$f_T$	—	6.0	—	GHz	$V_{CE} = 5 V, I_C = 20 mA$
Power gain	PG	—	10	—	dB	$V_{CE} = 5 V, I_C = 20 mA,$ $f = 900 MHz$
Noise figure	NF	—	1.6	—	dB	$V_{CE} = 5 V, I_C = 5 mA,$ $f = 900 MHz$

Note: Marking is "IS-".





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