
2SC3513

Silicon NPN Epitaxial

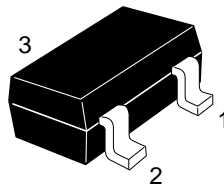
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Application

UHF / VHF wide band amplifier

Outline

MPAK



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

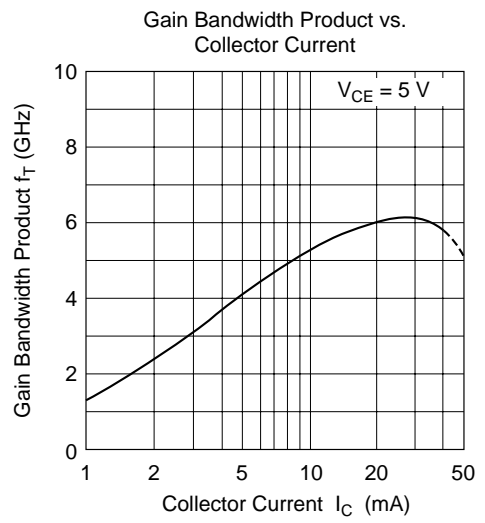
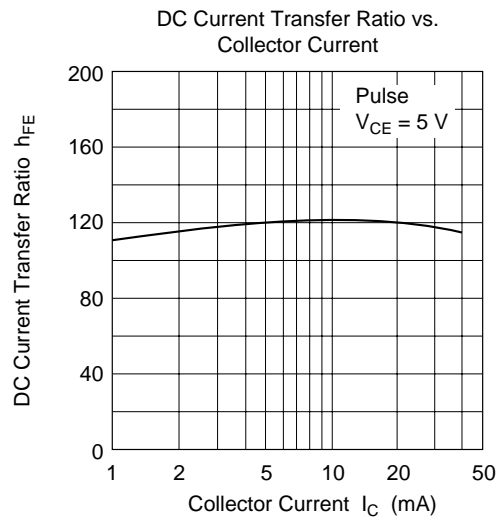
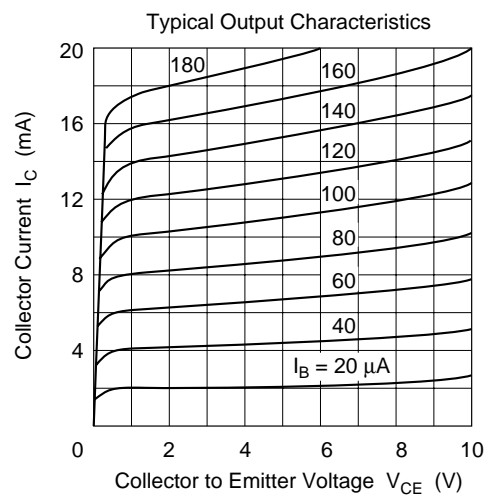
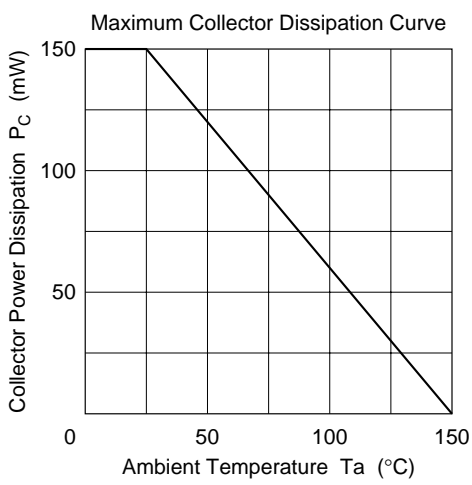
Absolute Maximum Ratings (Ta = 25°C)

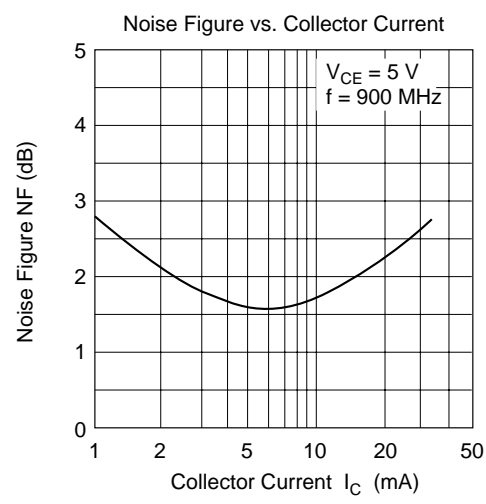
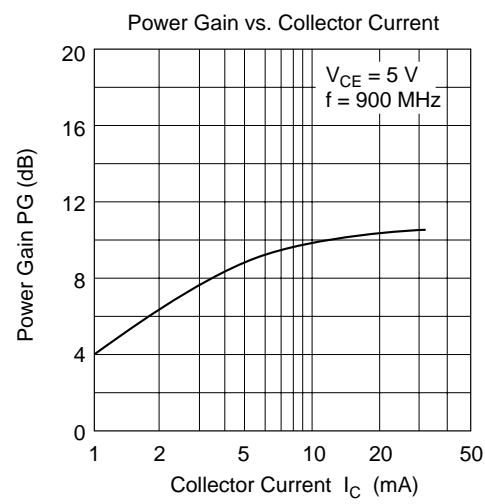
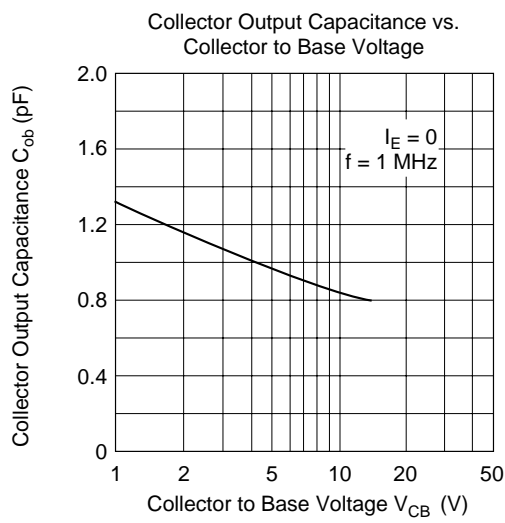
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	15	V
Collector to emitter voltage	V_{CEO}	11	V
Emitter to base voltage	V_{EBO}	2	V
Collector current	I_C	50	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

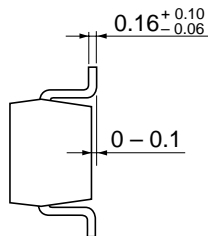
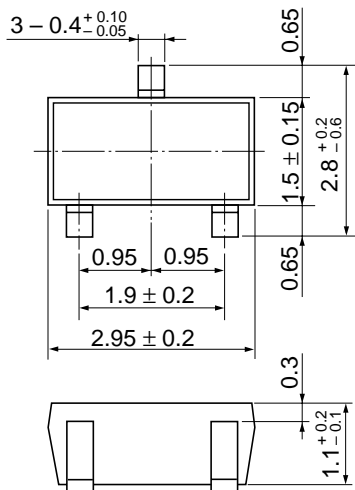
Electrical Characteristics (Ta = 25°C)

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

Note: Marking is “IS—”.







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

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