
2SC4463

Silicon NPN Epitaxial

HITACHI

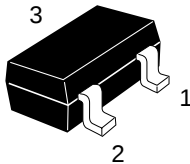
ADE-208-1109A (Z)
2nd. Edition
Mar. 2001

Application

UHF frequency converter

Outline

CMPAK



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

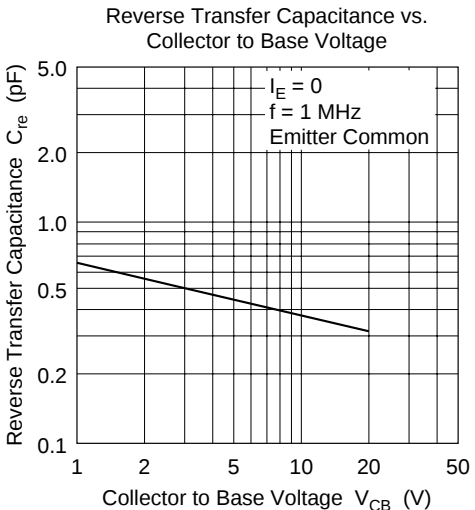
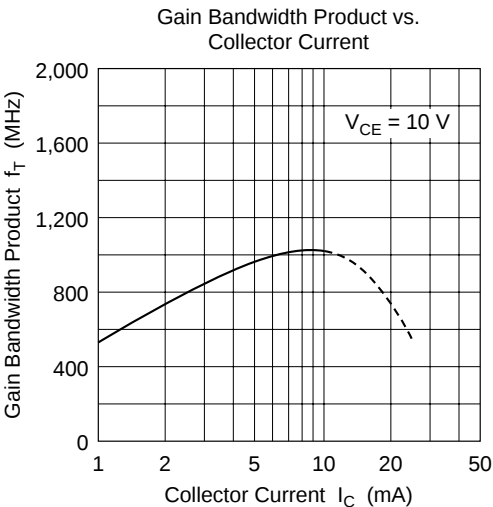
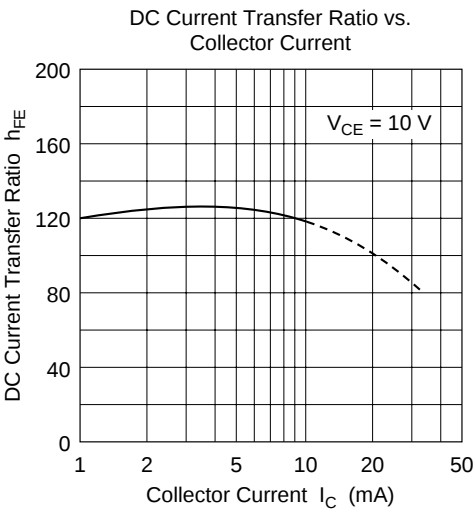
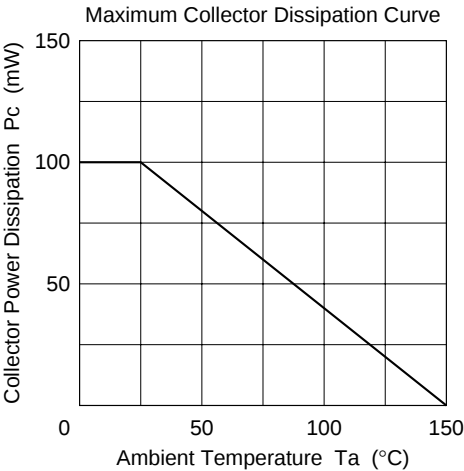
Note: Marking is "HC".

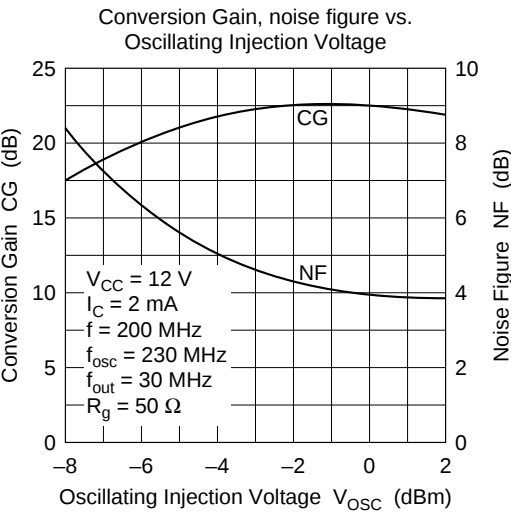
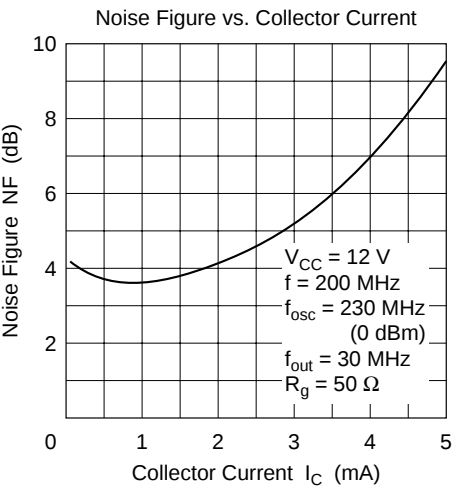
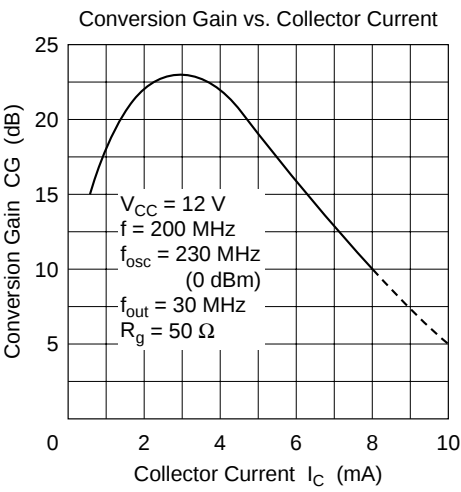
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

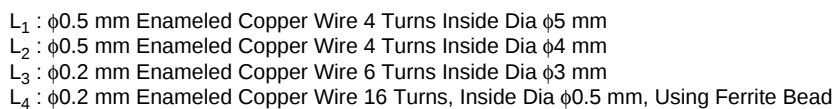
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	30	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_{C}	50	mA
Collector power dissipation	P_{C}	100	mW
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	30	—	—	V	$I_{\text{C}} = 10\text{ }\mu\text{A}$, $I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	20	—	—	V	$I_{\text{C}} = 1\text{ mA}$, $R_{\text{BE}} = \infty$
Emitter to base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	3	—	—	V	$I_{\text{E}} = 10\text{ }\mu\text{A}$, $I_{\text{C}} = 0$
Collector cutoff current	I_{CBO}	—	—	0.5	μA	$V_{\text{CB}} = 10\text{ V}$, $I_{\text{E}} = 0$
Collector to emitter saturation voltage	$V_{\text{CE}(\text{sat})}$	—	—	1.0	V	$I_{\text{C}} = 20\text{ mA}$, $I_{\text{B}} = 4\text{ mA}$
DC current transfer ratio	h_{FE}	60	120	—		$V_{\text{CE}} = 10\text{ V}$, $I_{\text{C}} = 10\text{ mA}$
Gain bandwidth product	f_{T}	600	1000	—	MHz	$V_{\text{CE}} = 10\text{ V}$, $I_{\text{C}} = 10\text{ mA}$
Reverse transfer capacitance	C_{re}	—	0.35	0.65	pF	$V_{\text{CB}} = 10\text{ V}$, $I_{\text{E}} = 0$, emitter common, $f = 1\text{ MHz}$
Conversion gain	CG	—	21	—	dB	$V_{\text{CC}} = 12\text{ V}$, $I_{\text{C}} = 2\text{ mA}$, $f = 200\text{ MHz}$
Noise figure	NF	—	4.0	—	dB	$f_{\text{OSC}} = 230\text{ MHz}$ (0 dBm), $f_{\text{out}} = 30\text{ MHz}$

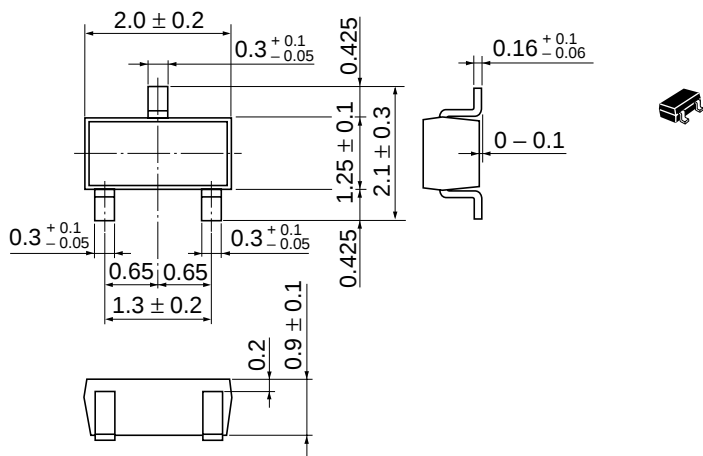






Package Dimensions

As of January, 2001
Unit: mm



Hitachi Code	CMPAK
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.006 g