
2SC3793

Silicon NPN Epitaxial

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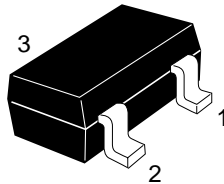
ADE-208-1091A (Z)
2nd. Edition
Mar. 2001

Application

UHF local oscillator

Outline

MPAK



1. Emitter
2. Base
3. Collector

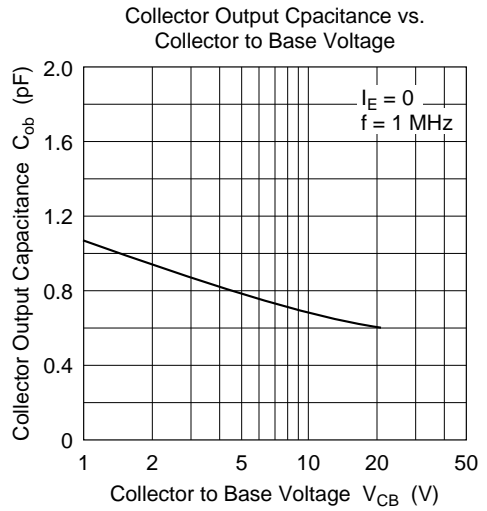
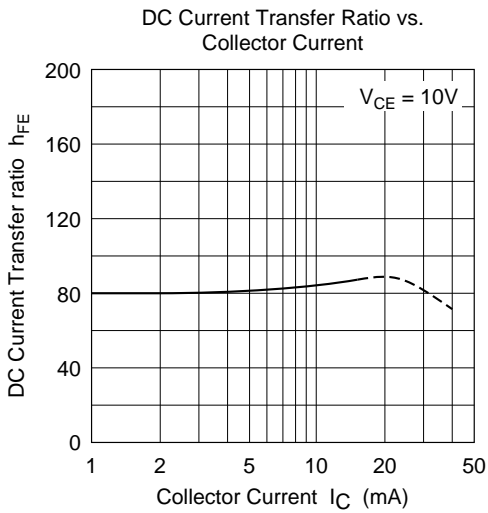
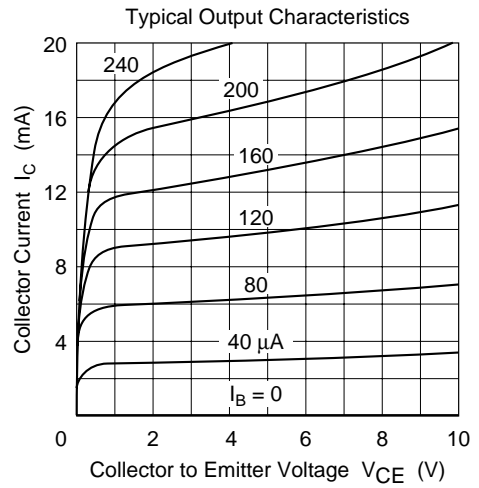
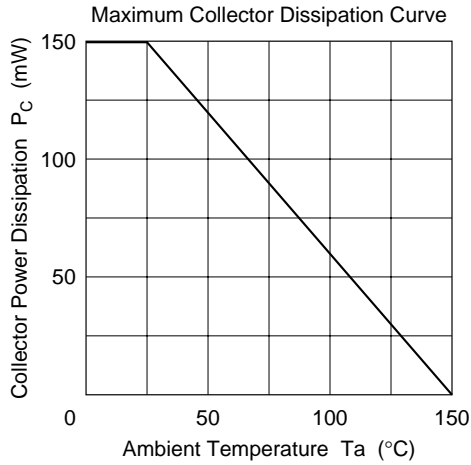
Note: Marking is "IP-".

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

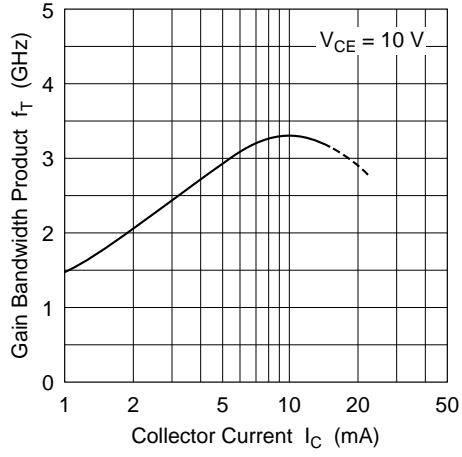
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	20	V
Collector to emitter voltage	V_{CEO}	15	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_{C}	50	mA
Collector power dissipation	P_{C}	150	mW
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	20	—	—	V	$I_{\text{C}} = 10 \mu\text{A}$, $I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	15	—	—	V	$I_{\text{C}} = 1 \text{ mA}$, $R_{\text{BE}} = \infty$
Collector cutoff current	I_{CBO}	—	—	1	μA	$V_{\text{CB}} = 15 \text{ V}$, $I_{\text{E}} = 0$
Emitter cutoff current	I_{EBO}	—	—	1	μA	$V_{\text{EB}} = 3 \text{ V}$, $I_{\text{C}} = 0$
DC current transfer ratio	h_{FE}	30	—	200		$V_{\text{CE}} = 10 \text{ V}$, $I_{\text{C}} = 5 \text{ mA}$
Collector to emitter saturation voltage	$V_{\text{CE}(\text{sat})}$	—	—	0.5	V	$I_{\text{C}} = 20 \text{ mA}$, $I_{\text{B}} = 4 \text{ mA}$
Collector output capacitance	C_{ob}	—	0.7	1	pF	$V_{\text{CB}} = 10 \text{ V}$, $I_{\text{E}} = 0$, $f = 1 \text{ MHz}$
Gain bandwidth product	f_{T}	—	2.9	—	GHz	$V_{\text{CE}} = 10 \text{ V}$, $I_{\text{C}} = 5 \text{ mA}$

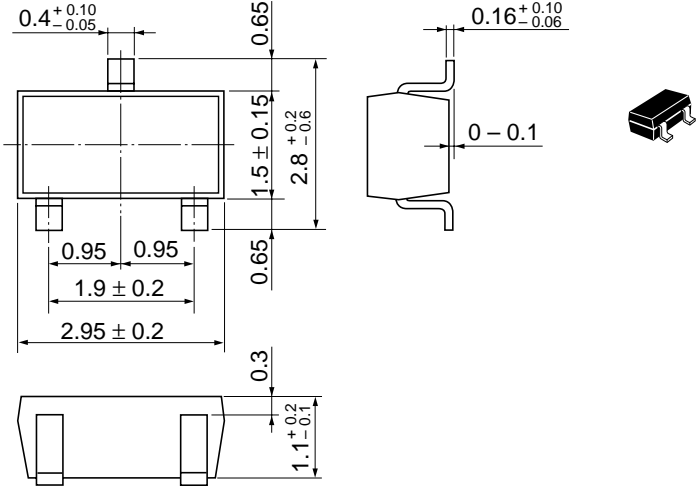


Gain Bandwidth Product
vs. Collector Current



Package Dimensions

As of January, 2001
Unit: mm



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

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