Silicon NPN Epitaxial

# HITACHI

ADE-208-1120A (Z) 2nd. Edition Mar. 2001

## Application

High voltage amplifier

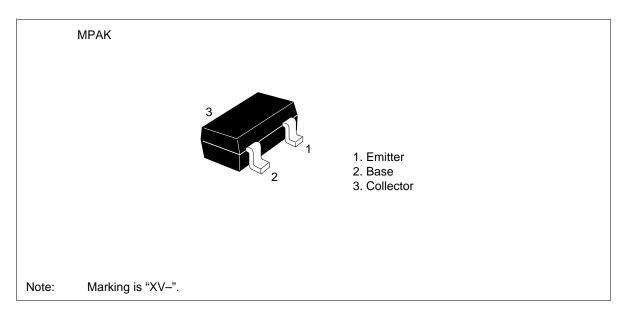
## Features

• High breakdown voltage

 $V_{\text{CEO}} = 300 \text{ V}$ 

• Small Cob Cob = 1.5 pF Typ.

## Outline



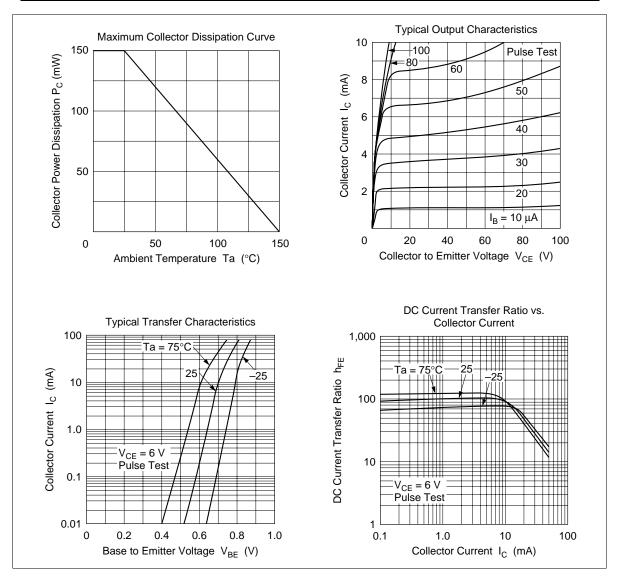


## Absolute Maximum Ratings (Ta = $25^{\circ}$ C)

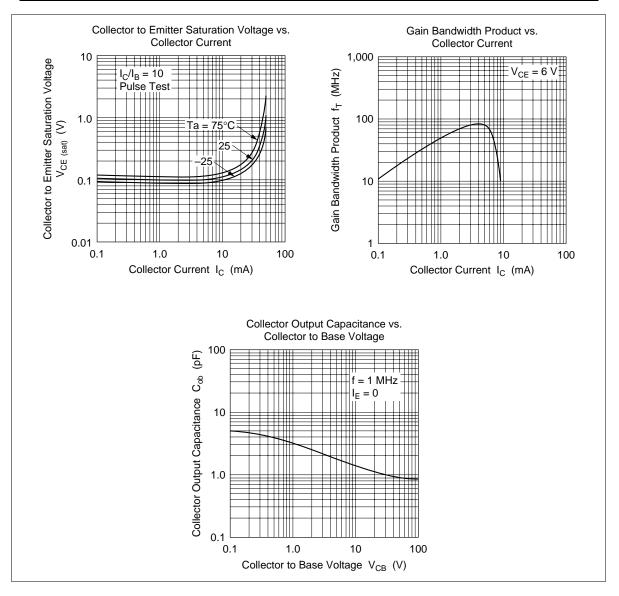
ltem	Symbol	Ratings	Unit
Collector to base voltage	V <sub>CBO</sub>	300	V
Collector to emitter voltage	V <sub>CEO</sub>	300	V
Emitter to base voltage	V <sub>EBO</sub>	5	V
Collector current	Ι <sub>c</sub>	50	mA
Collector power dissipation	Pc	150	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

## **Electrical Characteristics** (Ta = $25^{\circ}$ C)

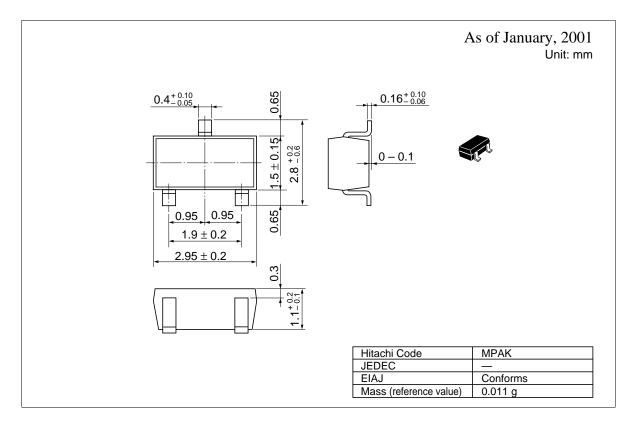
Item	Symbol	Min	Тур	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	300	_	_	V	$I_{c} = 10 \ \mu A, \ I_{E} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	300	_	_	V	$I_c = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_{\rm E} = 10 \ \mu A, \ I_{\rm C} = 0$
Collector cutoff current	I <sub>CBO</sub>			0.1	μΑ	$V_{\rm CB} = 250 \text{ V}, I_{\rm E} = 0$
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	_	_	0.5	V	$I_{c} = 30 \text{ mA}, I_{B} = 3 \text{ mA}$
DC current transfer ratio	h <sub>FE</sub>	60	—	150		$V_{ce} = 6 \text{ V}, \text{ I}_{c} = 2 \text{ mA}$
Gain bandwidth product	f <sub>T</sub>	_	80	_	MHz	$V_{ce} = 6 \text{ V}, \text{ I}_{c} = 5 \text{ mA}$
Collector output capacitance	Cob		1.5	_	pF	$V_{CB} = 10 \text{ V}, \text{ I}_{E} = 0, \text{ f} = 1 \text{ MHz}$



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## **Package Dimensions**



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