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# 2SC4702

Silicon NPN Epitaxial

# HITACHI

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## Application

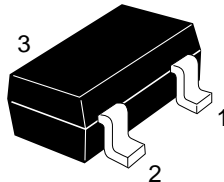
High voltage amplifier

## Features

- High breakdown voltage  
 $V_{CEO} = 300 \text{ V}$
- Small Cob  
Cob = 1.5 pF Typ.

## Outline

MPAK



1. Emitter
2. Base
3. Collector

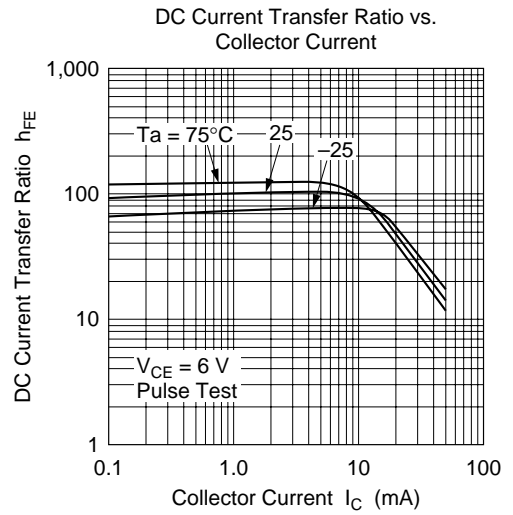
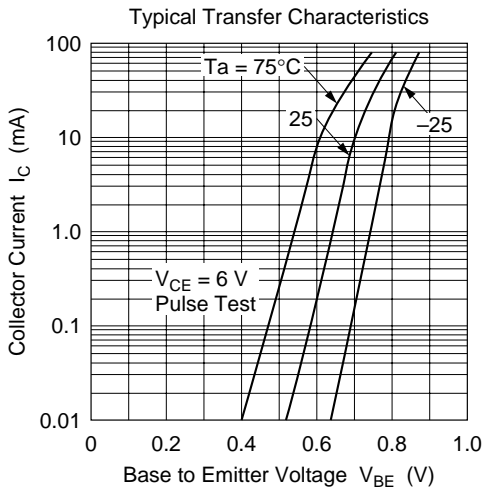
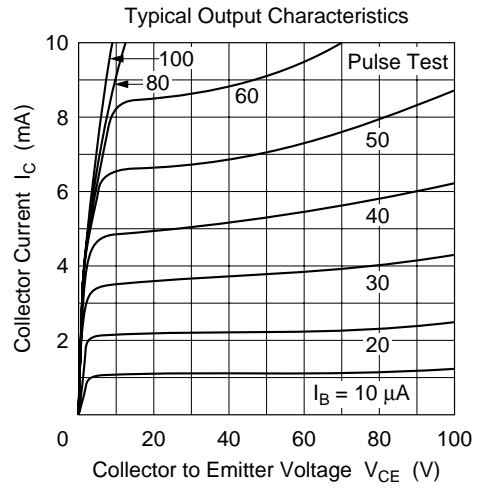
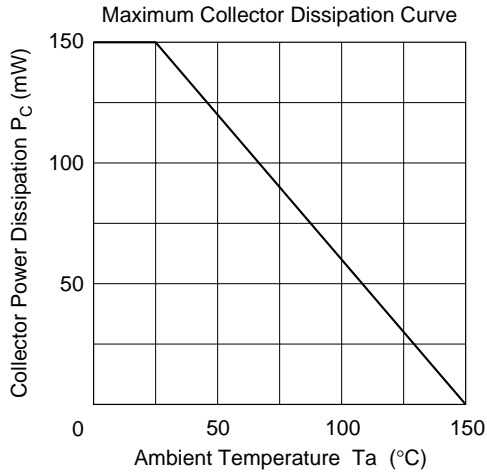
**Absolute Maximum Ratings** ( $T_a = 25^\circ\text{C}$ )

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{\text{CBO}}$	300	V
Collector to emitter voltage	$V_{\text{CEO}}$	300	V
Emitter to base voltage	$V_{\text{EBO}}$	5	V
Collector current	$I_{\text{C}}$	50	mA
Collector power dissipation	$P_{\text{C}}$	150	mW
Junction temperature	$T_{\text{j}}$	150	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-55 to +150	$^\circ\text{C}$

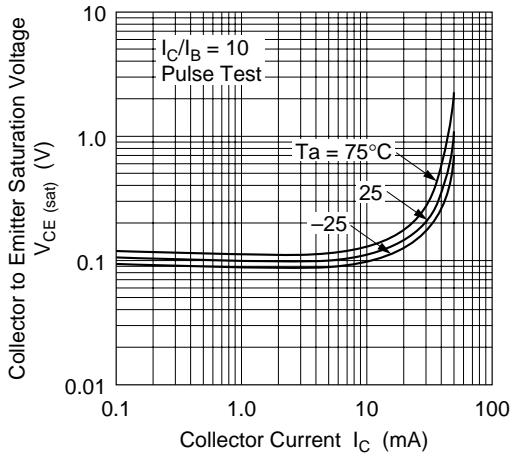
**Electrical Characteristics** ( $T_a = 25^\circ\text{C}$ )

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	300	—	—	V	$I_{\text{C}} = 10 \mu\text{A}$ , $I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	300	—	—	V	$I_{\text{C}} = 1 \text{ mA}$ , $R_{\text{BE}} = \infty$
Emitter to base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	5	—	—	V	$I_{\text{E}} = 10 \mu\text{A}$ , $I_{\text{C}} = 0$
Collector cutoff current	$I_{\text{CBO}}$	—	—	0.1	$\mu\text{A}$	$V_{\text{CB}} = 250 \text{ V}$ , $I_{\text{E}} = 0$
Collector to emitter saturation voltage	$V_{\text{CE}(\text{sat})}$	—	—	0.5	V	$I_{\text{C}} = 30 \text{ mA}$ , $I_{\text{B}} = 3 \text{ mA}$
DC current transfer ratio	$h_{\text{FE}}$	60	—	150		$V_{\text{CE}} = 6 \text{ V}$ , $I_{\text{C}} = 2 \text{ mA}$
Gain bandwidth product	$f_{\text{T}}$	—	80	—	MHz	$V_{\text{CE}} = 6 \text{ V}$ , $I_{\text{C}} = 5 \text{ mA}$
Collector output capacitance	$C_{\text{ob}}$	—	1.5	—	pF	$V_{\text{CB}} = 10 \text{ V}$ , $I_{\text{E}} = 0$ , $f = 1 \text{ MHz}$

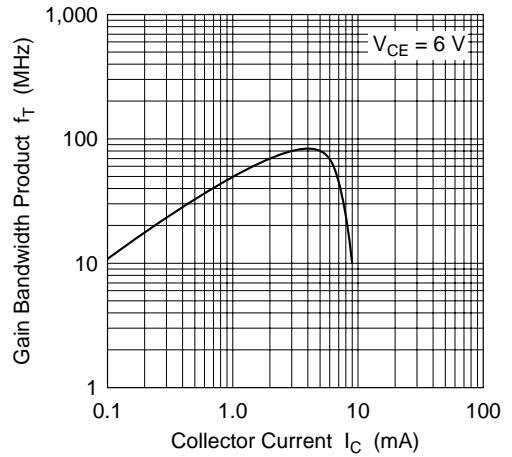
Note: Marking is "XV-".



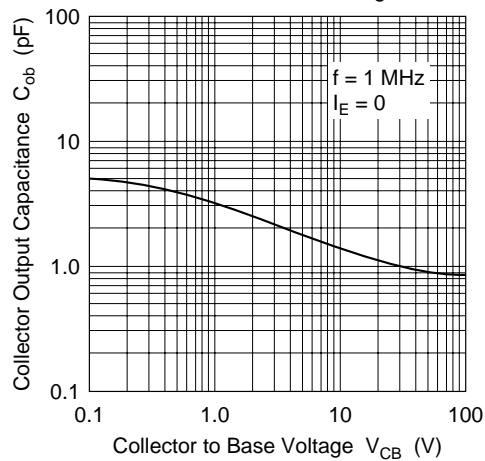
Collector to Emitter Saturation Voltage vs. Collector Current

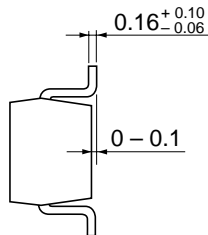
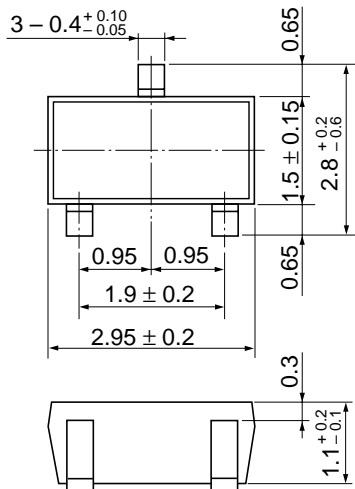


Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage





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

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