

# 2SC5022

Silicon NPN Triple Diffused

# HITACHI

ADE-208-896 (Z)  
1st. Edition  
Sep. 2000

## Application

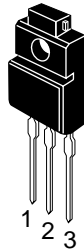
High voltage amplifier

## Features

- High breakdown voltage  $V_{(BR)CEO} = 1500 \text{ V Min}$

## Outline

TO-220FM



1. Base
2. Collector
3. Emitter

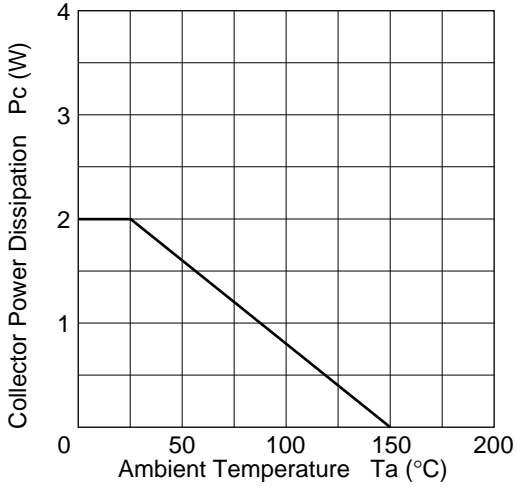
**Absolute Maximum Ratings** ( $T_a = 25^\circ\text{C}$ )

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{\text{CBO}}$	1500	V
Collector to emitter voltage	$V_{\text{CEO}}$	1500	V
Emitter to base voltage	$V_{\text{EBO}}$	6	V
Collector current	$I_{\text{C}}$	20	mA
Collector peak current	$I_{\text{C (peak)}}$	40	mA
Collector power dissipation	$P_{\text{C}}$	2	W
Junction temperature	$T_{\text{j}}$	150	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-55 to +150	$^\circ\text{C}$

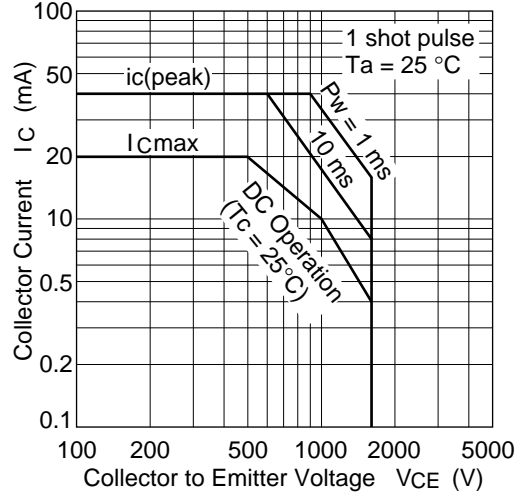
**Electrical Characteristics** ( $T_a = 25^\circ\text{C}$ )

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector cutoff current	$I_{\text{CES}}$	—	—	10	$\mu\text{A}$	$V_{\text{CE}} = 1500 \text{ V}, R_{\text{BE}} = 0$
Collector cutoff current	$I_{\text{CEO}}$	—	—	100	$\mu\text{A}$	$V_{\text{CE}} = 1500 \text{ V}, R_{\text{BE}} = \infty$
Emitter cutoff current	$I_{\text{EBO}}$	—	—	10	$\mu\text{A}$	$V_{\text{EB}} = 6 \text{ V}, I_{\text{C}} = 0$
DC current transfer ratio	$h_{\text{FE}}$	10	—	—		$V_{\text{CE}} = 5 \text{ V}, I_{\text{C}} = 1 \text{ mA}$
Collector to emitter saturation voltage	$V_{\text{CE (sat)}}$	—	—	5.0	V	$I_{\text{C}} = 10 \text{ mA}, I_{\text{B}} = 2 \text{ mA}$

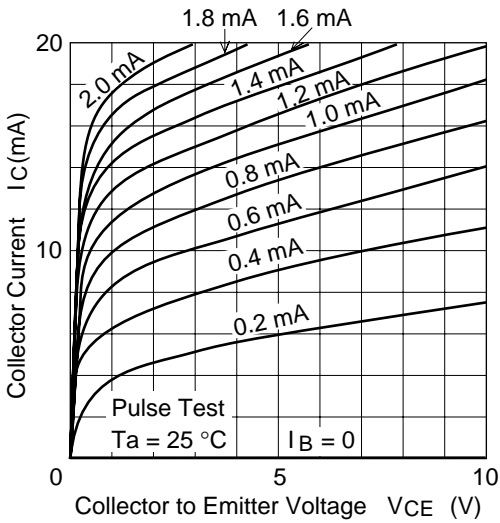
Collector Power Dissipation vs. Ambient Temperature



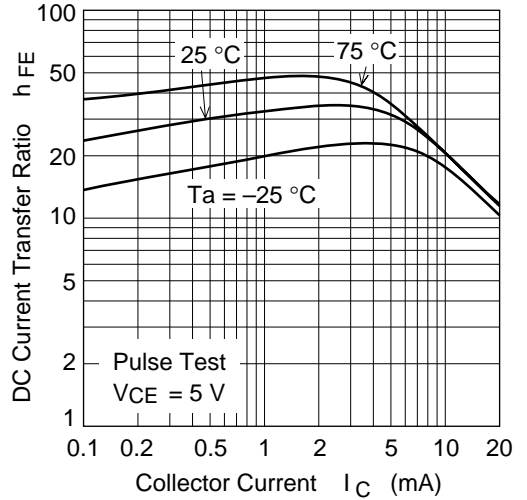
Maximum Safe Operation Area



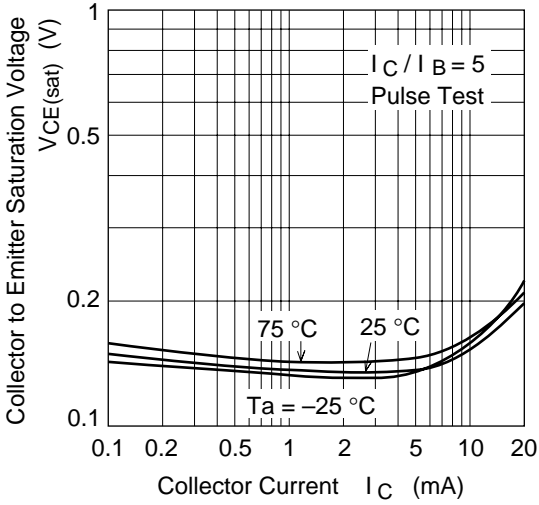
Typical Output Characteristics



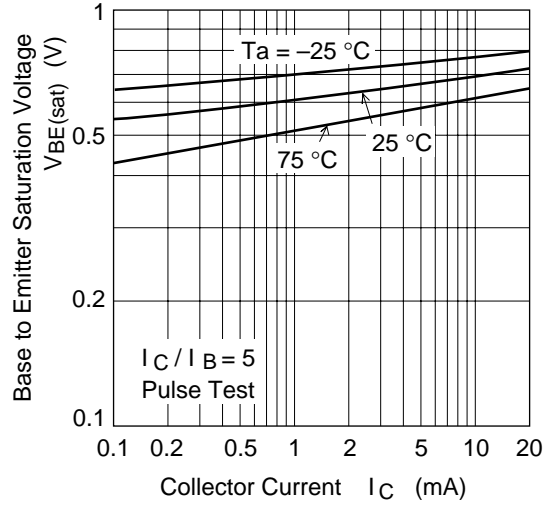
DC Current Transfer Ratio vs. Collector Current



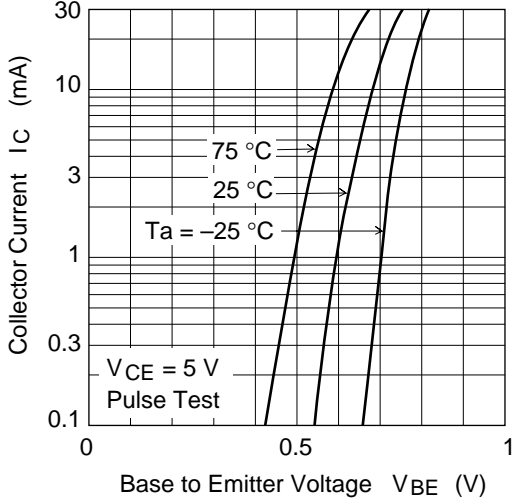
Collector to Emitter Saturation Voltage vs. Collector Current



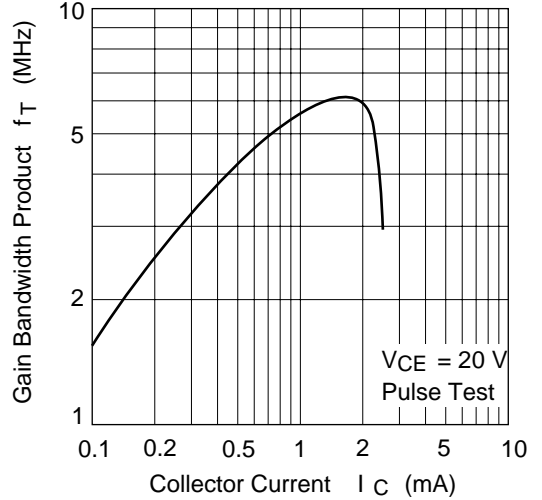
Base to Emitter Saturation Voltage vs. Collector Current

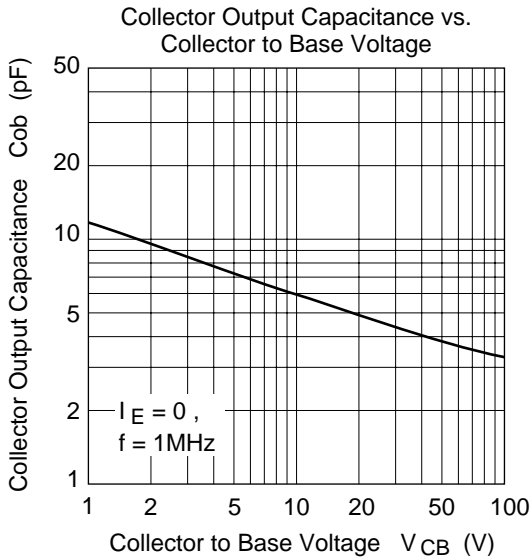


Collector Current vs. Base to Emitter Voltage

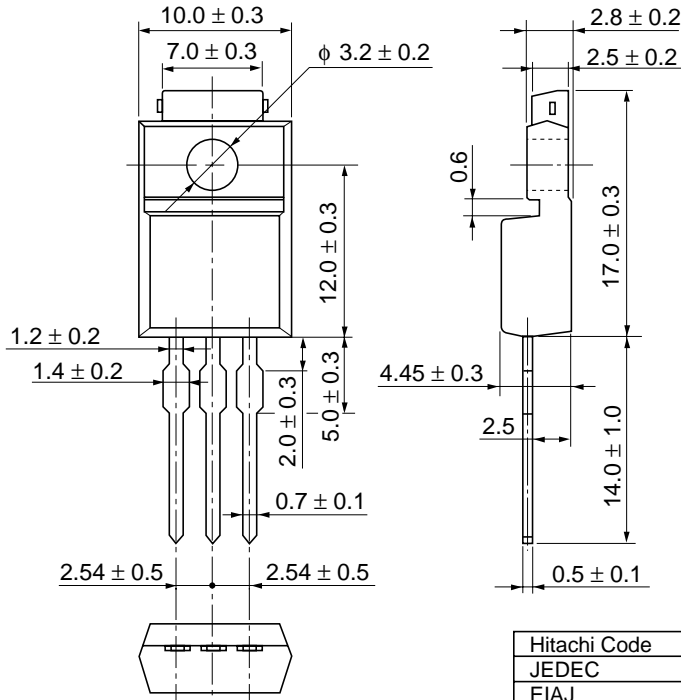


Gain Bandwidth Product vs. Collector Current

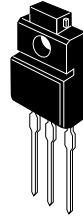




Package Dimensions



Unit: mm



Hitachi Code	TO-220FM
JEDEC	—
EIAJ	Conforms
Mass (reference value)	1.8 g

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