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# 2SC5022

Silicon NPN Triple Diffused

# HITACHI

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## Application

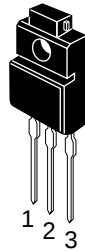
High voltage amplifier

## Features

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

## Outline

TO-220FM



1. Base
2. Collector
3. Emitter

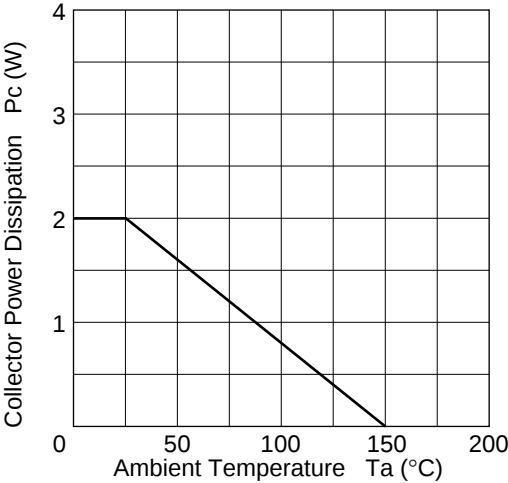
Absolute Maximum Ratings (Ta = 25°C)

| Item                         | Symbol          | Ratings     | Unit |
|------------------------------|-----------------|-------------|------|
| Collector to base voltage    | $V_{CBO}$       | 1500        | V    |
| Collector to emitter voltage | $V_{CEO}$       | 1500        | V    |
| Emitter to base voltage      | $V_{EBO}$       | 6           | V    |
| Collector current            | $I_C$           | 20          | mA   |
| Collector peak current       | $I_{C\ (peak)}$ | 40          | mA   |
| Collector power dissipation  | $P_C$           | 2           | W    |
| Junction temperature         | $T_j$           | 150         | °C   |
| Storage temperature          | $T_{stg}$       | −55 to +150 | °C   |

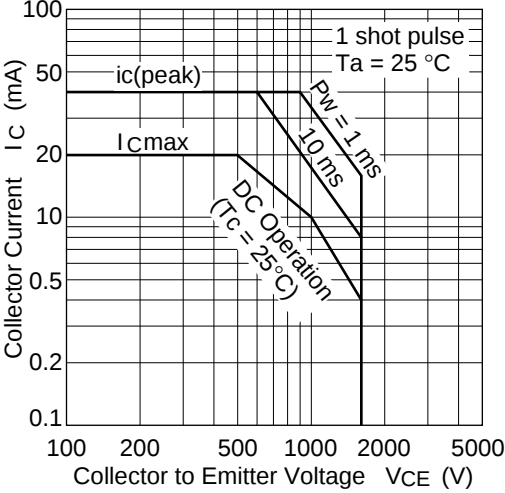
Electrical Characteristics (Ta = 25°C)

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

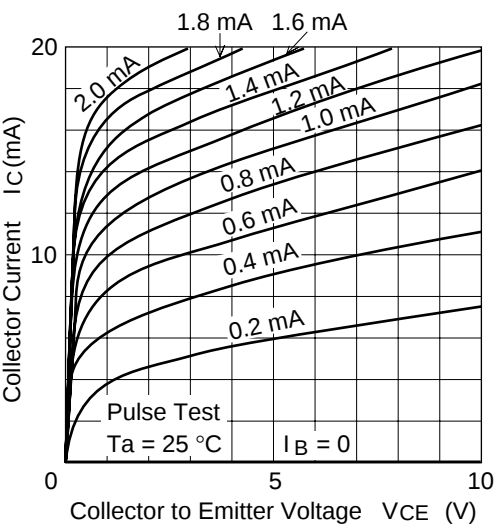
Collector Power Dissipation  
vs. Ambient Temperature



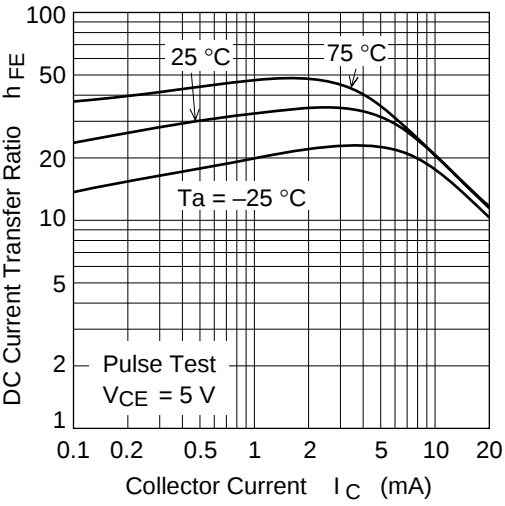
Maximum Safe Operation Area



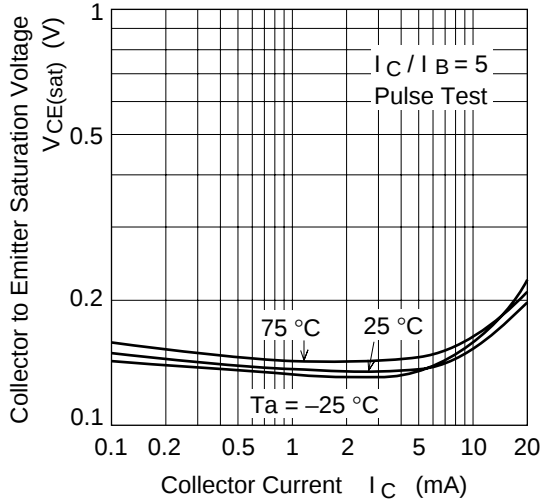
Typical Output Characteristics



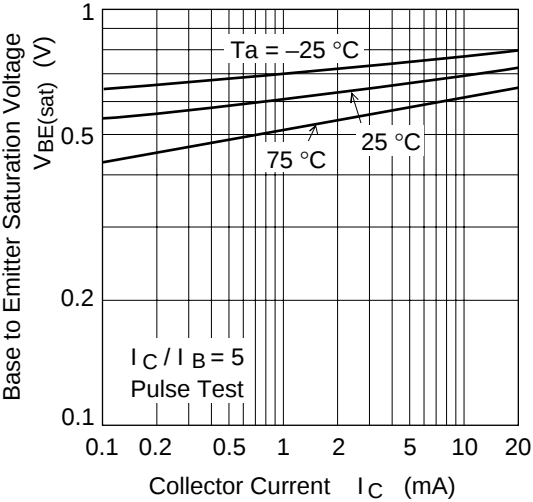
DC Current Transfer Ratio vs.  
Collector Current



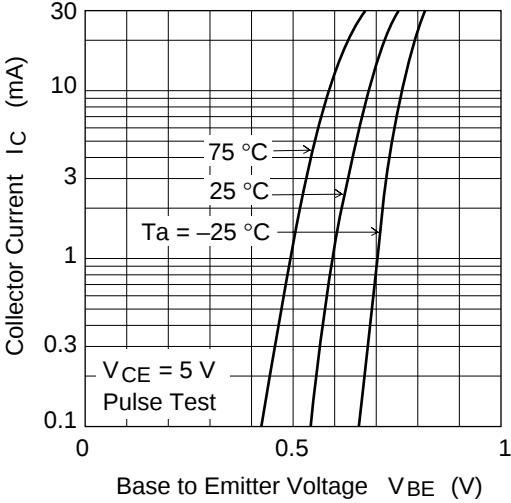
Collector to Emitter Saturation Voltage  
vs. Collector Current



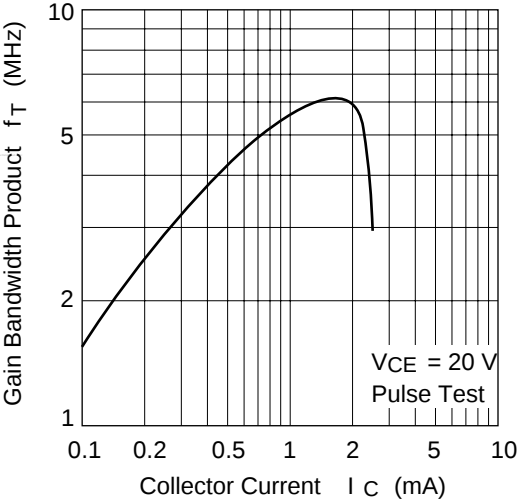
Base to Emitter Saturation Voltage  
vs. Collector Current

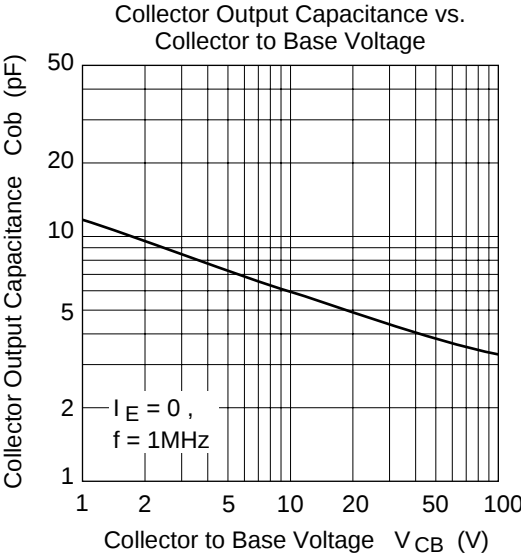


Collector Current vs.  
Base to Emitter Voltage

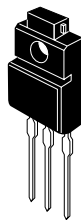
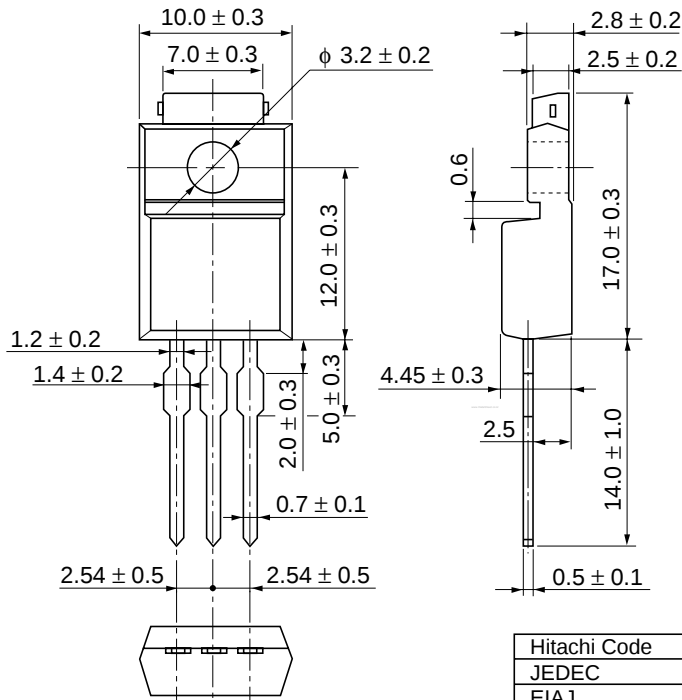


Gain Bandwidth Product vs.  
Collector Current





Unit: mm



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

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