# 2SC3793

## Silicon NPN Epitaxial

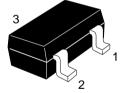
# **HITACHI**

#### **Application**

UHF local oscillator

#### Outline

MPAK



- 1. Emitter
- 2. Base
- 3. Collector



### 2SC3793

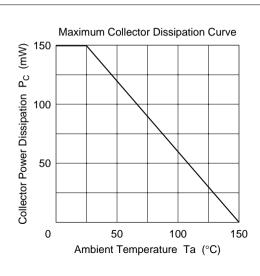
### **Absolute Maximum Ratings** $(Ta = 25^{\circ}C)$

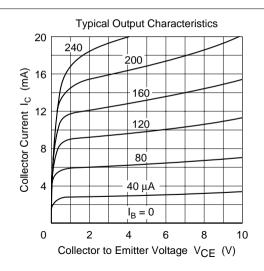
| Item                         | Symbol           | Ratings     | Unit |
|------------------------------|------------------|-------------|------|
| Collector to base voltage    | $V_{\text{CBO}}$ | 20          | V    |
| Collector to emitter voltage | V <sub>CEO</sub> | 15          | V    |
| Emitter to base voltage      | $V_{EBO}$        | 3           | V    |
| Collector current            | I <sub>c</sub>   | 50          | mA   |
| Collector power dissipation  | P <sub>c</sub>   | 150         | mW   |
| Junction temperature         | Tj               | 150         | °C   |
| Storage temperature          | Tstg             | -55 to +150 | °C   |

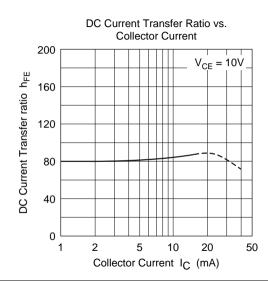
### **Electrical Characteristics** (Ta = 25°C)

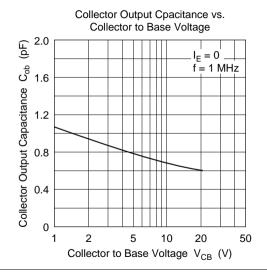
| Item                                    | Symbol                      | Min | Тур | Max | Unit | Test conditions                                      |
|---|-----------------------------|-----|-----|-----|------|--|
| Collector to base breakdown voltage     | $V_{\text{(BR)CBO}}$        | 20  | _   | _   | V    | $I_{C} = 10 \ \mu A, \ I_{E} = 0$                    |
| Collector to emitter breakdown voltage  | $V_{(BR)CEO}$               | 15  | _   | _   | V    | $I_{C} = 1 \text{ mA}, R_{BE} = \infty$              |
| Collector cutoff current                | I <sub>CBO</sub>            | _   | _   | 1   | μΑ   | V <sub>CB</sub> = 15 V, I <sub>E</sub> = 0           |
| Emitter cutoff current                  | I <sub>EBO</sub>            | _   | _   | 1   | μΑ   | $V_{EB} = 3 \text{ V}, I_{C} = 0$                    |
| DC current transfer ratio               | h <sub>FE</sub>             | 30  | _   | 200 |      | $V_{CE} = 10 \text{ V}, I_{C} = 5 \text{ mA}$        |
| Collector to emitter saturation voltage | $V_{\text{CE}(\text{sat})}$ | _   | _   | 0.5 | V    | $I_C = 20 \text{ mA}, I_B = 4 \text{ mA}$            |
| Collector output capacitance            | Cob                         | _   | 0.7 | 1   | pF   | $V_{CB} = 10 \text{ V}, I_{E} = 0, f = 1 \text{MHz}$ |
| Gain bandwidth product                  | f⊤                          | _   | 2.9 | _   | GHz  | $V_{CE} = 10 \text{ V}, I_{C} = 5 \text{ mA}$        |

Note: Marking is "IP-".

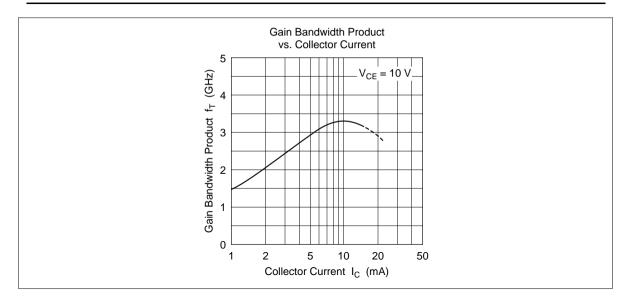




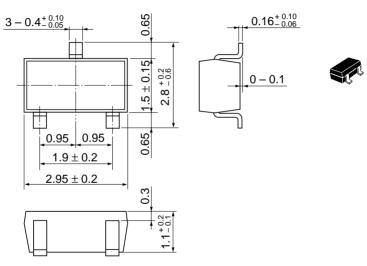




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Unit: mm



| Hitachi Code             | MPAK     |
|--------------------------|----------|
| JEDEC                    | _        |
| EIAJ                     | Conforms |
| Weight (reference value) | 0.011 g  |

#### **Cautions**

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