## Silicon NPN Epitaxial

# HITACHI

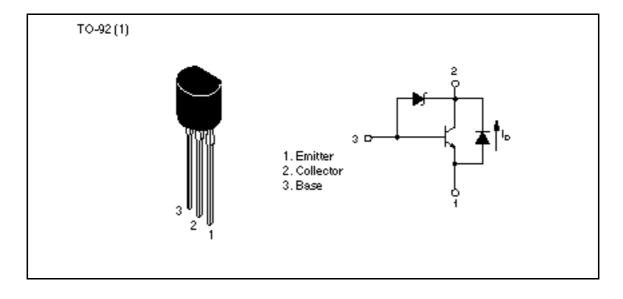
#### **Application**

Low frequency power amplifier

#### **Features**

- Build in zener diode for surge absorb.
- Suitable for relay drive with small power loss.

#### **Outline**





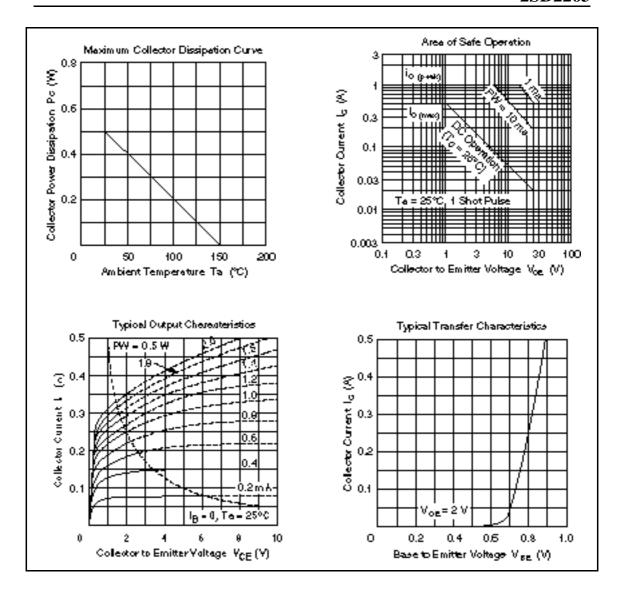
### Absolute Maximum Ratings ( $Ta = 25^{\circ}C$ )

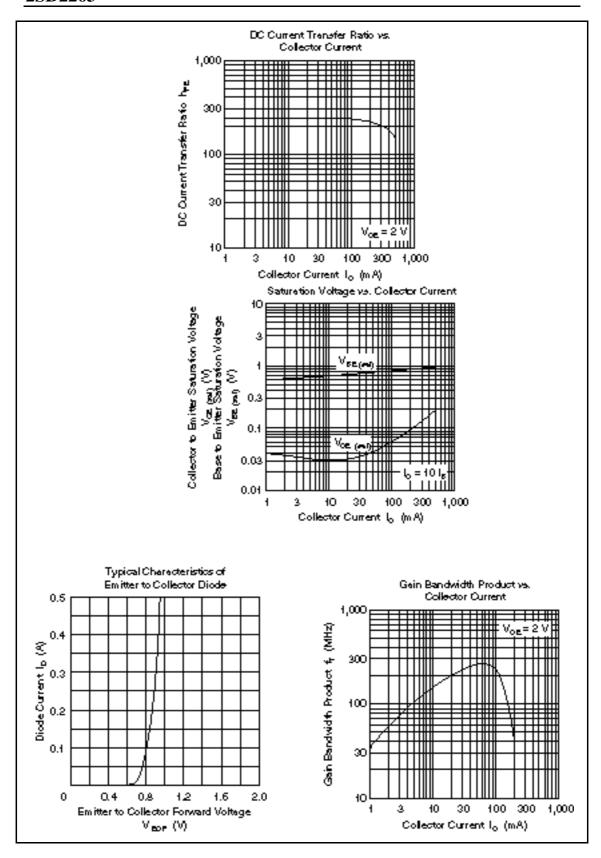
Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	25	V
Collector to emitter voltage	$V_{CEO}$	25	V
Emitter to base voltage	V <sub>EBO</sub>	6	V
Collector current	I <sub>c</sub>	0.5	A
Collector peak current	i <sub>C(peak)</sub>	1.0	A
E to C diode current	I <sub>D</sub>	0.5	A
Collector power dissipation	P <sub>c</sub>	0.5	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

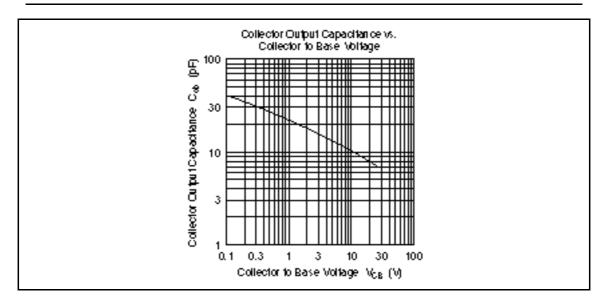
### **Electrical Characteristics** ( $Ta = 25^{\circ}C$ )

Item	Symbol	Min	Тур	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	25	_	_	V	$I_{c} = 10 \ \mu A, \ I_{e} = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	25	_	35	V	$I_C = 1 \text{ mA}, R_{BE} =$
Collector to emitter sustaining voltage	$V_{_{\text{CEO (sus)}}}$	26	_	36	V	$I_{C} = 0.5 \text{ A}, R_{BE} = ,$ L = 20  mH
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	_	_	V	$I_{E} = 10 \ \mu A, \ I_{C} = 0$
Collector cutoff current	I <sub>CBO</sub>	_	_	0.2	μΑ	$V_{CB} = 20 \text{ V}, I_{E} = 0$
	I <sub>CEO</sub>	_	_	0.5	μΑ	$V_{CE}$ = 20 V, $R_{BE}$ =
Emitter cutoff current	I <sub>EBO</sub>	_	_	0.2	μΑ	$V_{EB} = 5 \text{ V}, I_{C} = 0$
DC current transfer ratio	h <sub>FE1</sub>	100	_	500		$V_{CE} = 2 \text{ V}, I_{C} = 50 \text{ mA}^{*1}$
	h <sub>FE2</sub>	50	_	_		$V_{CE} = 2 \text{ V}, I_{C} = 0.5 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	_	_	0.5	V	$I_{\rm C} = 0.5 \text{ A}^{*1}, I_{\rm B} = 50 \text{ mA}$
E to C diode forward voltage	$V_{\scriptscriptstyle D}$	_	_	1.2	V	$I_E = 0.5 A^{*1}$

Note: 1. Pulse test







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