

2SD1922

Silicon NPN Epitaxial

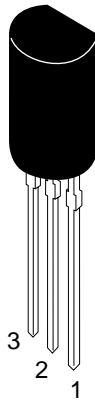
HITACHI

Application

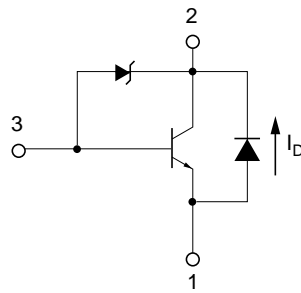
Low frequency power amplifier

Outline

TO-92MOD



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



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

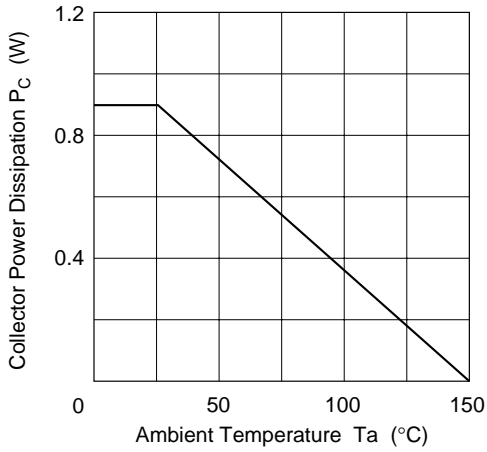
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	25	V
Collector to emitter voltage	V_{CEO}	25	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_{C}	0.8	A
Collector peak current	$i_{\text{C (peak)}}$	1.5	A
E to C diode forward current	I_{D}	0.8	A
Collector power dissipation	P_{C}	0.9	W
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

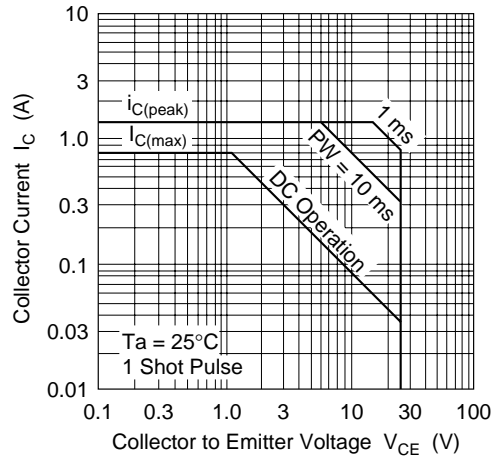
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	25	—	—	V	$I_{\text{C}} = 10 \mu\text{A}$, $I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	25	—	35	V	$I_{\text{C}} = 1 \text{ mA}$, $R_{\text{BE}} = \infty$
Collector to emitter sustaining voltage	$V_{\text{CEO(sus)}}$	25	—	35	V	$I_{\text{C}} = 0.8 \text{ A}$, $R_{\text{BE}} = \infty$, $L = 20 \text{ mH}$
Emitter to base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	6	—	—	V	$I_{\text{E}} = 10 \mu\text{A}$, $I_{\text{C}} = 0$
Collector cutoff current	I_{CBO}	—	—	0.2	μA	$V_{\text{CB}} = 20 \text{ V}$, $I_{\text{E}} = 0$
	I_{CEO}	—	—	0.5	μA	$V_{\text{CE}} = 20 \text{ V}$, $R_{\text{BE}} = \infty$
Emitter cutoff current	I_{EBO}	—	—	0.2	μA	$V_{\text{EB}} = 5 \text{ V}$, $I_{\text{C}} = 0$
DC current transfer ratio	h_{FE}	250	—	1200		$V_{\text{CE}} = 2 \text{ V}$, $I_{\text{C}} = 0.1 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	—	—	0.3	V	$I_{\text{C}} = 0.8 \text{ A}$, $I_{\text{B}} = 80 \text{ mA}^{*1}$
E to C diode forward voltage	V_{D}	—	—	1.1	V	$I_{\text{D}} = 0.8 \text{ A}^{*1}$

Note: 1. Pulse test

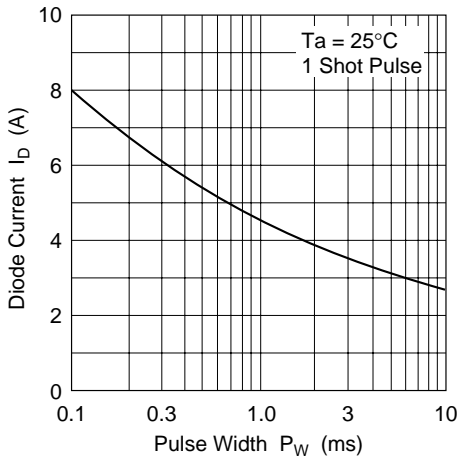
Maximum Collector Dissipation Curve



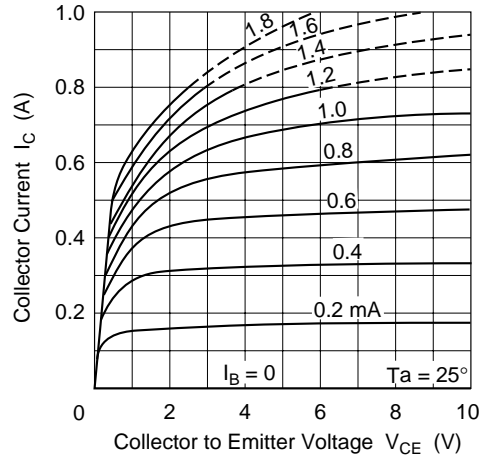
Area of Safe Operation



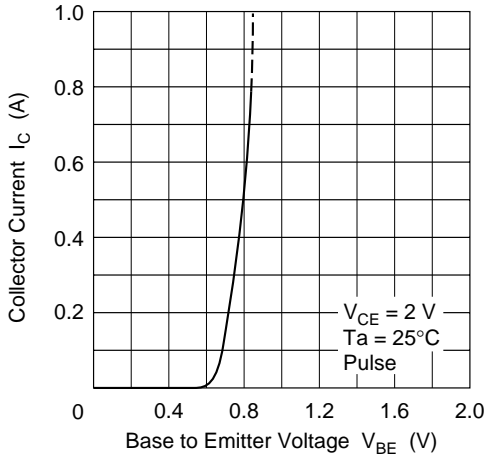
Area of Safe Operation of Emitter to Collector Diode



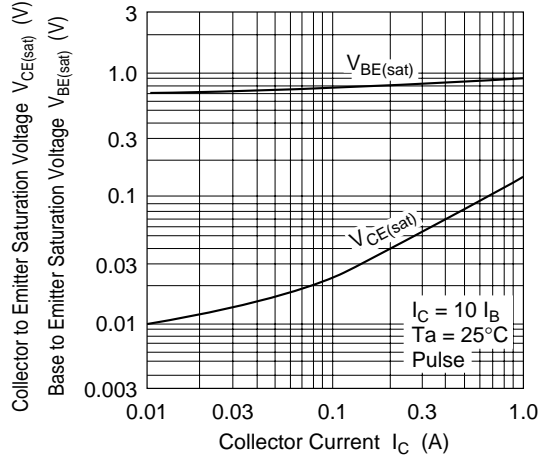
Typical Output Characteristics



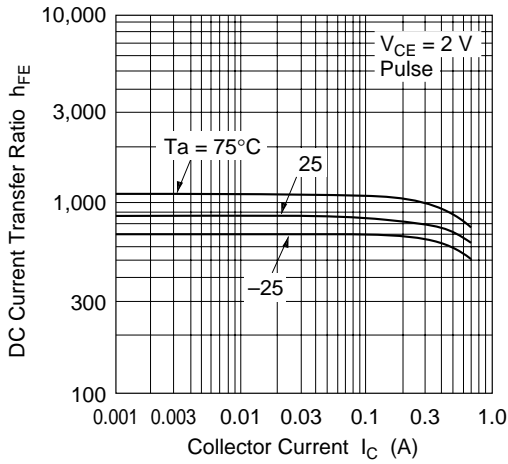
Typical Transfer Characteristics



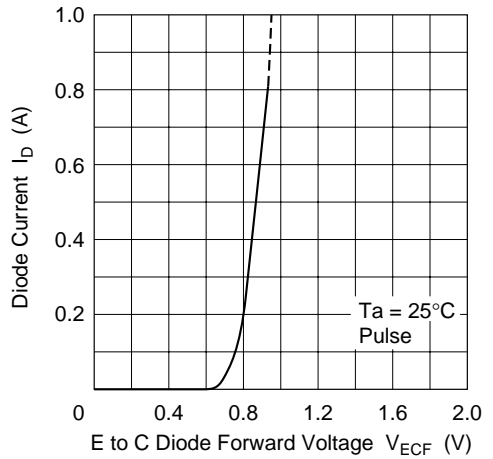
Saturation Voltage vs. Collector Current

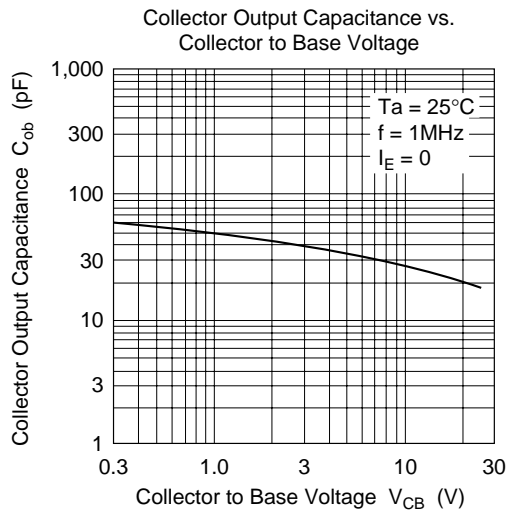


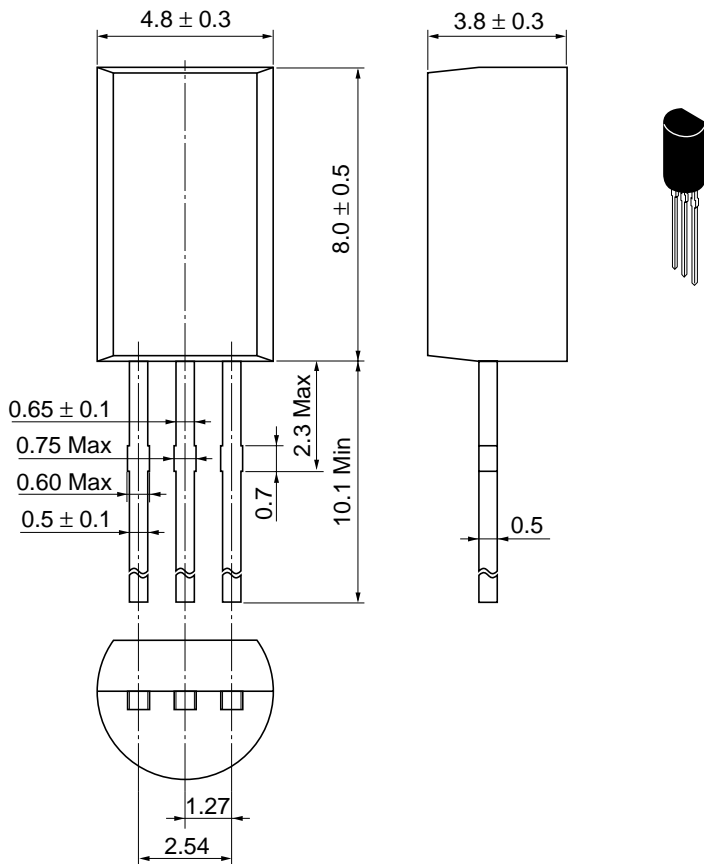
DC Current Transfer Ratio vs. Collector Current



Typical Characteristics of Emitter to Collector Diode







Hitachi Code	TO-92 Mod
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.35 g

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