

# 2SD1922

Silicon NPN Epitaxial

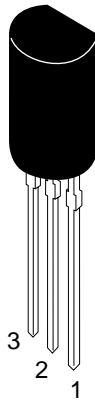
# HITACHI

## Application

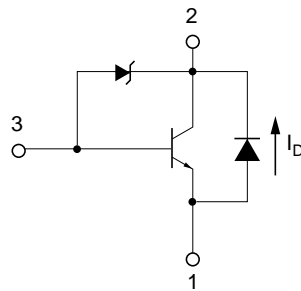
Low frequency power amplifier

## Outline

TO-92MOD



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



## 2SD1922

### Absolute Maximum Ratings (Ta = 25°C)

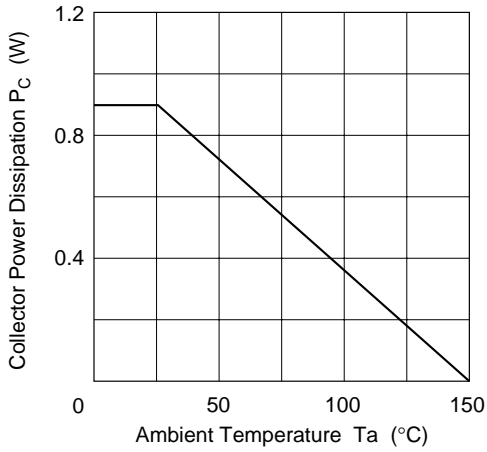
Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	25	V
Collector to emitter voltage	$V_{CEO}$	25	V
Emitter to base voltage	$V_{EBO}$	6	V
Collector current	$I_C$	0.8	A
Collector peak current	$i_{C(\text{peak})}$	1.5	A
E to C diode forward current	$I_D$	0.8	A
Collector power dissipation	$P_C$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

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

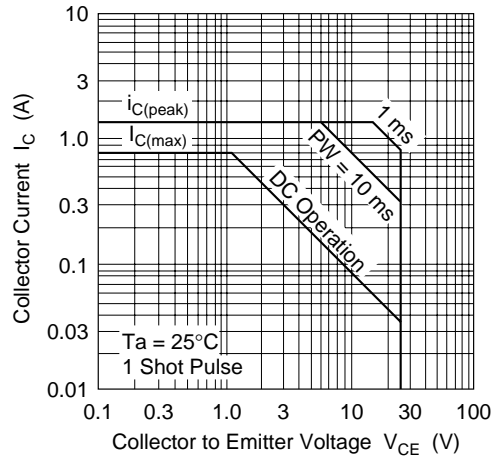
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	25	—	—	V	$I_C = 10 \mu\text{A}$ , $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	25	—	35	V	$I_C = 1 \text{ mA}$ , $R_{BE} = \infty$
Collector to emitter sustaining voltage	$V_{CEO(\text{sus})}$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

Note: 1. Pulse test

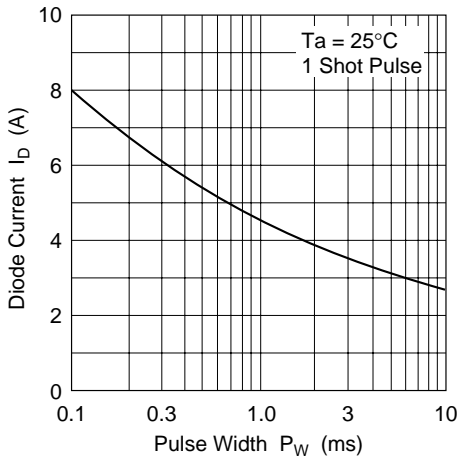
Maximum Collector Dissipation Curve



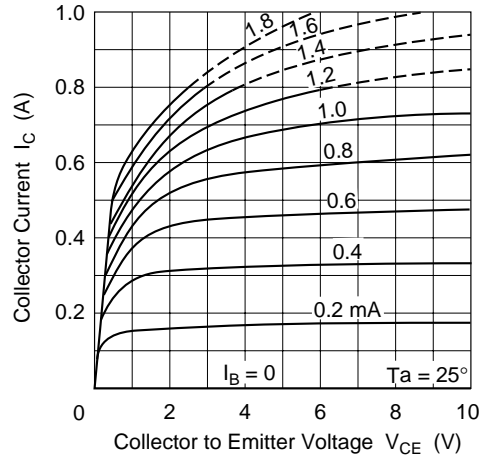
Area of Safe Operation



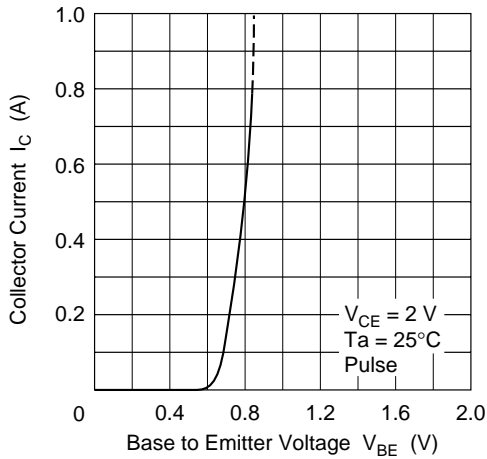
Area of Safe Operation of Emitter to Collector Diode



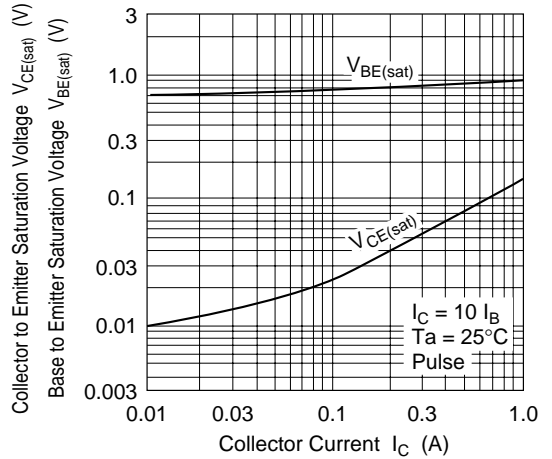
Typical Output Characteristics



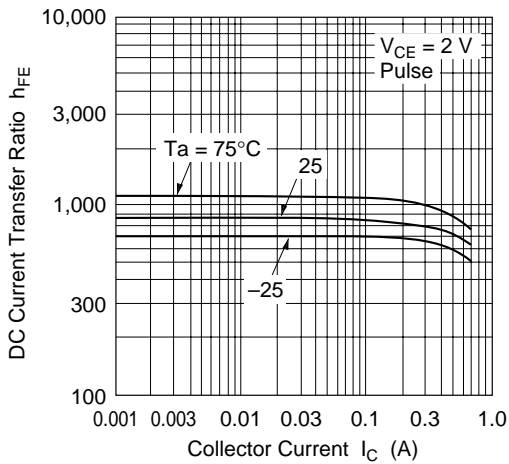
Typical Transfer Characteristics



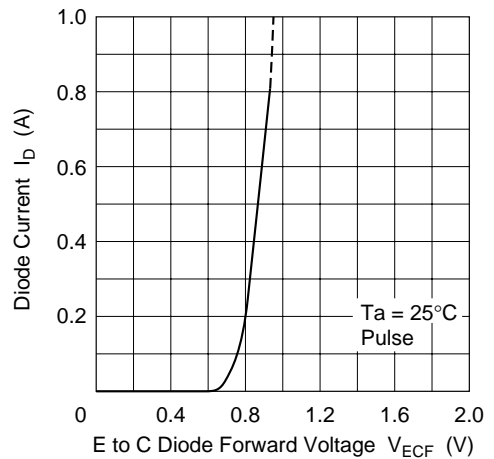
Saturation Voltage vs. Collector Current

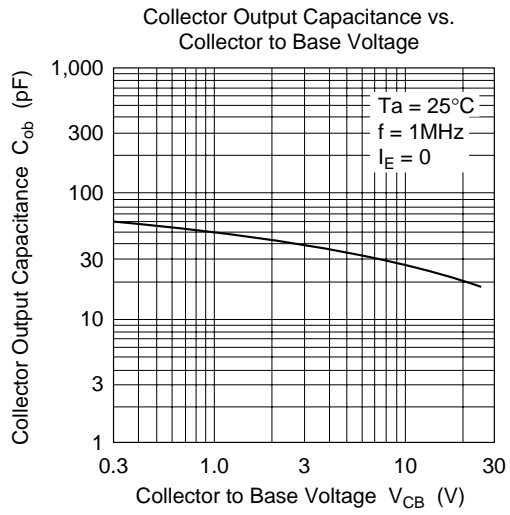


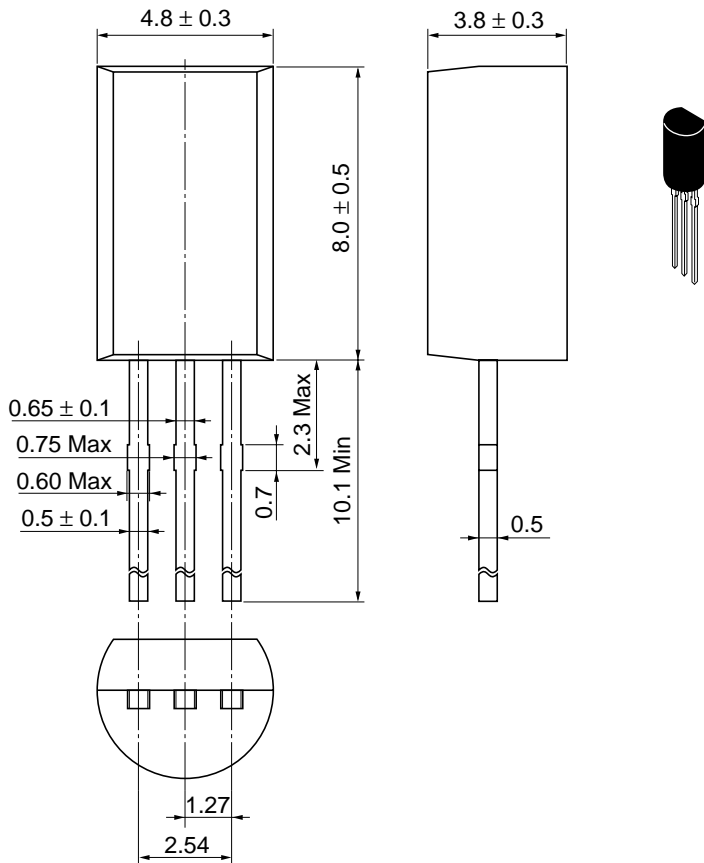
DC Current Transfer Ratio vs. Collector Current



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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