2SD1209(K)

Silicon NPN Epitaxial, Darlington

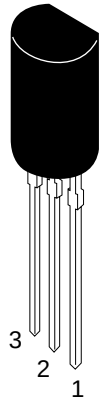
HITACHI

Application

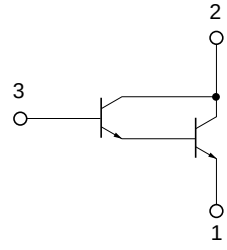
- Low frequency power amplifier
- Complementary pair with 2SA1193(K)

Outline

TO-92MOD



1. Emitter
2. Collector
3. Base



Hitachi semiconductor

Absolute Maximum Ratings (Ta = 25°C)

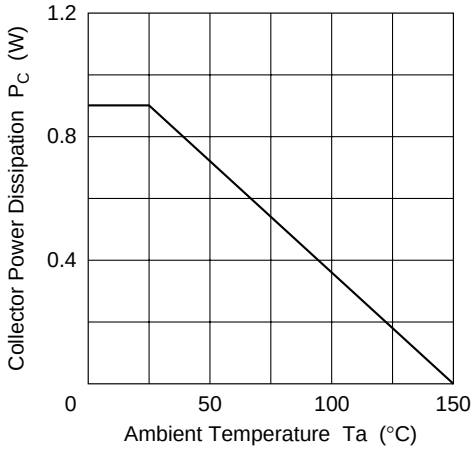
Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	60	V
Collector to emitter voltage	V_{CEO}	60	V
Emitter to base voltage	V_{EBO}	7	V
Collector current	I_C	1	A
Collector peak current	$i_{C(peak)}$	2	A
Collector power dissipation	P_C	0.9	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Electrical Characteristics (Ta = 25°C)

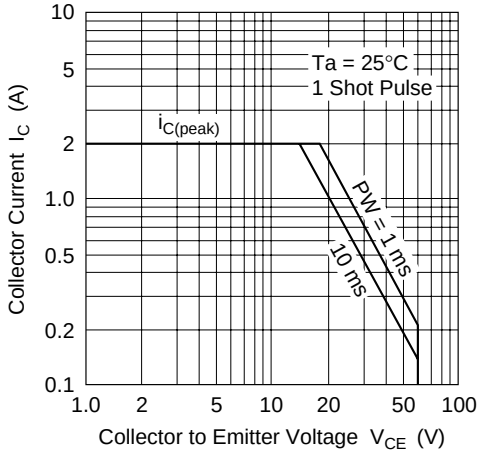
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	60	—	—	V	I_C = 0.1 mA, I_E = 0
Collector cutoff current	I_{CEO}	—	—	100	µA	V_{CE} = 60 V, R_{BE} = ∞
Emitter cutoff current	I_{EBO}	—	—	100	µA	V_{EB} = 7 V, I_C = 0
DC current transfer ratio	h_{FE}	4000	—	—		V_{CE} = 3 V, I_C = 0.5 A*[1]
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	I_C = 500 mA, I_B = 0.5 mA*[1]
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	2.0	V	I_C = 500 mA, I_B = 0.5 mA*[1]

Note: 1. Pulse test

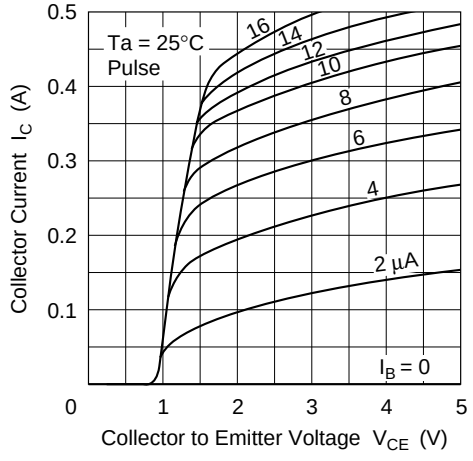
Maximum Collector Dissipation Curve



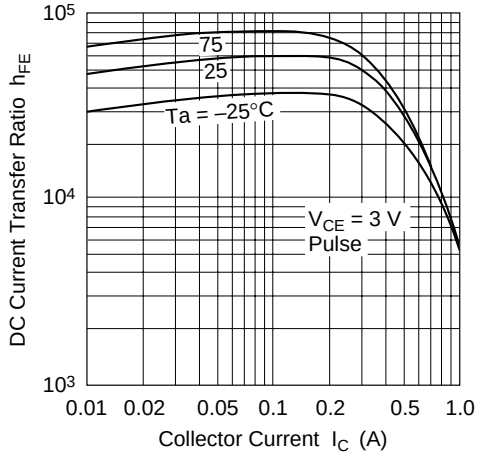
Area of Safe Operation



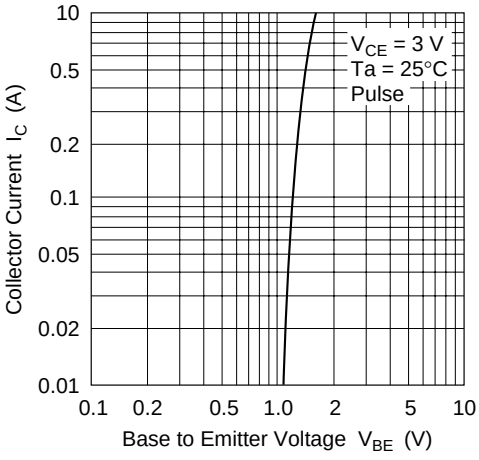
Typical Output Characteristics



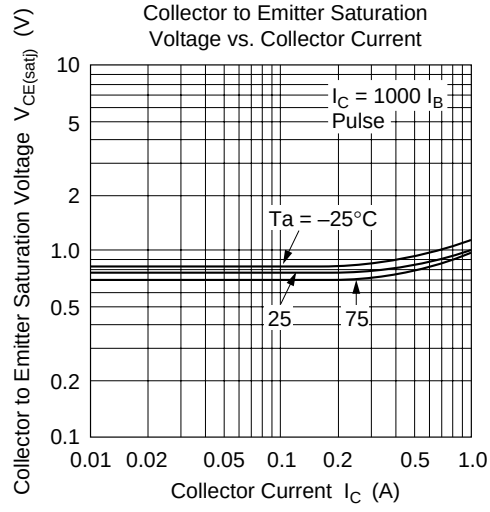
DC Current Transfer Ratio vs. Collector Current



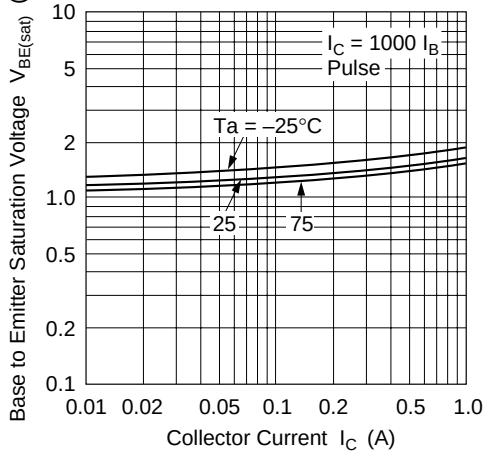
Typical Transfer Characteristics



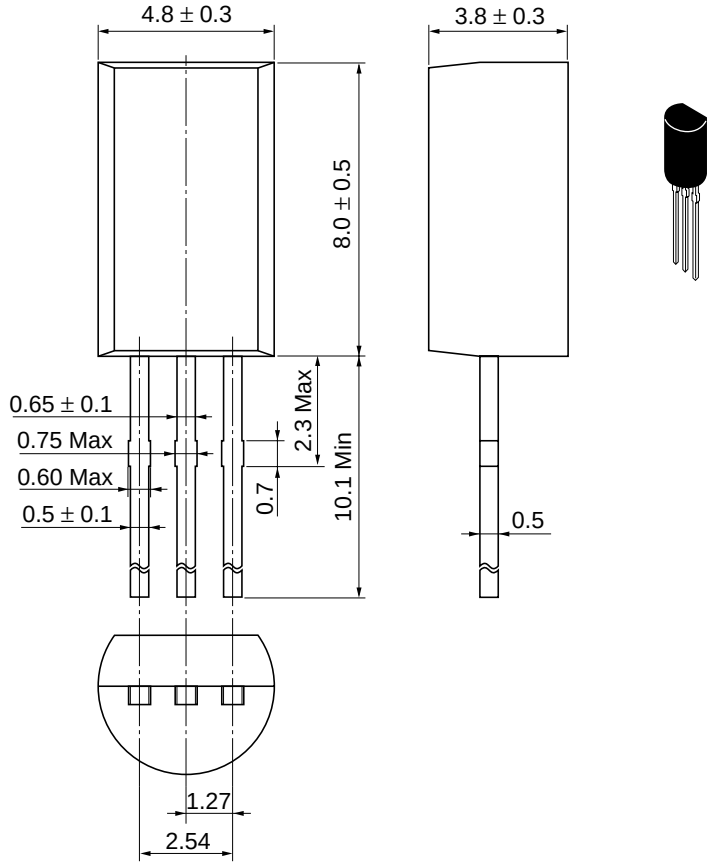
Collector to Emitter Saturation Voltage vs. Collector Current



Base to Emitter Saturation Voltage vs. Collector Current



Unit: mm



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

Cautions

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