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# 2SD1209(K)

Silicon NPN Epitaxial, Darlington

# HITACHI

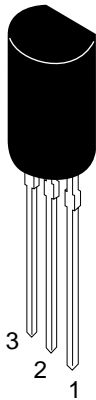
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## Application

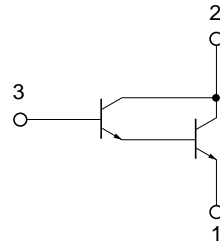
- Low frequency power amplifier
- Complementary pair with 2SA1193(K)

## Outline

TO-92MOD



1. Emitter
2. Collector
3. Base



## 2SD1209(K)

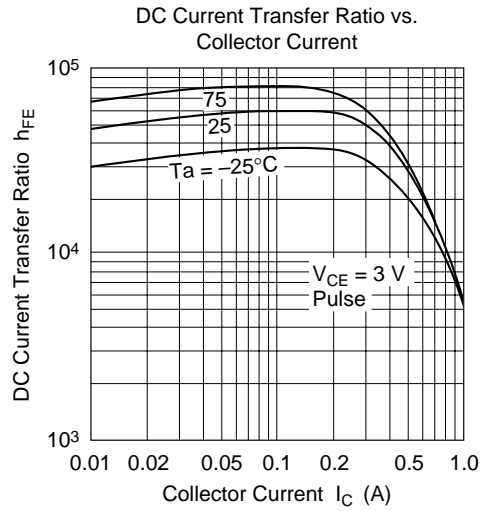
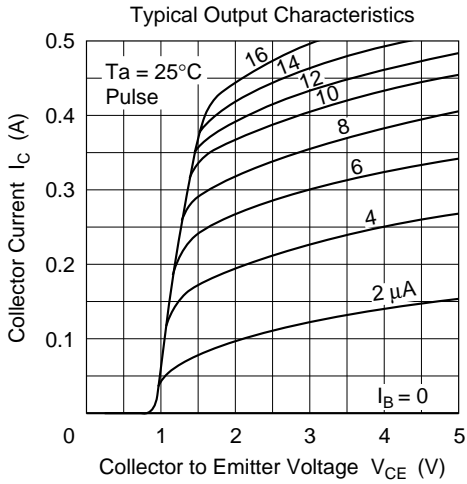
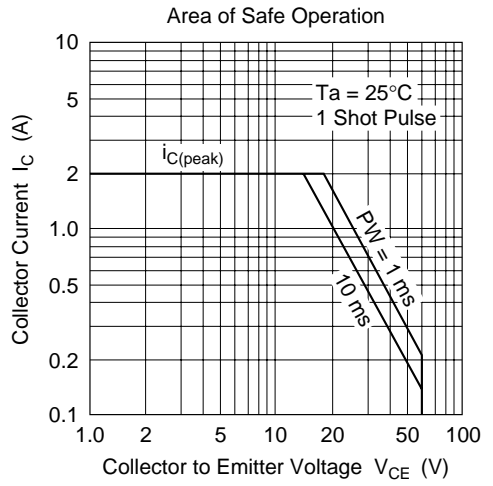
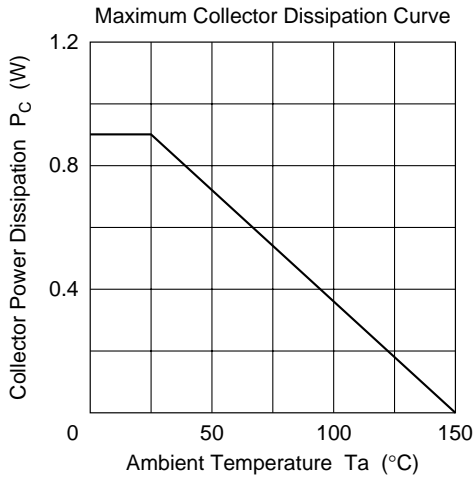
### Absolute Maximum Ratings (Ta = 25°C)

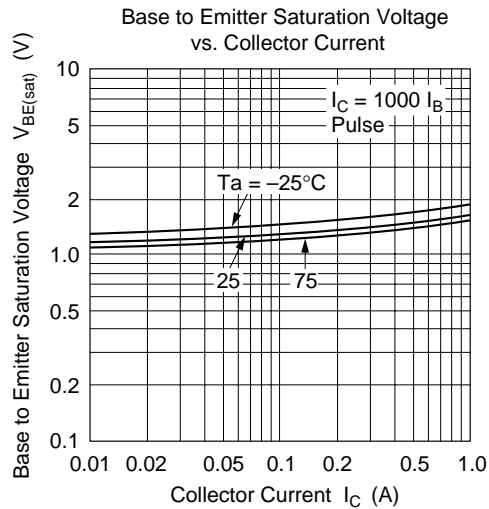
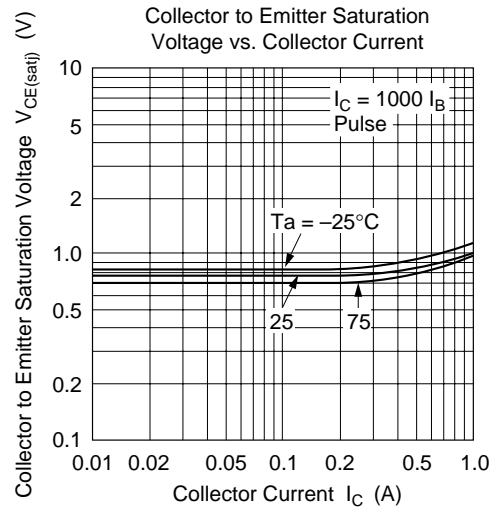
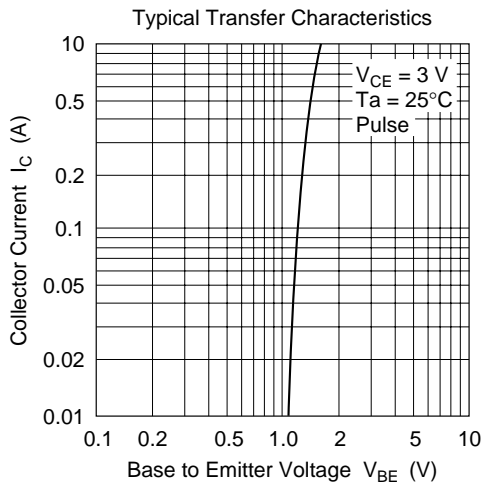
Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	60	V
Collector to emitter voltage	$V_{CEO}$	60	V
Emitter to base voltage	$V_{EBO}$	7	V
Collector current	$I_C$	1	A
Collector peak current	$i_{C(\text{peak})}$	2	A
Collector power dissipation	$P_C$	0.9	W
Junction temperature	$T_j$	150	°C
Storage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

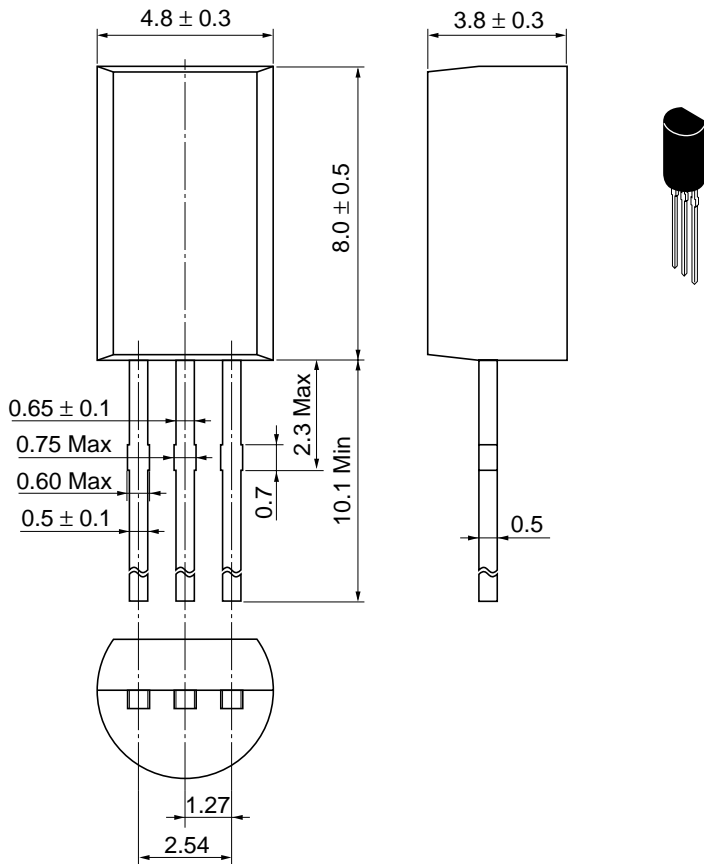
### Electrical Characteristics (Ta = 25°C)

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

Note: 1. Pulse test







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

## Cautions

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