

2SD2107

Silicon NPN Triple Diffused

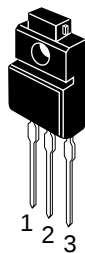
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Application

Low frequency power amplifier

Outline

TO-220FM



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

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	70	V
Collector to emitter voltage	V_{CEO}	60	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_C	4	A
Collector peak current	$I_{C(peak)}$	8	A
Collector power dissipation	P_C	2	W
	P_C^{*1}	25	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

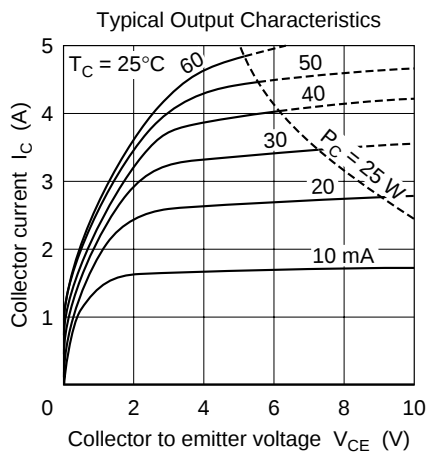
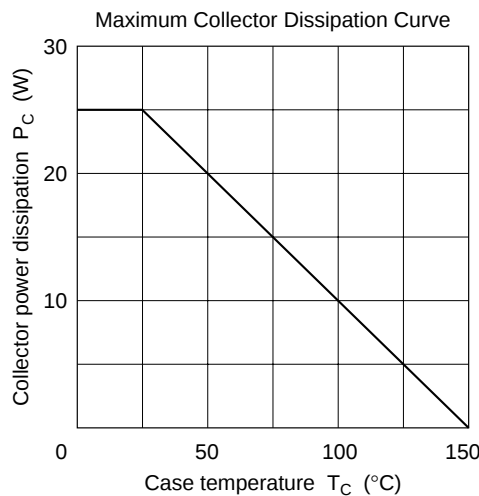
Note: 1. Value at $T_C = 25^\circ\text{C}$.

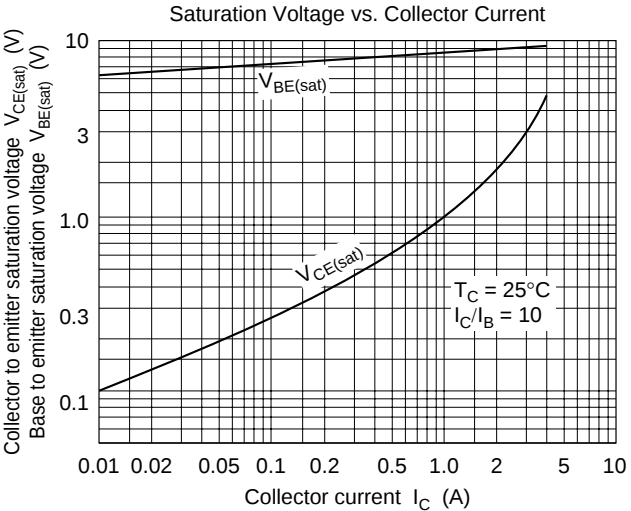
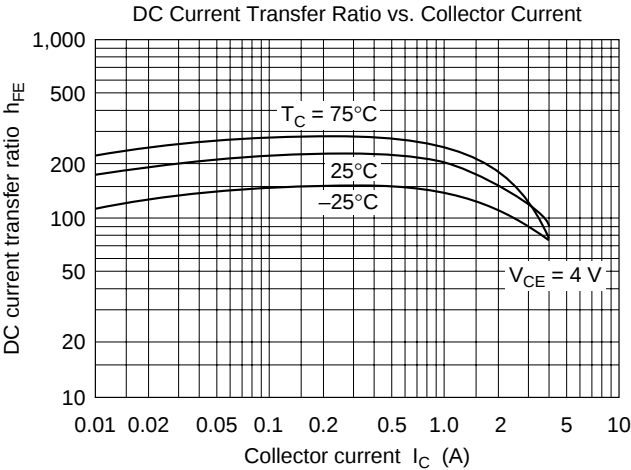
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	70	—	—	V	$I_C = 10\text{ }\mu\text{A}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	60	—	—	V	$I_C = 50\text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 10\text{ }\mu\text{A}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 60\text{ V}$, $I_E = 0$
	I_{CEO}	—	—	10		$V_{CE} = 50\text{ V}$, $R_{BE} = \infty$
DC current transfer ratio	h_{FE1}^{*2}	60	—	200		$V_{CE} = 4\text{ V}$, $I_C = 1\text{ A}^{*1}$
	h_{FE2}	35	—			$V_{CE} = 4\text{ V}$, $I_C = 0.1\text{ A}^{*1}$
Base to emitter voltage	V_{BE}	—	—	1.0	V	$V_{CE} = 4\text{ V}$, $I_C = 1\text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.0	V	$I_C = 2\text{ A}$, $I_B = 0.2\text{ A}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	1.2	V	$I_C = 2\text{ A}$, $I_B = 0.2\text{ A}^{*1}$

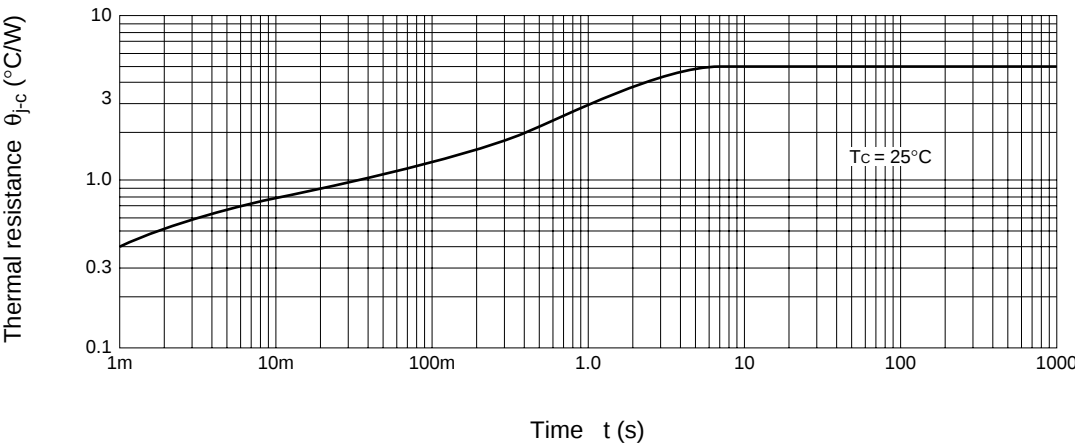
- Notes: 1. Pulse test.
2. The 2SD2107 is grouped by h_{FE1} as follows.

B	C
60 to 120	100 to 200

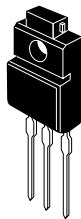
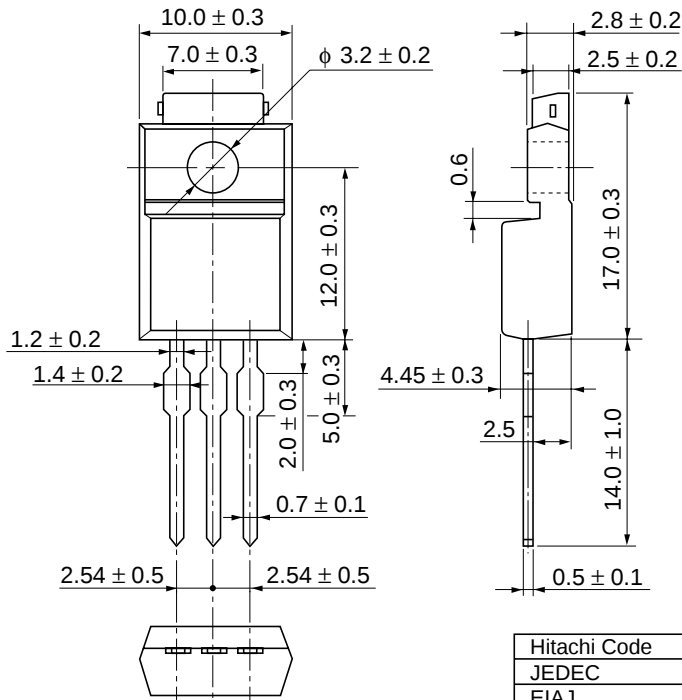




Transient Thermal Resistance



Unit: mm



Hitachi Code	TO-220FM
JEDEC	—
EIAJ	Conforms
Weight (reference value)	1.8 g

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