

# 2SD2107

Silicon NPN Triple Diffused

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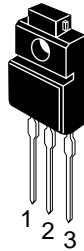
ADE-208-923 (Z)  
1st. Edition  
Sep. 2000

## Application

Low frequency power amplifier

## Outline

TO-220FM



1. Base
2. Collector
3. Emitter

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

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

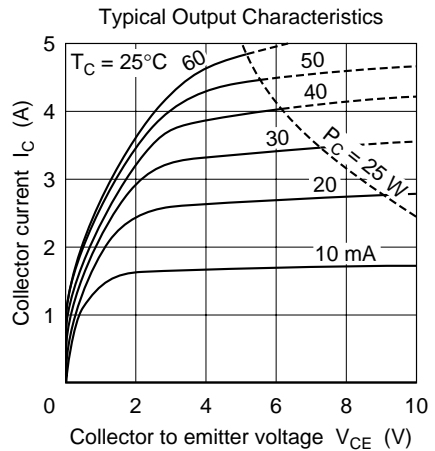
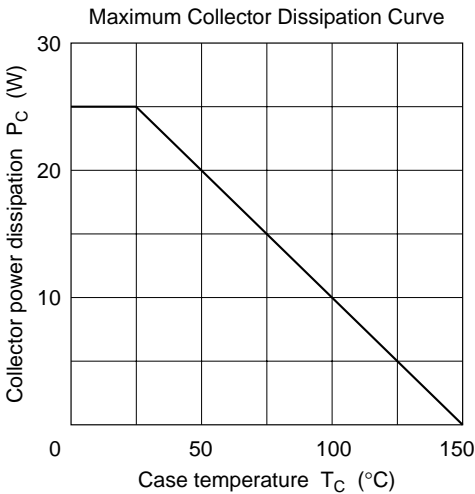
Note: 1. Value at  $T_{\text{c}} = 25^\circ\text{C}$ .

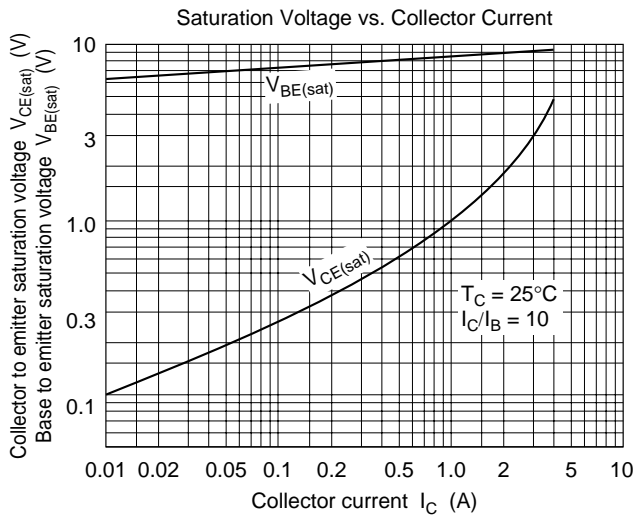
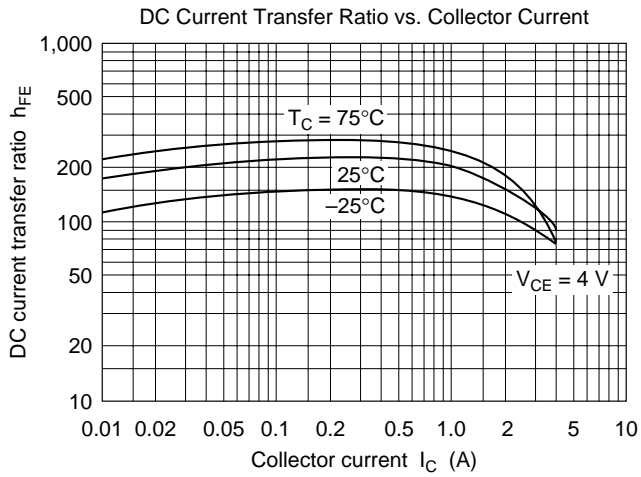
## Electrical Characteristics (Ta = 25°C)

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

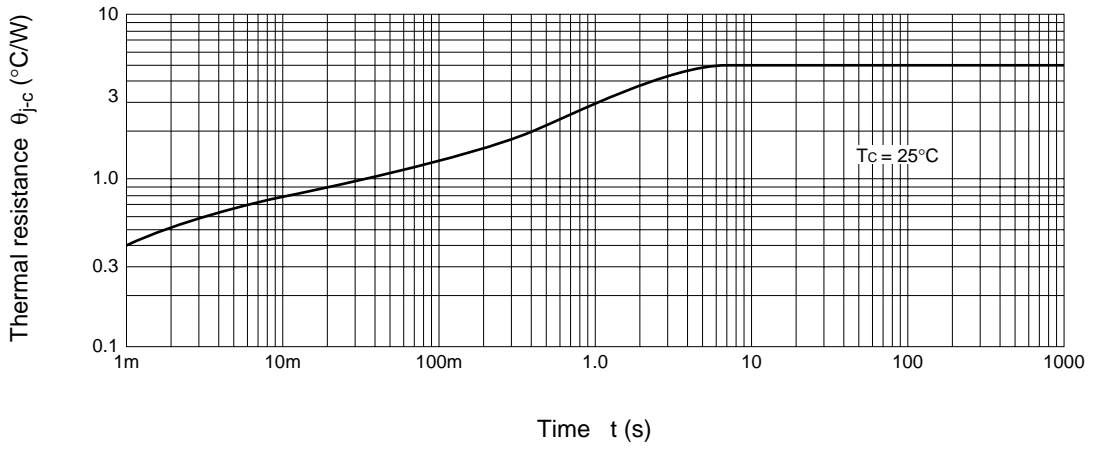
- Notes: 1. Pulse test.  
 2. The 2SD2107 is grouped by  $h_{FE1}$  as follows.

B	C
60 to 120	100 to 200

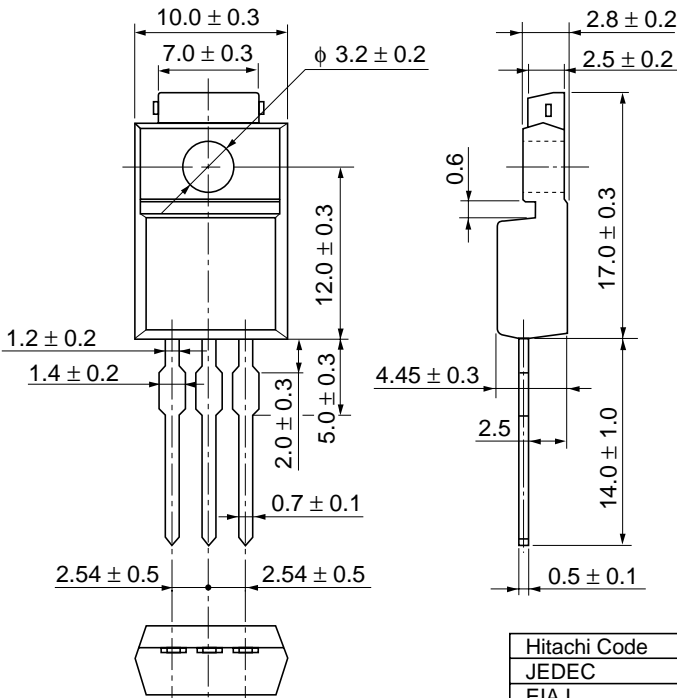




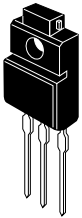
Transient Thermal Resistance



Package Dimensions



Unit: mm



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

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