

## 2SD2102

Silicon NPN Triple Diffused  
Low Frequency Power Amplifier

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

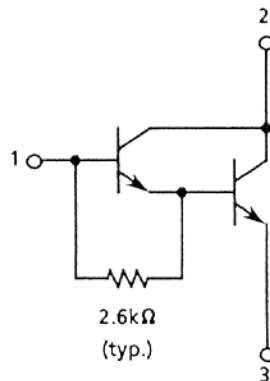
Item	Symbol	Rating	Unit
Collector to base voltage	V <sub>CBO</sub>	60	V
Collector to emitter voltage	V <sub>CEO</sub>	60	V
Emitter to base voltage	V <sub>EBO</sub>	7	V
Collector current	I <sub>C</sub>	4	A
Collector peak current	i <sub>C(peak)</sub>	8	A
Collector power dissipation	P <sub>C</sub>	2	W
	P <sub>C</sub> <sup>-1</sup>	25	
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

Note: 1. Value at T<sub>C</sub> = 25°C.

TO-220FM



1. Base
2. Collector
3. Emitter



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

Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector to base breakdown voltage	V <sub>(BR)CBO</sub>	60	—	—	V	I <sub>C</sub> = 0.1 mA, I <sub>E</sub> = 0
Collector to emitter breakdown voltage	V <sub>(BR)CEO</sub>	60	—	—	V	I <sub>C</sub> = 25 mA, R <sub>BE</sub> = ∞
Emitter to base breakdown voltage	V <sub>(BR)EBO</sub>	7	—	—	V	I <sub>E</sub> = 50 mA, I <sub>C</sub> = 0
Collector cutoff current	I <sub>CBO</sub>	—	—	10	μA	V <sub>CB</sub> = 50 V, I <sub>E</sub> = 0
	I <sub>CEO</sub>	—	—	10		V <sub>CE</sub> = 50 V, R <sub>BE</sub> = ∞
DC current transfer ratio	h <sub>FE</sub>	1000	—	20000		V <sub>CE</sub> = 3 V, I <sub>C</sub> = 2 A <sup>-1</sup>
Collector to emitter saturation voltage	V <sub>CE(sat)1</sub>	—	—	1.5	V	I <sub>C</sub> = 2 A, I <sub>B</sub> = 4 mA <sup>-1</sup>
	V <sub>CE(sat)2</sub>	—	—	3.0		I <sub>C</sub> = 4 A, I <sub>B</sub> = 40 mA <sup>-1</sup>

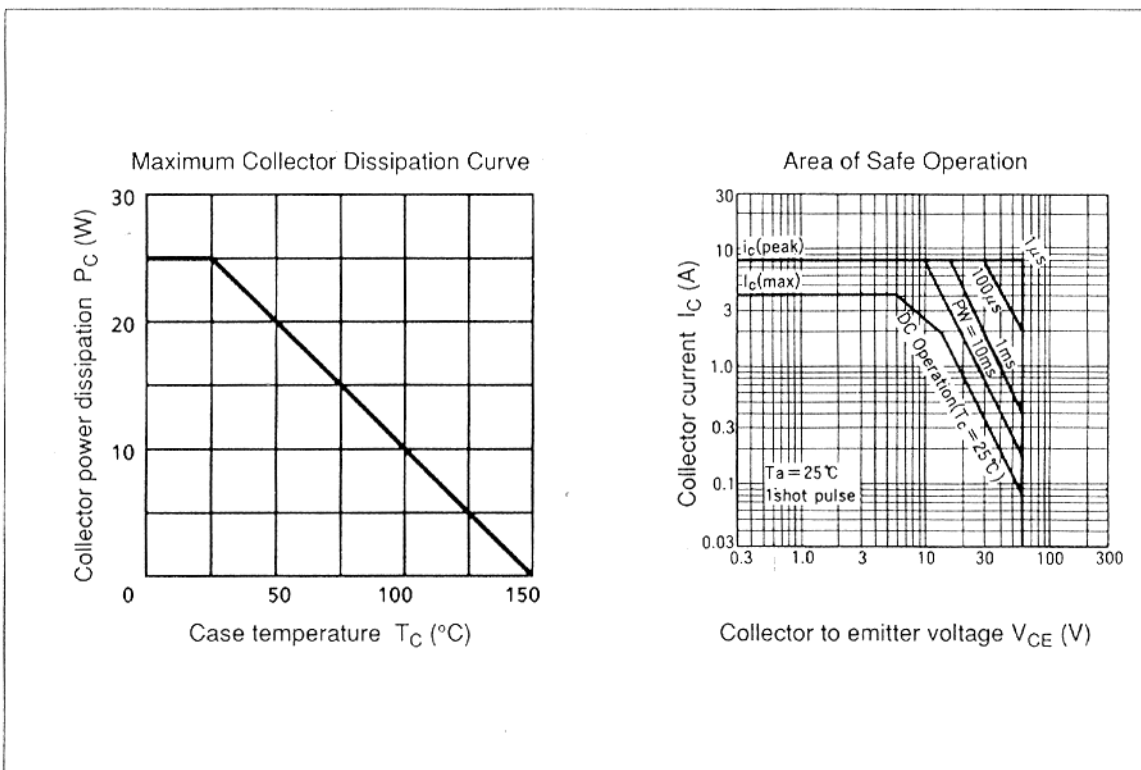
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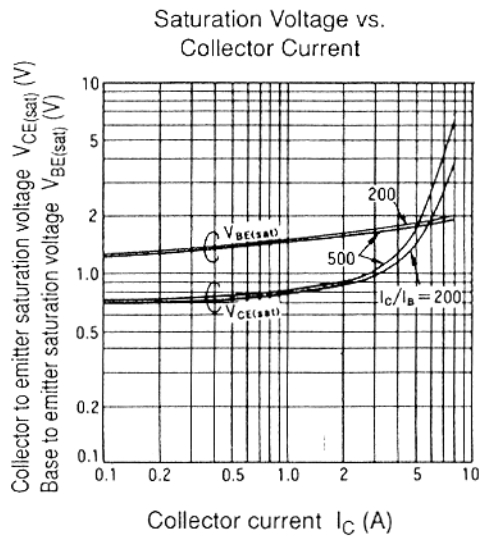
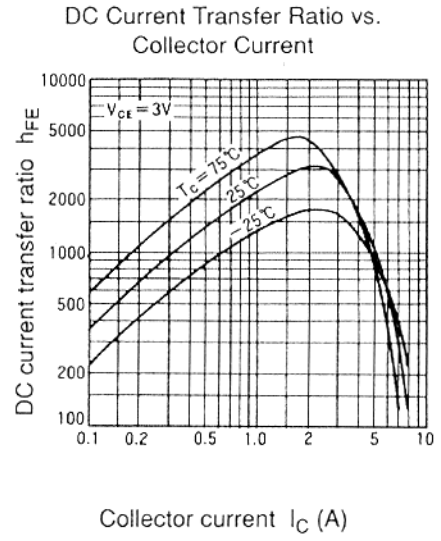
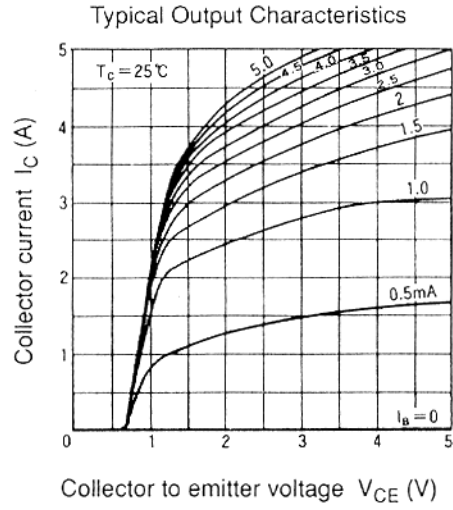
### Electrical Characteristics (Ta = 25°C) (cont)

Item	Symbol	Min	Typ	Max	Unit	Test condition
Base to emitter saturation voltage	$V_{BE(sat)1}$	—	—	2.0	V	$I_C = 2\text{ A}, I_B = 4\text{ mA}^{-1}$
	$V_{BE(sat)2}$	—	—	3.5		$I_C = 4\text{ A}, I_B = 40\text{ mA}^{-1}$

Note: 1. Pulse Test.

See switching characteristic curve of 2SD1558.





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