
2SD2109

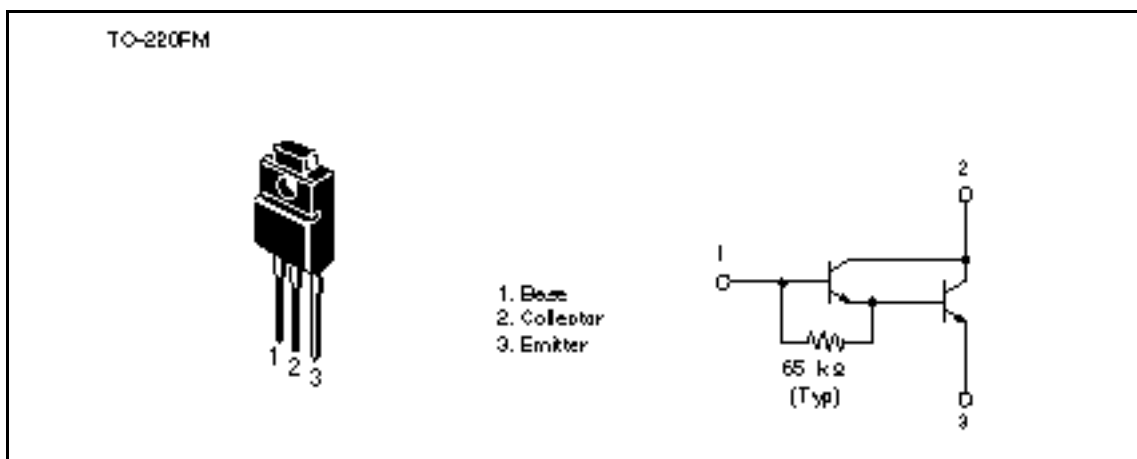
Silicon NPN Triple Diffused

HITACHI

Application

Low frequency power amplifier

Outline



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Absolute Maximum Ratings (Ta = 25°C)

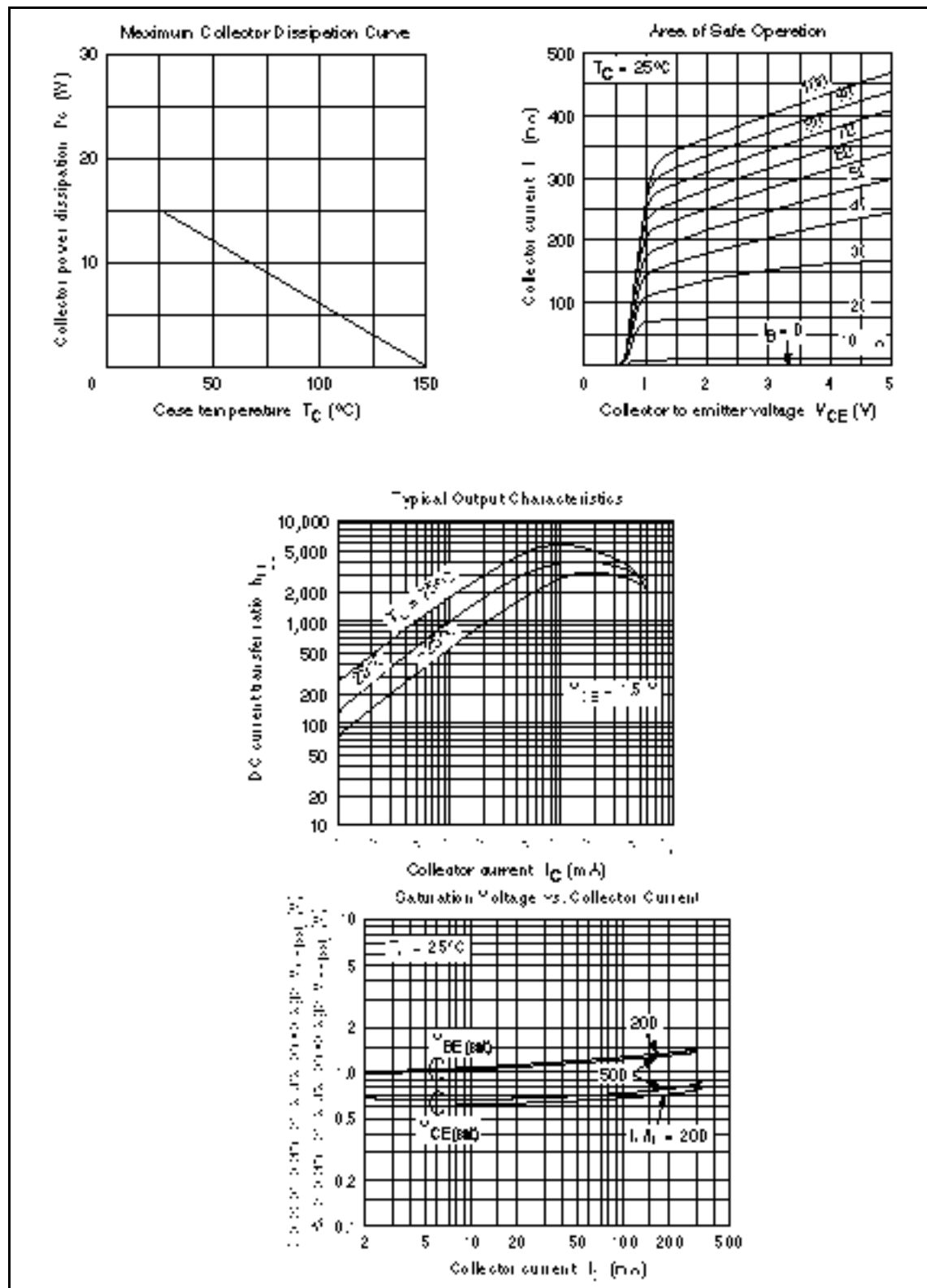
Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	300	V
Collector to emitter voltage	V_{CEO}	300	V
Emitter to base voltage	V_{EBO}	7	V
Collector current	I_C	0.3	A
Collector peak current	$I_{C(peak)}$	0.6	A
Collector power dissipation	P_C	2	W
	P_C^{*1}	15	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	–55 to +150	°C

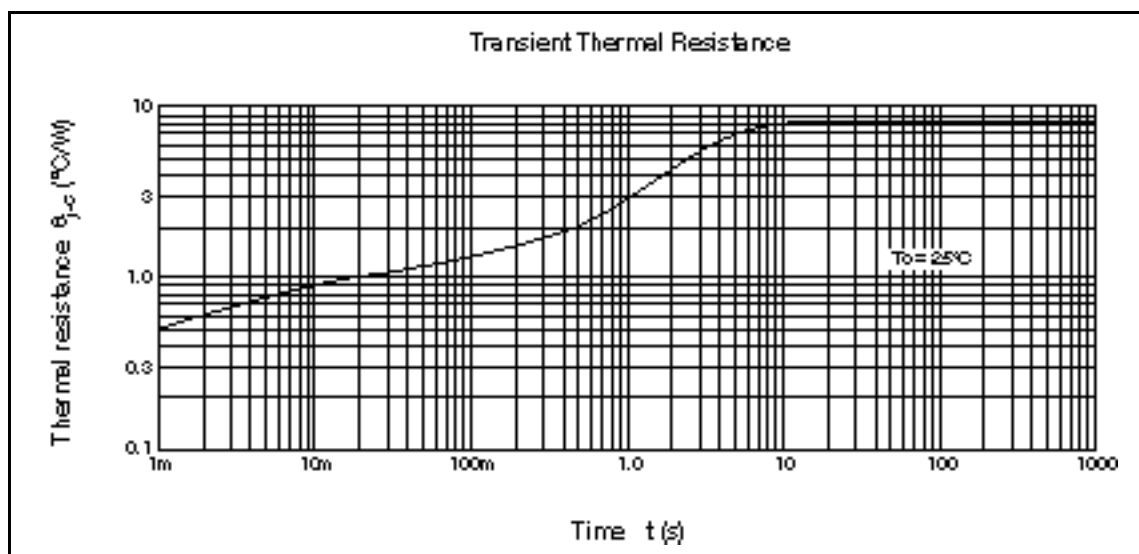
Note: 1. Value at $T_C = 25^\circ\text{C}$.

Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	300	—	—	V	$I_C = 1\text{ mA}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	300	—	—	V	$I_C = 10\text{ mA}$, $R_{BE} =$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 1\text{ mA}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 300\text{ V}$, $I_E = 0$
	I_{CEO}	—	—	10		$V_{CE} = 60\text{ V}$, $R_{BE} =$
	I_{EBO}	—	—	10		$V_{EB} = 5\text{ V}$, $I_E = 0$
DC current transfer ratio	h_{FE1}	1000	—	—		$V_{CE} = 1.5\text{ V}$, $I_C = 20\text{ mA}^{*1}$
	h_{FE2}	1500	—	—		$V_{CE} = 1.5\text{ V}$, $I_C = 100\text{ mA}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	$I_C = 100\text{ mA}$, $I_B = 0.2\text{ mA}^{*1}$
Base to emitter saturation voltage	$I_{BE(sat)}$	—	—	2.0	V	$I_C = 100\text{ mA}$, $I_B = 0.2\text{ mA}^{*1}$

Note: 1. Pulse test.





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