
2SD2104

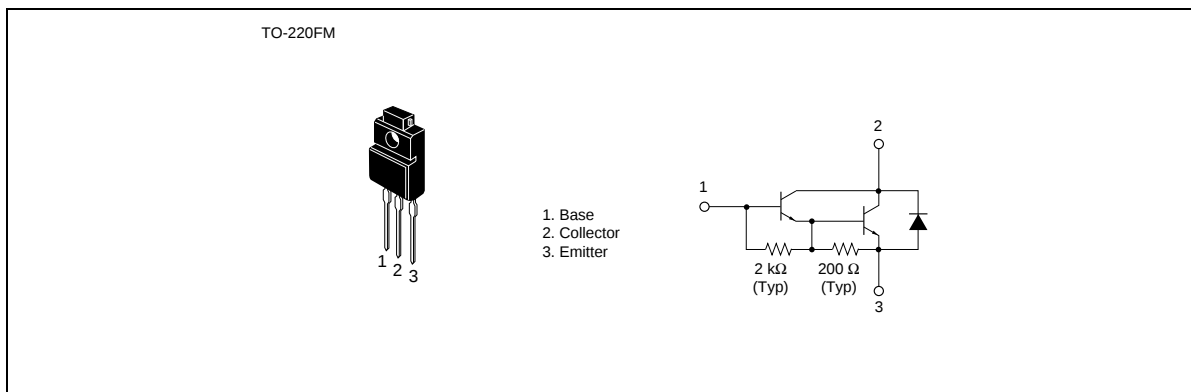
Silicon NPN Triple Diffused

HITACHI

Application

Low frequency power amplifier

Outline



2SD2104

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	120	V
Collector to emitter voltage	V_{CEO}	120	V
Emitter to base voltage	V_{EBO}	7	V
Collector current	I_C	8	A
Collector peak current	$I_{C(peak)}$	12	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

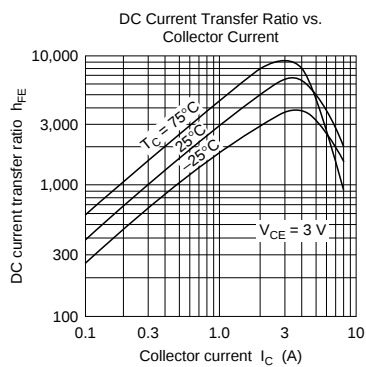
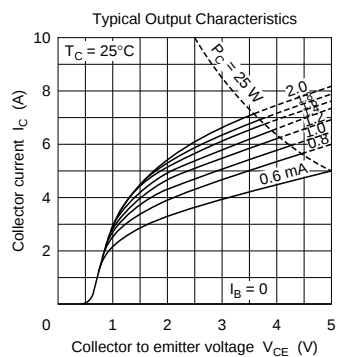
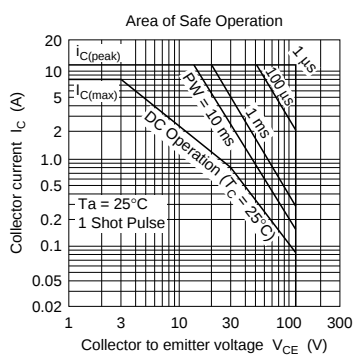
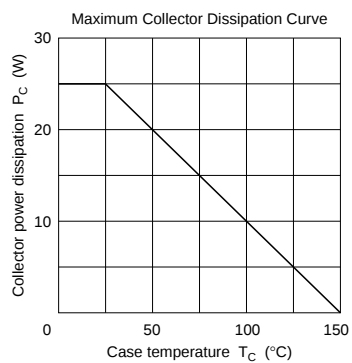
Note: 1. Value at $T_C = 25^\circ\text{C}$.

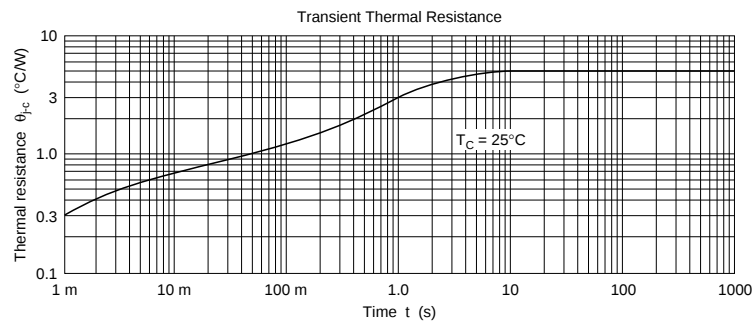
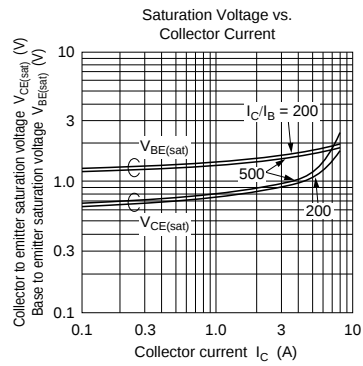
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	120	—	—	V	$I_C = 0.1\text{ mA}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	V	$I_C = 25\text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 50\text{ mA}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 100\text{ V}$, $I_E = 0$
	I_{CEO}	—	—	10		$V_{CE} = 100\text{ V}$, $R_{BE} = \infty$
DC current transfer ratio	h_{FE}	1000	—	20000		$V_{CE} = 3\text{ V}$, $I_C = 4\text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)1}$	—	—	1.5	V	$I_C = 4\text{ A}$, $I_B = 8\text{ mA}^{*1}$
	$V_{CE(sat)2}$	—	—	3.0		$I_C = 8\text{ A}$, $I_B = 80\text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)1}$	—	—	2.0	V	$I_C = 4\text{ A}$, $I_B = 8\text{ mA}^{*1}$
	$V_{BE(sat)2}$	—	—	3.5		$I_C = 8\text{ A}$, $I_B = 80\text{ mA}^{*1}$

Note: 1. Pulse test.

See switching characteristic curve of 2SD970(K).





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