

2SD2113

Silicon NPN Triple Diffused
Low Frequency Power Amplifier

Absolute Maximum Ratings (Ta = 25°C)

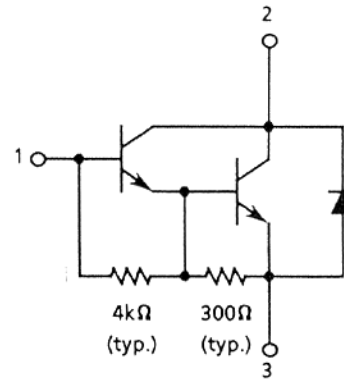
Item	Symbol	Rating	Unit
Collector to base voltage	V _{CBO}	120	V
Collector to emitter voltage	V _{CEO}	120	V
Emitter to base voltage	V _{EBO}	7	V
Collector current	I _C	3	A
Collector peak current	I _{C(peak)}	6	A
Collector power dissipation	P _C	2	W
	P _C ^{*1}	25	
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

Note: 1. Value at T_C = 25°C.

TO-220FM



1. Base
2. Collector
3. Emitter



Electrical Characteristics (Ta = 25°C)

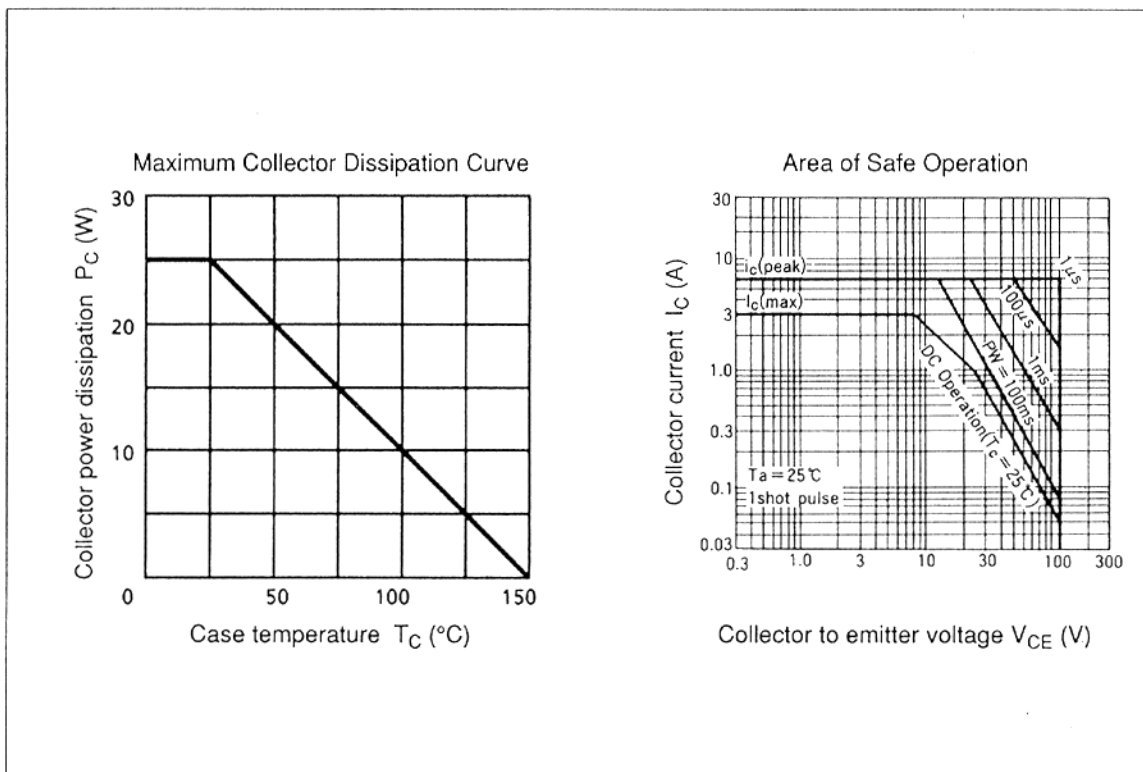
Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector to base breakdown voltage	V _{(BR)CBO}	120	—	—	V	I _C = 0.1 mA, I _E = 0
Collector to emitter breakdown voltage	V _{(BR)CEO}	120	—	—	V	I _C = 25 mA, R _{BE} = ∞
Emitter to base breakdown voltage	V _{(BR)EBO}	7	—	—	V	I _E = 50 mA, I _C = 0
Collector cutoff current	I _{CBO}	—	—	10	μA	V _{CB} = 100 V, I _E = 0
	I _{CEO}	—	—	10		V _{CE} = 100 V, R _{BE} = ∞
DC current transfer ratio	h _{FE}	1000	—	20000		V _{CE} = 3 V, I _C = 1.5 A ^{*1}
Collector to emitter saturation voltage	V _{CE(sat)1}	—	—	1.5	V	I _C = 1.5 A, I _B = 3 mA ^{*1}
	V _{CE(sat)2}	—	—	3.0		I _C = 3 A, I _B = 30 mA ^{*1}

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	$I_C = 1.5 \text{ A}, I_B = 3 \text{ mA}^{-1}$
	$V_{BE(sat)2}$	—	—	3.5		$I_C = 3 \text{ A}, I_B = 30 \text{ mA}^{-1}$

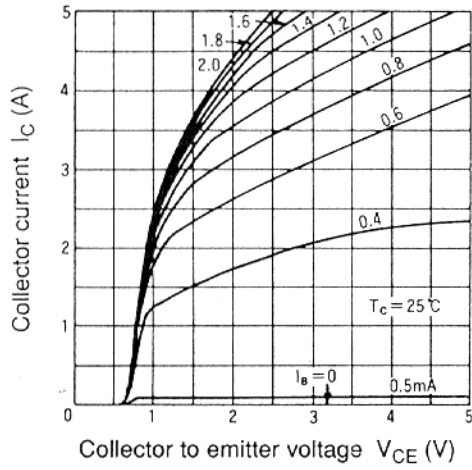
Note: 1. Pulse Test.

See switching characteristic curve of 2SD864(K).

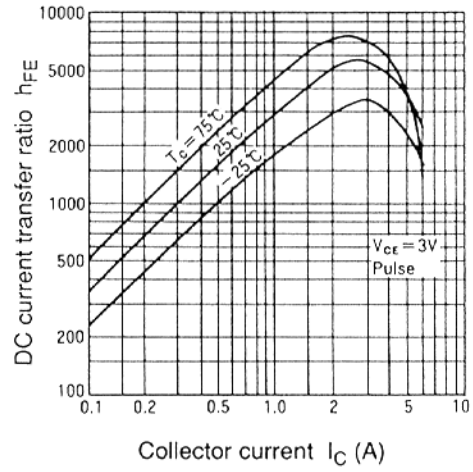


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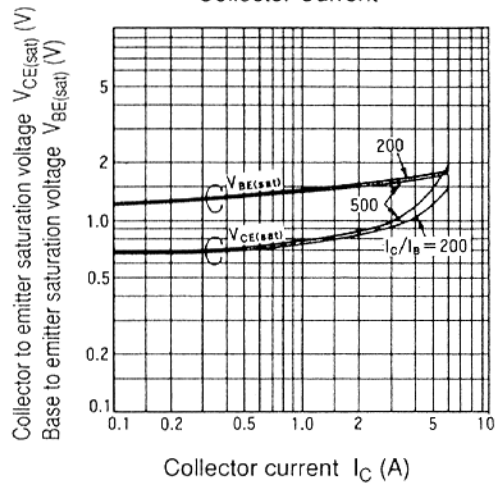
Typical Output Characteristics



DC Current Transfer Ratio vs. Collector Current



Saturation Voltage vs. Collector Current



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