
2SD1504

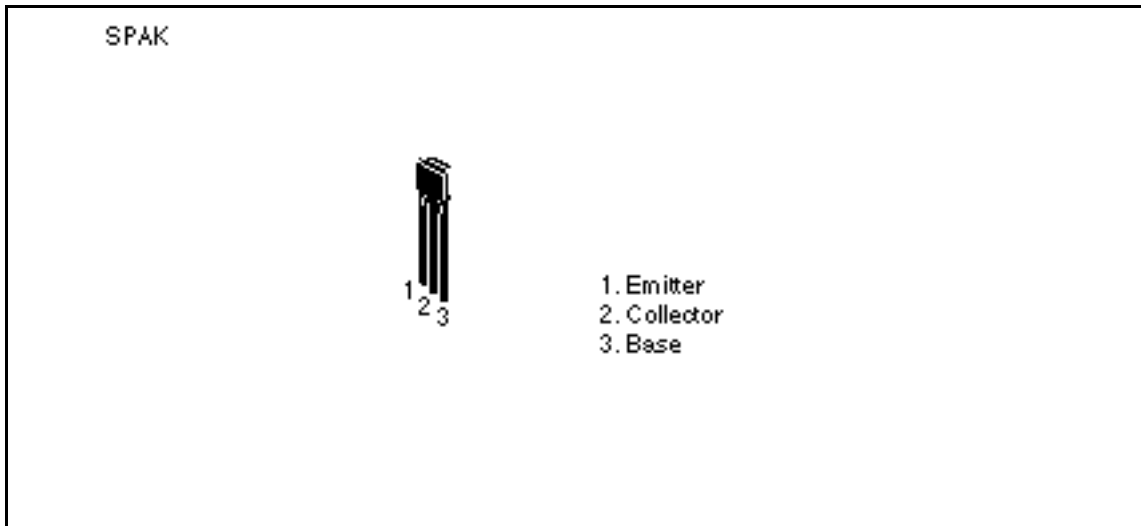
Silicon NPN Epitaxial

HITACHI

Application

Low frequency amplifier, Muting

Outline



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	30	V
Collector to emitter voltage	V_{CEO}	15	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_C	0.5	A
Collector peak current	$i_{C (peak)}$	1.0	A
Collector power dissipation	P_C	300	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

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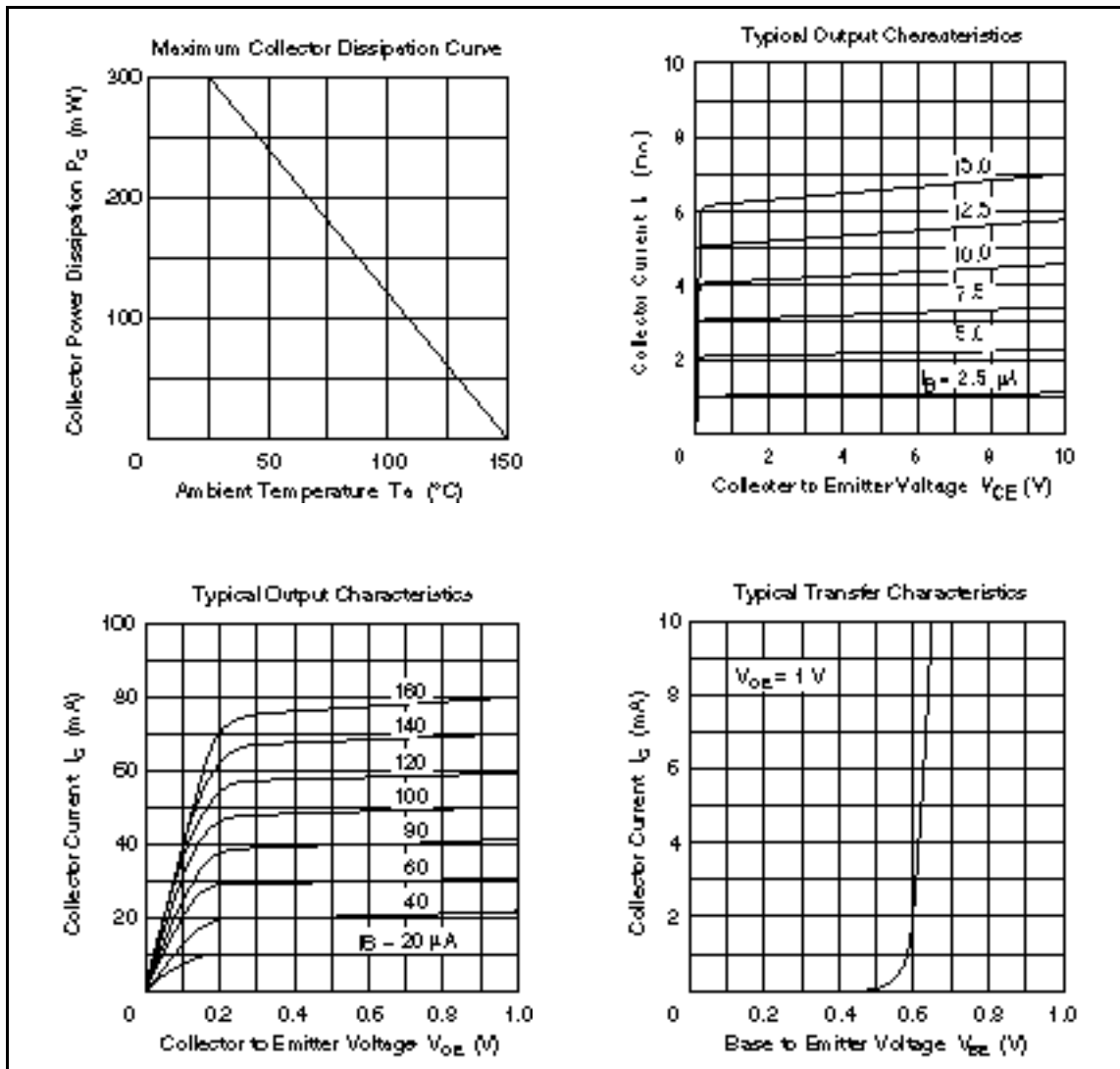
Electrical Characteristics (Ta = 25°C)

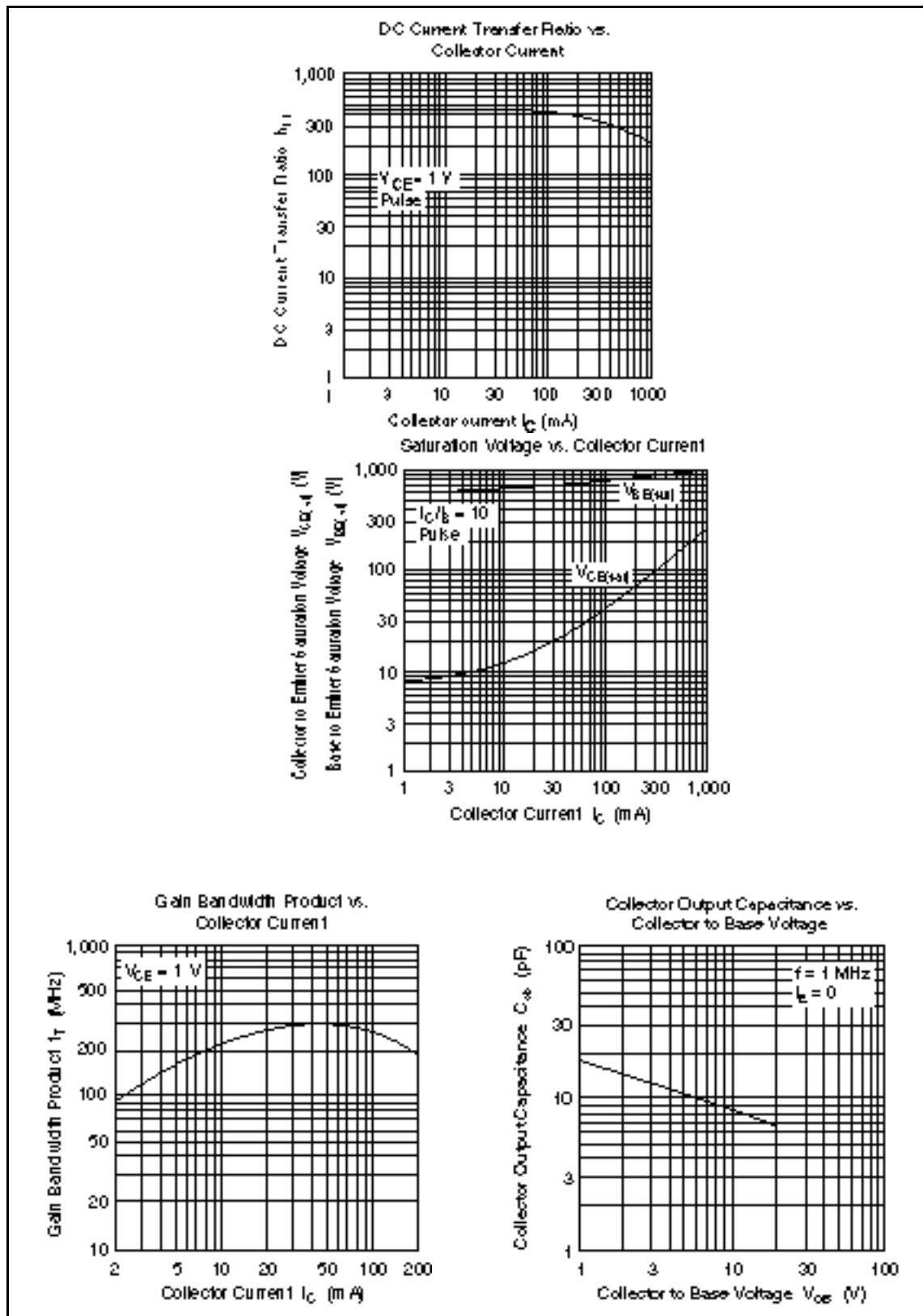
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	30	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	15	—	—	V	$I_C = 1 \text{ mA}, R_{BE} =$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 20 \text{ V}, I_E = 0$
DC current transfer ratio	h_{FE}^{*1}	250	—	1200		$V_{CE} = 1 \text{ V}, I_C = 150 \text{ mA}^{*2}$
Base to emitter voltage	V_{BE}	—	0.65	—	V	$V_{CE} = 1 \text{ V}, I_C = 150 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.15	0.5	V	$I_C = 500 \text{ mA}, I_B = 50 \text{ mA}^{*2}$
	$V_{CE(sat)}$	—	0.018	—	V	$I_C = 30 \text{ mA}, I_B = 3 \text{ mA}$
Gain bandwidth product	f_T	—	300	—	MHz	$V_{CE} = 1 \text{ V}, I_C = 50 \text{ mA}$
On resistance	r_{on}	—	0.5	—		$I_B = 2 \text{ mA}$

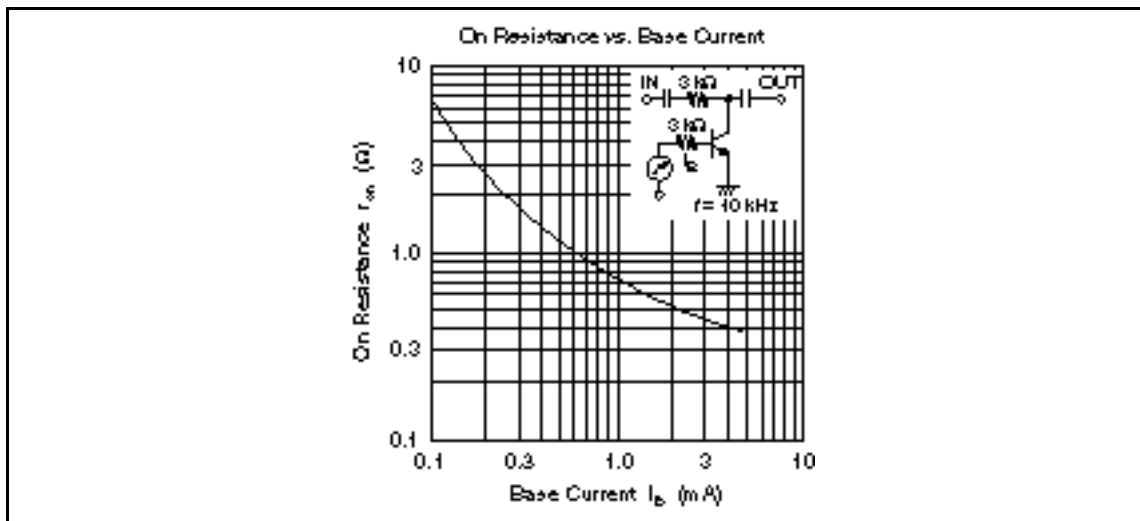
Notes: 1. The 2SD1504 is grouped by h_{FE} as follows.

2. Pulse test

D	E	F
250 to 500	400 to 800	600 to 1200







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